

# MICHIGAN FARMER

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## Tree Planting on Public Highways

By W. I. GILSON.

THE prosperity and progress of a farm community as well as its intelligence is said to be indicated to a very large extent by the appearance of the highways. Highway planting should go hand in hand with road improvement.

Nearly all people have the tendency to develop to the fullest extent, that which brings the largest and quickest returns. The roadsides have suffered neglect while the hustle for wealth or possibly the struggle for a financial existence has been going on. The fields yield a return each year, but highway planting never a direct income, probably accounting for the fact that it has been so grossly neglected. Rented farms are not apt to have well kept roadsides or have much attention given to planting unless the owner is in position to do it himself. The renter is primarily an exploiter, who does not expect to live on the same farm for a long period, and he sees no inducement to spend his time where there is no direct return or where the results of his work will give little evidence until after he has gone.

While the result of tree planting is a few years deferred, it is not of a temporary value. The same trees remain as living monuments to the planter through the passing of several generations.

There are many advantages of roadside trees, some of which are aesthetic or sentimental and others commercial. Their presence gives character and distinction to the surroundings and the tree foliage forms the frame for the panorama of fields and growing crops observed when passing the farm. The traveling public is more inclined to travel the route of beautiful and well-shaded highways, and property has more value on well traveled roads. Roadside trees no doubt increase the value of abutting property directly. They shelter the roadways from the hot sun in summer and have an effect in preventing the blowing of dust. The penetration of winter winds is lessened and snow is caused to lay more evenly on the surface rather than to drift. There are likewise a few apparent disadvantages of roadside planting. It is a well known fact that crops do not thrive in the edge of

fields beside rows of trees. Leaving a strip of permanent sod along the border has been suggested, but this is undesirable where the common crop rotation is practiced. The partial failure of crops in the zone where the trees draw nourishment from the soil is largely offset by the value of the trees as shade to grazing stock or to men and work animals during their rest periods. If limbs come together over roadways they cause the retention of too much moisture in the soil, by shading it too completely, and prevent their drying up after the rains and

is recommended. Elm, oak, hard maple, and tulip or whitewood, have large crown spreads and oppositely planted are adapted for standard width or wider roadways. Two methods are open to the planter on more narrow thoroughfares. The first is to plant the trees alternately so that no two stand opposite each other, in order that the crowns will never overlap or the roadway receive complete shade. The second is to choose trees smaller at maturity, such as Norway maple, red maple, and basswood. The average distance at which to plant

sufficient size, and not so near the roadway as to form an obstruction.

The trees which grow in a community are a good index as to what is most likely to succeed. Hard maple leads as the most popular roadside tree, with American elm, oak and Norway maple also very desirable. The future of elm is somewhat questionable because of recent insect attacks. Norway maple is not a native tree but succeeds well under a great variety of conditions and is well adapted for roadways a little narrower than the average. The roadside is not a place to experiment with little known or introduced species. The place for such trees is where their failure will not destroy the landscape effect in a conspicuous manner. It is doubtful if there is any locality in Michigan where some one of the dependable species will not thrive.

As a matter of economy, fruit trees have been set along highways. They grow with average success, producing fair crops of fruit and serve partially the purpose of ornamentation. They fail in not fully performing any of the functions of shade trees. They do not give the desired amount of shade such as produced by maple, elm, oak and other of the larger tree species. They are usually short-lived, rather ragged appearing in winter, and the fruit is a temptation that results in passers-by injuring the trees.

### Pruning.

No serious error will be made in pruning large roadside trees if the function roadside trees should serve is kept in mind. Knowing that their primary use is for shade, there will be no temptation to "top" them. The large branches should be removed high enough above the ground to clear the roadway for the highest load that will pass underneath, allowing considerable extra overhead space for such times as sleet and snow weigh limbs down. It is important also, to keep the foliage and limbs from obstructing the view of the fields and crops from the traveler. Other aims of timely pruning are to maintain a symmetrical, well-rounded outline to the tree, and to remove branches that are cross-

(Continued on page 196).



Every Farm Should Have a Rubbish Dump not Visible to the Public.

the spring break-up. Such results are the fault of the planter in setting the trees too close together or choosing a species of too great size when in the near mature stage.

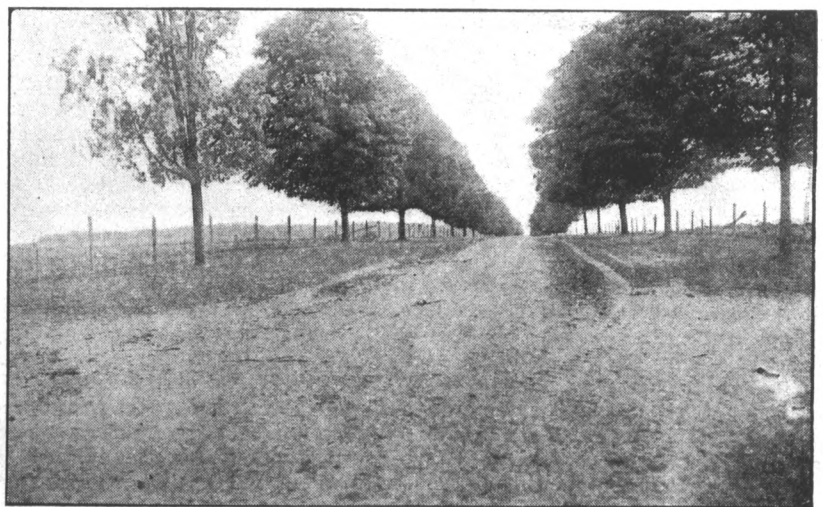
The standard width of Michigan highways is 66 feet. The crown spread of the average American elm at a stage near maturity is 55 feet, thus indicating that they may be planted along the fence line with enough open overhead space left above the roadway to allow sunlight to enter and dry the roads up after rains. Where there is sufficient width, setting the trees opposite each other along the highway

trees apart in the rows is 45 feet. Elm which is above the average, should stand at 50 feet. Sugar maple and oak 45 feet, Norway and red maple 40 feet, and basswood 38 feet.

The three essential features of ideal highways are, good roads, clean roadsides, and rows of shade trees. The trees should, as far as possible, be of the same species, evenly spaced, and planted a uniform distance from the fences. This rule cannot be followed precisely because the problem of saving native trees, already growing, enters in. They should by all means be saved if they are of desirable species,



The Only Existing Roadside Trees Are Such as Have Sprung up by Chance.



Trees Add to the Beauty of the Highway and Value of Adjoining Property.



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DETROIT, FEB. 12, 1916

### CURRENT COMMENT.

#### The Sisal Fiber Monopoly.

Sisal fiber, which is the principal available raw material for the manufacture of binder twine at the present time is produced almost wholly in Yucatan, a southern Mexican state. During the early days of twine manufacture, manilla fiber secured from the Philippine Islands, New Zealand and Calcutta, was extensively used as a raw material, but, owing to its cheapness, sisal fiber grown in Yucatan gradually became the chief raw material used in the production of twine, particularly after the port of Manila was closed by Admiral Dewey in 1898. The ensuing disturbances enabled the Yucatan planters to practically double the price of sisal fiber produced in that country and with the return of normal conditions they were reluctant to again accept old prices for the material.

Several attempts were made to form a syndicate to control the production and increase prices. The most recent effort to this end culminated in the formation in 1912 of the Comision Reguladora del Mercado de Henequen, which undertook to control the selling price of sisal. Because of the severe drouth in the Philippines that year, thus reducing the production of manilla fiber, the Yucatan syndicate was enabled to advance the price of sisal fiber to a very high figure.

The breaking out of the European war in 1914, cutting off export demand reduced the consumption of fiber to an extent which made it impractical for this new pool to hold up prices which again dropped to a low level. The blocking of the port of Progreso, following a revolutionary outbreak in Yucatan last February, threatened to again complicate conditions, but upon representations at Washington by the twine manufacturers showing the need of additional raw material, the blockade was raised within a month and sufficient supplies of sisal were secured to manufacture the twine for last year's use.

In the meantime, however, the regulating committee had secured almost absolute control over the market and since that time no Yucatan sisal has been obtainable except from that committee or commission, which has the support and is under the control of the government of Yucatan and the present recognized government of Mexico, thus forming practically a government monopoly of this raw material. American capital has been enlisted in this enterprise by the organization of what is known as the Pan American Commission Corporation under the laws of the state of New York in December, 1915, with a capital of \$1,000,000. Reports from apparently authentic sources indicate that this corporation, the stock of which is said to

be held largely by New Orleans bankers, has agreed to furnish the Yucatan regulating committee any amount up to \$10,000,000 advanced on warehouse receipts of the committee, enabling same to hold the sisal supply in warehouses in this country, thus controlling its market price. It is stated that six per cent interest is paid on the capital thus loaned, in addition to a commission or bonus of five per cent on all fiber sold, which on the basis of the American consumption of about 320,000,000 pounds would amount to around \$1,000,000, thus insuring an annual profit to this corporation equal to its authorized capitalization.

At the present time the cost of sisal fiber is 7 3/4 cents per pound f. o. b. New York. It is stated by twine manufacturers that the Yucatan combination is paying planters four cents per pound, the big profits going into the Yucatan and Mexican governments and to the stockholders of the American corporation above mentioned as giving the scheme financial support.

It is estimated that each cent added to the price of binder twine means an added cost to the farmers of the United States and Canada of \$2,500,000. Naturally this state of affairs has called forth a storm of protest from American farmers' and dealers' organizations as well as American twine manufacturers. Many resolutions have been introduced in Congress providing for the investigation of this monopoly.

The law on the Federal statute books regulating the sale of oleomargarine was, as every reader knows, enacted for the purpose of placing a handicap on commercial dishonesty by placing a tax of ten cents per pound on oleomargarine colored in imitation of yellow butter, while the natural uncolored product was taxed only one-quarter cent per pound.

While the law may not have entirely stopped the traffic in oleomargarine under the guise of butter, it has discouraged it to an extent which has aroused a determined attempt on the part of interests engaged in the manufacture and sale of oleomargarine to secure a modification of the law which, in the opinion of prominent men who are identified with the dairy interests of the country would make it practically inoperative. The argument advanced by the oleomargarine interests in favor of the proposed change in the Federal law embodied in the so-called Lever bill now before Congress, is that the present law by the high tax imposed materially increases the cost of living for a multitude of people who cannot afford to purchase high-priced butter. While this claim could not well be substantiated, it has been so persistently advanced as to have been reflected in certain state papers, the publishers of which should have been better informed.

As a means of refuting this claim and of avoiding a controversy as well as of showing that the dairy interests do not desire to add in any way to the consumers' burdens, a bill was prepared by representatives of the National Dairy Union and allied organizations, including the National Grange, which eliminates the ten cent tax now imposed on colored oleomargarine, in consideration of a provision that the coloring of oleomargarine in imitation of butter and the mixing of butter with this product in its manufacture be prohibited.

Another feature of the bill is the prescribing of a color standard beyond which oleomargarine cannot go, which provision is incorporated in the bill to facilitate its administration and is made possible by working out a practical means for scientifically measuring colors by the bureau of standards. This bill is known as the Haugen Bill and was officially approved in its present form by the dairy and other agricultural interests above mentioned last June. This bill in its original form has been pending in Congress since April, 1912, but on account of other im-

portant legislation engaging Congressional attention, no action has as yet been taken on same.

The repeated reiteration of the argument that the present law increases the cost of living would, however, indicate that oleomargarine legislation will be urged upon Congress in the not distant future by the opponents of the present law. The action taken in the preparation and subsequent perfection of the bill above mentioned by the dairy and allied interests of the country indicates, however, that the producers' interests will be well cared for, and that such oleomargarine legislation as may be enacted, if any, will be of a progressive rather than a retrogressive nature.

### HAPPENINGS OF THE WEEK.

The Euproean War.—Perhaps the most important feature of the week's news is the complete subjection of the German forces in the African province of Kamerun by Anglo-French forces. The only land now left to Germany in Africa is the East African province. This has an area of 384,000 square miles and a population of 5,500,000. Operations along the Tigris river by the British and Turk forces have been brought to a standstill by the weather conditions, thus causing further delay of relief for British troops surrounded by Turks at Kut-el-Amara. To the north the Russians continue their advance in Turkish territory from the Caucasus mountains. Both Teutons and Allies are pushing preparations for the battle before Salonika. A skirmish between French and Bulgarian troops is reported. The Russians have been successful in protecting their newly-captured positions in Galicia. Farther to the north insignificant fighting has occurred at different points without definite results. On the west artillery duels have been frequent but no important changes of lines are reported. Last week two visits by German zeppelins to English soil resulted in a few persons being killed or injured and some damage done to property.

There were riots in Lisbon, Portugal last week. Republican guards in the Portuguese capitol were attacked by crowds and stores were pillaged.

The parliament building of the Canadian government at Ottawa burned last Friday. The general opinion is that the fire was the result of incendiarism and German plotters are being charged by the authorities. The building was completed about 40 years ago at a cost of \$5,000,000.

A portion of the city of La Paz, capitol of Bolivia, is sliding into the Choqueyapu river. Thus far there have been no casualties but property damage is estimated at one million dollars.

Swiss factories manufacturing munitions for the entente allies have been threatened with destruction.

Judge Wm. T. Mitchell, of Port Huron, died at his home last Sunday morning at the age of 98. He continued his law practice to within a short time of his death. Under President Cleveland he was consul to Quebec.

### MICHIGAN FARMERS' INSTITUTES.

County Institutes.—Berrien Co., Three Oaks, Feb. 14-15; Cass Co., Cassopolis, Feb. 14-15; St. Joseph Co., Sturgis, Feb. 15-16; Van Buren Co., Paw Paw, Feb. 16-17; Branch Co., Coldwater, Feb. 16-17; Ionia Co., Portland, Feb. 16-17; North Adams, Feb. 18-19; Kalamazoo Co., Kalamazoo, Damon Church, Feb. 18-19; Shiawassee Co., Owosso, Feb. 18-19; Jackson Co., Jackson, Feb. 21-22; Washtenaw Co., Ann Arbor, Feb. 22-23; Lenawee Co., Adrian, Feb. 23-24; Wayne Co., Redford, Feb. 23-24; Monroe Co., Monroe, Feb. 23-24; Oakland Co., Pontiac, Feb. 24-25; Livingston Co., Howell, Feb. 25-26; Montcalm Co., Stanton, Feb. 25-26.

One-Day Institutes.—Wayne Co., Northville, Feb. 14; Canton, Feb. 15; Belleville, Feb. 16; Martinsville, Feb. 17; New Boston, Feb. 18; Flat Rock, Feb. 19; Eureka, Feb. 21; Romulus, Feb. 22.

Monroe Co., Azalia, Feb. 14; Maybee, Feb. 15; Raisinville, Feb. 16; Samaria, Feb. 17; Carleton, Feb. 21-22; Milan, Feb. 25-26.

Ottawa Co., Cooperstown, Feb. 15. Eaton Co., Mulliken, Feb. 16; Dimondale, Feb. 19.

Jackson Co., Tompkins, Feb. 17. Clinton Co., Laingsburg, Feb. 15; Maple Rapids, Feb. 18.

Bay Co., Auburn, Feb. 16; Pinconning, Feb. 17; Bentley, Feb. 18; County Line Grange Hall, Feb. 19.

Genesee Co., Clio, Feb. 16-17; Goodrich, Feb. 24-25; Swartz Creek, Feb. 26.

Oakland Co., Highland, Feb. 16; Ortonville, Feb. 19.

Ogemaw Co., Prescott, Feb. 21-22. Ionia Co., Ionia, Feb. 23-24.

# Watch the Eggs

For there is where the profit is. Wise poultry raisers are making sure of their profits by feeding Red Hen Scratch Feed. This wonderful feed makes healthy strong hens that produce the extra eggs that pay the dividends. Used by poultrymen for over 12 years with great success.

Ask your dealer for Red Hen Scratch Feed—the kind with the full sized Red Hen on the bag sewed with red twine. Write us if he can't supply you.



### Scratch Feed

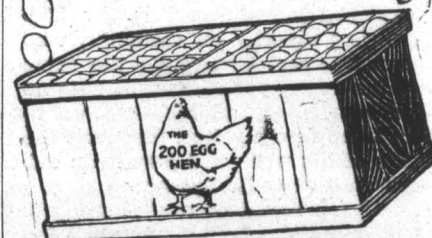
Contains pure Michigan grains, scientifically mixed, free from chaff, weed seed or any impurities. This egg producing feed is rich in protein, fat and carbohydrates—the elements that make strong healthy hens; keeps your poultry in fine condition.

### Send for Book

We have carefully written a book for poultry raisers—a copy is yours for the asking. Tells how to care for poultry from the day they are hatched until they develop into strong healthy hens. Write for your copy today.

### Saginaw Milling Co.

Makers of the famous Ogemaw A A Pigeon Feed.  
127 Genesee St., Saginaw, Mich. (7)



# "Land Clearing"



Send for this free book on land clearing. It tells how to get your stumps out cheaply and quickly—without teams, digging, or blasting—with the

# K HAND POWER Stump Puller

With its 264 to 1 leverage one man can pull any stump that can be pulled by any horse power machine. Owners report pulling from 50 to 100 stumps per day. Made of Krupp steel—weighs only 171 lbs.

Send for Book and Special Offer.  
WALTER J. FITZPATRICK  
Box 4 182 Fifth Street  
SAN FRANCISCO, CALIF.

# "Safety-First" Drainage The Modern Farm Slogan.

The modern farmer builds for permanent results always. Therefore, insists upon his drain tile being the "Safety-First" kind—always dependable—always on the job. Our Vitrified, Salt Glazed, Frost-Proof, Drain Tile fills these specifications perfectly. "Once laid, always working." Sizes 3 in. to 27 in.

Write for Carload Prices.

American Sewer Pipe Co.,  
200 St. James St., Jackson, Mich.

WORTHY SEED OATS FOR SALE.  
North Side Farm, Hamilton, Michigan.



# The State Champion Bean Grower

By E. C. LINDEMANN

**T**HE truth of the statement, "Youth Leads the Way," has again been demonstrated in Michigan. A sixteen-year-old boy from Osceola county gave us a demonstration in potato-growing that has set the state to thinking and now comes Martha Powloski, of Huron county, with a remarkable demonstration in the growing and handling of our other great cash crop—beans.

This 16-year-old girl raised 36 bushels of beans on an acre of land in Huron county. On the same farm, her father raised six bushels per acre. The average yield for the entire state this year is 8.6 bushels per acre, which is three bushels lower than the average for the last 11 years.

This young girl farmer was one of the 39 bean club members in her county. Of the 39 members, 21 completed all of the work in connection with the project. The average yield per acre for all who completed their work and handed in a report was 24 bushels and 23 pounds.

The Huron County Round-up was held at Harbor Beach on January 8, and over 400 farmers and their families gathered for the event. Professor

scientific methods, has been the greatest lesson the county has ever had."

And here is Martha Powloski's report and her story of her prize acre of beans:

## Report and Story of Martha Powloski, Champion Bean Grower.

Estimated rent of land (\$5 per acre) .....	5.00
Cost of seed (state value if your own) .....	1.87
Cost of plowing, harrowing, spading, manuring, and other work of self or team .....	22.00
Cost of planting .....	.90
Cost of cultivation .....	3.00
Cost of marketing your crop. (This includes bags, labor, etc.) .....	2.00

Total cost .....

Total number of bushels of beans from your plot .....	36
Price per bushel .....	3.50
Total value of crop .....	126.00
Net profit on crop .....	91.23

## How I Made my Crop of Beans.

One day father told us that girls could enter the bean contest, my brother persuaded me to enter, so I wrote for an application.

May 22 I got my brother to plow the land for me. It took five hours to plow it. If we had had a sulky plow I would have plowed it myself. In

My brothers and my friends made fun of me many times. But I didn't give up. I was proud of my crop, but at the last they were badly damaged by the heavy rains.

One hundred and sixty-eight hours of work for myself and horse.

## MANURE AND FERTILITY.

Nitrogen, phosphorous and potassium are the three elements absolutely necessary for the growth of crops. These three things predominate in the fertilizers that we are forced to buy to replace what we have taken from the fields with the crops harvested. The crops grown upon the farm contain varying quantities of these elements of soil fertility. And when the products of the farm are fed to live stock, these substances are being mostly voided with the manure. Records show that the manure from a 1,000-lb. horse in one year contains about 125 lbs. of nitrogen, 21 lbs. of phosphorous and 35 lbs. of potassium. At normal prices these would have had a value of about \$28. The value would be considerably higher now as



**Township and County Winners at the Huron County Bean Contest.** Martha Powloski won first place in the County and also in the State Contest. She is the girl in the first row. The boy on her left is Alex Bochart, who won second place in his County and also in the State. Martha won a twenty-dollar gold piece for the county championship, a gold watch for winning her township championship, and she also won a scholarship at the Agricultural College for being State Champion in bean growing. The man in the rear with the glasses is Mr. A. L. Chamberlain, the father of the bean-club idea in Michigan. It was through his efforts and the efforts of Professor Muncie of the Michigan Agricultural College that the Huron County Contest was made so successful. By some it is called the "finest farm demonstration in the state."

Muncie, of the Agricultural College, spoke on the general problems affecting the bean crop. Mr. A. L. Chamberlain awarded the prizes, which consisted of \$20 in gold for the first prize in the county championship, and \$10 in gold for the second prize. Alex Bochart won second place in his county. Martha Powloski was not only the county champion, but after all reports were in, she was found to be the state champion. Each township winner was presented with a gold watch, and those receiving second place in the townships received large woolen sweaters. All others in the contest who did not win prizes were given pocket flashlights. It was one of the most enthusiastic meetings ever held in the eastern section of Michigan.

An influential citizen and farmer of Huron county in commenting on the work of the bean club said: "If the state or the federal government had grown 36 bushels of beans on a demonstration farm managed by an expert, it would have had little influence on the farm practice of the county; but to have a little girl, on one of the mediocre farms of the county, demonstrate what can be done by following

the afternoon I harrowed and dragged it for three hours.

I let this alone until June 8, when I harrowed and rolled it for three hours.

June 9 I marked the land. It took seven hours to mark it. This was a hard job.

June 10 I planted the beans with a hand-drill, planting two and a half pecks to the acre. It took the whole day to plant them.

June 25 I cultivated the beans for the first time. I got them cultivated in six hours. This was a hard job, too.

July 10 I cultivated them again. It took four hours this time. It wasn't as hard this time as it was the first.

It took me six days to hoe them. July 12 to July 17. I enjoyed hoeing them.

It took me eight days to pull them. I pulled them by hand. My back ached before I was through. I pulled them October 4 to October 11.

In the afternoon of October 16 I hauled them into the barn. I got three big loads. It took half a day to haul them. November 26 I got them threshed, and got 36 bushels. I paid \$2.00 for threshing. My brother didn't charge me anything for his work.

fertilizers have advanced. The value of the manure from a cow is greater, so we can easily see that the dairyman who uses good management has the opportunity to maintain the fertility of his fields at a small cash outlay.

But no matter how rich in the desirable elements the manure be, it must be properly handled or they will be lost. Many do not pay attention to the fact that three-fifths of the nitrogen, and nearly all of the potash is in the liquid portion of the manure which is the more easily wasted and lost. Water tight floors and plenty of good absorbents are necessary to avoid this waste. Frequent hauling to the fields is also necessary for if the manure be allowed to accumulate in heaps it will leach and thus lose much of its value. When exposed to the rain its valuable portions are rapidly washed away. The best method to follow in handling manure is to haul it out to the fields as soon as possible. The nearer any farmer can come to returning to the land the elements that his crops have removed the smaller will be the needed outlay for commercial fertilizers.

Ohio.

S. C.

**Make Sure Look for the RED BALL**

It's right there at the top of the boot—plain as day. When you see it you can feel absolutely sure of the quality. For the Red Ball is the trade mark of

**"BALL-BAND"**

Eight and one-half million men wear "Ball-Band." More than 50,000 merchants sell it. You'll find the cost per day wear lowest in "Ball-Band." All "Ball-Band" boots are vacuum cured. During the vulcanizing process a tremendous pressure makes the entire boot one solid piece.

Something New — "Ball-Band" Light Weight Rubbers for street wear in Men's, Women's and Children's sizes. Ask your dealer. Look for the Red Ball on the sole.

Our free booklet "More Days Wear" is yours for the asking. In case your dealer can't supply you let us know.

**Mishawaka Woolen Mfg. Co.**  
319 Water Street  
Mishawaka, Ind.  
"The House That Pays Millions for Quality"

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**30 DAYS FREE TRIAL**

**KEROSENE ENGINE**

We don't make the most engines in the world—and we don't want to! We prefer to make one good engine rather than two poor ones. That is why thinking people buy the Bessemer. Figure ahead, and the Bessemer always comes out best. Made as a Kerosene engine—and not a converted gasoline type. Sizes 2, 4, 6, 8 and 10 H. P. Also direct connected to farm machinery, electric lighting plants, saws, hoists, etc. Get our facts and study them.

**THE BESSEMER GAS ENGINE CO.**  
144 Lincoln Ave., Grove City, Pa.

Those who need more power should use the Bessemer Fuel Oil Engine, 15 to 200 H. P. Free catalog "O" explains them.

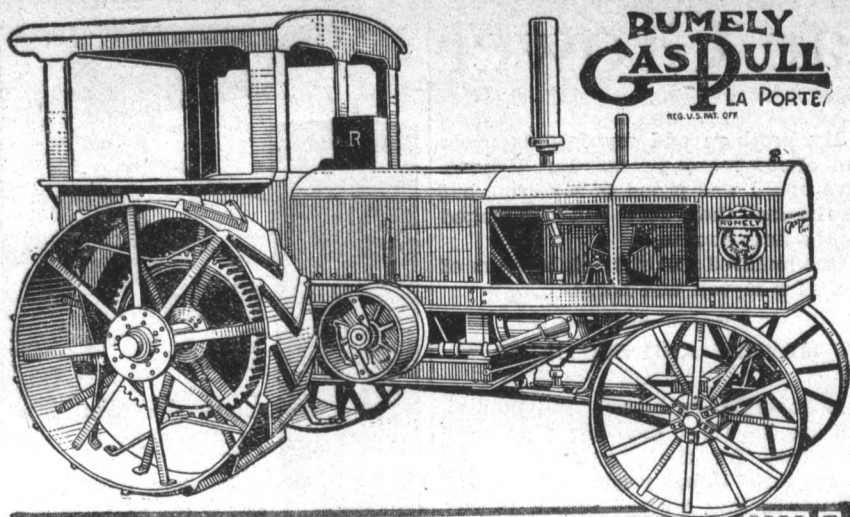
**LOWEST FUEL COST**

## Acid Soils and Acid Stomachs

are both a part of Nature's Plan of Economy. You can utilize the acid in your soil to make Rock Phosphate available and get Phosphorus at 1/2 its cost in other forms. You can increase your crops of corn and oats 10 to 20 bus. per acre—grow clover where it would not grow before and make your land permanently fertile by using your acid with our *Finely Ground Rock Phosphate* at a cost of \$1.00 per acre per year. Write for the booklet that tells how.

**Federal Chemical Co., Ground Rock Dep't.,**  
12 Clark Street  
Columbia, Tenn.





## Money Saved Is Money Earned

**T**HE Rumely GasPull tractor commences to cut down farm costs the first day you put it on the pay roll. The "many job" tractor it has come to be called and it lives up to its name.

Probably the first thing that will appeal to you in the GasPull is its light weight and extreme ease of handling. It weighs only 11,000 pounds and you can turn it on a 15-ft. circle. The convenience of levers, a safety cranking device and dependable foot brake help make operating easy.

The GasPull is equipped with a smooth-running, powerful motor, all working parts are efficiently lubricated and fully protected from dirt and the weather.

The GasPull is as handy, powerful and efficient on the belt as at the draw-bar. It easily handles a thirty-inch separator to its full capacity. There is, of course, absolute freedom from sparks.

You will find that the GasPull completely fills the bill wherever there is plowing to be done, crops to plant and harvest, loads to haul, grain to thresh, roads to build, or wherever power is required to cut down farm expenses and increase farm profits.

Then, there's the price. Without making comparisons here, we can safely say that there is no better tractor value on the market. You may be sure that a GasPull costs much less than the horses or mules it will displace, can be maintained at much less cost and will do more work. Made in one size—15-30 horsepower.

Ask our nearest branch for a catalog and full information.

Advance-Rumely lines include Rumely traction plows, the famous OilPull tractor, and the new All Purpose small farm tractor, threshers, steam engines, hullers and huskers—all dependable machines and backed by Advance-Rumely service.

**ADVANCE-RUMELY THRESHER CO.**  
La Porte (Incorporated) Indiana

Battle Creek, Michigan

## TREE PLANTING ON PUBLIC HIGHWAYS.

(Continued from first page).  
ing each other or competing too sharply for the same growing space.

### Source of Tree Stock.

Most communities produce, along roadsides, or in unpastured wooded areas, natural grown stock that is suitable for highway use. Of whatever species they happen to be, they should have a stright stem, a crown that is even and compact, and a well-developed root system. Trees only gradually adapt themselves to a change in light conditions, and young trees taken from a location receiving partial shade from other trees often die or sunscald when transplanted in the open. If a choice in location is afforded, the young trees should be selected from the most exposed situations where they have already been accustomed to light exposure. A common fault of natural stock is that the root system is long and scraggly. Such trees can be transplanted with only a small portion of the root system intact.

Nursery-grown trees are superior in every way, but a saving in cost may be effected by using natural stock. The root system has been made compact, and the rootlets short and bushy by being several times transplanted in



Nursery-grown Trees have More Compact Root Systems than Natural-grown Trees.

the nursery. Pruning in the nursery has given the crown good shape and the trees are already accustomed to full light. Highway planting is a problem that should receive its first attention during the winter months. The neighbors' co-operation should be enlisted in making the planting uniform and continuous over a considerable length of highway. Natural stock should be located or nursery stock ordered early to insure early shipment. A little effort on the part of each property holder will in a surprisingly short space of time convert mere roadways into highways, such as it is a pleasure for any nature-loving person to drive upon.

## CARE OF THE ROADSIDE.

Michigan legislators have made provisions whereby each township in the state can build and maintain a reasonable amount of good roads each year at a comparatively small expense to the township. This has been done through providing for the state reward road. A large number of these roads have been and are being built.

This is a fine thing for those that are using the roads, but the farmer along whose farm the road is built receives greater benefit from it than anyone else and as the grade has been harrowed and is in good shape for seeding, he should be enough interested to see that it is properly seeded to some grass crop. But in passing through the country, we see that not more than one-fourth of them have done so, but have allowed ragweed, dock, and other objectionable vegeta-

tion to get a good foothold. It seems as though it would be a wise thing for the state to require the township to seed the road grade before it allows them the state reward.

One of these roads passes along 160 rods of my neighbor's farm. The next spring after it was built he broadcasted oats and a mixture of alfalfa and clover seed on the grade, which was then harrowed in with a spring-tooth drag and rolled. After the seeding had a good start the oats were clipped. This summer he cut the hay along the grade twice and could have cut it the third time. He got about three-fourths of a ton at each cutting, so he was well paid for his work, besides making his farm more beautiful and up-to-date.

Montcalm Co.

M. GEORGE.

## FARM NOTES.

### Seeding Alfalfa with Oats.

I have a seven-acre field in a good state of fertility that grew corn last year. It is well fall-plowed and is now nearly covered with stable manure drawn directly from the stable and spread. I want to sow this field to alfalfa this spring, with oats as a nurse crop. Shall I run alfalfa seed with oats or ahead of drill disks? How many oats shall I sow per acre and how much alfalfa seed? Would you advise the use of inoculating bacteria?

Isabella Co.

L. C.

It would be preferable to use a light seeding of oats, say one bushel per acre, and to sow the alfalfa seed ahead of the drill rather than with the oats, using from 10 to 12 pounds per acre.

By all means the inoculating bacteria should be used, providing alfalfa has not been grown upon this land before and no inoculated soil is available for use. A test should also be made of the soil to determine whether lime is needed to neutralize an acid condition. Alfalfa cannot be grown with maximum success upon very much Michigan soil without the application of lime. It is quite as essential to have the soil in a fit condition to favor the multiplication of the bacteria for which alfalfa is the host plant as to inoculate with the bacteria, if they are not already present in the soil. These bacteria will not thrive in an acid soil, consequently alfalfa will not be readily established on land which is in an acid condition. Besides, the alfalfa plant is high in its requirement of lime as an actual plant food, which is another reason for insuring a plentiful supply in the soil which is to be sown to alfalfa.

### Where Should the Manure be Applied?

The soil on my farm is a black sand mixed with clay. The first of last April I had 20 acres of good clover. I turned 104 hogs in the clover and pastured it until September without cutting any hay off. Another 20 acres of clover and timothy sod was put in corn last spring. This field is to be summer fallowed this summer and planted to wheat next fall. The field which was pastured last summer is to be planted to corn this spring. Which field had I better put the barnyard manure on this spring?

Cass Co.

D. M.

Under the conditions mentioned, it would undoubtedly be better to put the stable manure on the sod ground intended for corn next year, in fact, only under exceptional conditions should manure be applied to other than sod ground, and better results will be secured if the manure is gotten onto the grass land as soon as practical after it is made.

Summer fallowing land for wheat is not generally considered a profitable practice at the present time unless at the same time a green manure crop is used to add needed vegetable matter to the soil. If vetch and rye had been sown in the corn ground on the land intended to be summer fallowed, a large amount of vegetable matter could have been added to the soil at small cost, and the physical condition and fertility of the soil improved materially by this course. Summer-fallowing ground as corn stubble depletes the soil of humus to about the same extent as though another cul-

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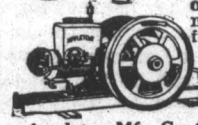
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tivated crop were grown upon the land, consequently where such ground is to be sown to wheat next fall, a crop of beans or early potatoes might almost as well be grown upon it, provided liberal fertilization is practiced. Possibly the succeeding wheat crop would not be quite as large as on the summer fallow, but with supplementary fertilization if the soil is in good condition, a greater income would be derived from the field under this plan of management, and the physical condition of the soil would not be materially injured in comparison with the summer fallow.

Summer-fallowing involves the giving up of the land two seasons for the growing of one crop, and under conditions which obtain on most Michigan farms when summer fallowing is practiced the opportunity offered for the growing and plowing down of a green manure crop should be improved, particularly where it can be so cheaply sown as in corn at the last cultivation.

#### The Inoculation of Legumes.

I have been told that soy beans will not inoculate the soil for future crops, such as alfalfa, vetch and other legumes. Will you please inform me through the Michigan Farmer in regard to the matter?

Lake Co.

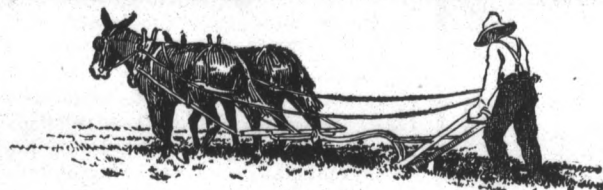
I. I.

Whether the bacteria peculiar to the different legumes are separate species or have accustomed themselves to different forms of growth on different host plants, is still a debated question, but with few exceptions it is a well established fact that the presence of the bacteria peculiar to one legume will not insure the inoculation of all other legumes.

The bacteria which find lodgment in the roots of alfalfa and sweet clover are said to be identical and will readily make a host of either plant, but the bacteria peculiar to ordinary red clover will not serve to inoculate the soil for alfalfa. In some soils these various bacteria appear to be present without artificial inoculation. Limestone soils notably will grow almost any legume readily without artificial inoculation of any kind. This is doubtless due to the fact that a limestone soil is a sweet soil and furnishes a favorable home for the development and rapid multiplication of soil bacteria of all kinds. Whether the bacteria peculiar to these various legumes and essential to their most successful growth and development are wholly dependent upon host plants of this kind for their development and existence in the soil is not thoroughly settled. Very generally, however, the soil upon which it may be desirable to grow leguminous crops new to them—with perhaps the single exception of alfalfa—are soils which are not in the best condition to favor the development of these bacteria. This fact is indicated by the necessity of applying lime upon a large proportion of the older soils of the state, in order to place them in condition to be a desirable medium for the reproduction of nitrifying bacteria upon the roots of the alfalfa and other leguminous crops which it may be desired to introduce.

The growing of soy beans on such soils, even though they may be inoculated, will not insure the development of the bacteria in the roots of other legumes without artificial inoculation. The bacteria peculiar to some legumes are more tolerant of an acid soil than is the case with others, so that success with soy beans or cowpeas would not necessarily insure the successful inoculation of alfalfa, for instance, by artificial means, without liming of the soil. On the other hand, a soil which gives a good inoculation of soy beans or any other legume without the artificial inoculation of the seed or the soil itself, may give favorable results with alfalfa or other leguminous crops without artificial inoculation but is undoubtedly more likely to give such results than a soil on which these legumes would not develop root nodules without such artificial inoculation.

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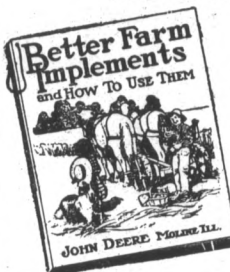
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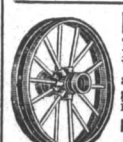
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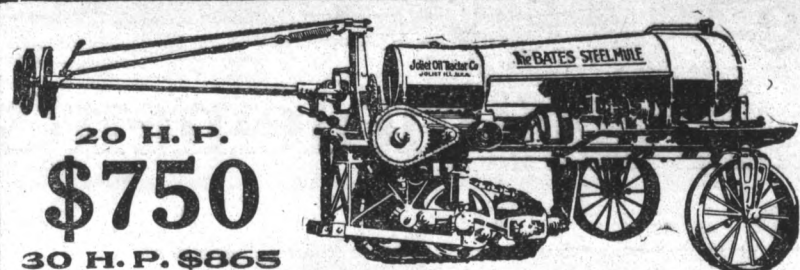


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## Efficiency Methods In Fruit Growing

THE advantage of summer pruning to induce bearing was told by J. Andrew Cohill, of Hancock, Maryland, who talked on "Practical Experiences of an Extensive Orchardist," at the recent meeting of the Western New York Horticultural Society. Baldwin trees twelve years old that had not borne, were pruned late in summer, and the next year bore a fair crop, and the next year after a large crop. He said the large limbs which must be removed should be cut in the winter only. In summer pruning small branches only should be thinned out.

Speaking of orchard economy, he said he had to reduce the expense of producing a barrel of apples in order to make sure of a profit. The fruit grower should know the cost of production and use good business methods to reduce it. We tag each tree that shows scale and spray only those trees instead of the whole orchard, thus making a large saving in material and labor.

#### Cutting the Cost of Production.

Again we saved eleven cents a barrel by making our own barrels. We found the labor of making a barrel is only five cents. We buy the material and contract with local coopers to make them during the slack season. We never work more than ten hours, men begin and quit exactly on time. They learn our requirements and conform to them. We are just with the men and they try to be always on time so something is saved this way.

All of our men work by the day. We feed and house them all. The men who are temporarily with us we house in tents, and furnish them with cots and blankets. We feed these men so well that it costs us seventy-five cents per day. Good food, housing, wages, and just hours for work holds the pickers. We keep the tents sanitary and the men appreciate it.

Our treatment of the pickers makes it so that we never have to worry about a scarcity of pickers. We don't use city pickers as we find country people are the best help. We pay our pickers when they want it, instead of holding back pay, which is often the custom.

Other labor-saving methods are the use of boxes instead of baskets to put the apples in in the orchard and using low wagons so one man can load the barrels. We have girls to do what work they can in the packing house as they will work for less than men. We also graded our roads so we could draw larger loads.

#### The Value of Bud Selection.

The prominent pomologist, G. T. Powell, spoke on "Transmission of Qualities through Bud Selection," as follows: In order to begin some definite work along this line I gave an order for 150 Northern Spy trees to be planted for top-working, and a second order for cions to be taken from a very good Sutton Beauty tree that I had seen and admired. These scions were grafted upon the Spy trees a year later. There are at the present time three generations of bearing trees, the buds for top-working having been selected from the trees of each succeeding generation, that were nearest the type of the original tree, which was an annual bearer, and of exceedingly good type of the variety.

There has not been an unproductive tree in the entire three blocks. For ten years the first block has borne, regularly, yielding from five to seven barrels to the tree. The past year, there were individual trees that produced eleven barrels each. The entire crop practically made two grades, A and B, minimum two and a half and two and three-quarter inches. The apples on these trees were heavily thinned out.

The third generation of trees are not only uniform in growth and type, but the apples are also more uniform and

yielded heavily, requiring thinning. Another experiment in top-working trees through bud selection, was started with the King variety, in 181. The King tree is constitutionally defective, and is especially subject to attack by canker. In the Hudson district, King orchards seldom live beyond twenty years. The trees beginning to fail, at from twelve to fifteen years.

We got buds from a tree that had borne for thirty years, and was still in good physical condition. These were grafted upon two-year-old Northern Spy trees. Excepting last year, when the blossoms were injured by a frost, this block of trees has borne regular annual crops for eighteen years. Every tree is in place, as planted and top-worked, without a trace of canker in the entire orchard. Five barrels is a good yield for a King tree. This orchard has produced from six to seven barrels, while individual trees have yielded nine and ten barrels.

On a citrus fruit ranch of 1,200 acres I was shown lemon groves that had an annual average yield of 460 boxes per acre, and one block that has yielded annually 600 boxes per acre. These trees were not only grown from special bud selection, but the tillage, fertilizing, and general care were of the very best.

While the average yield of lemons in the state of California is 200 boxes per acre, with an average cost of production of \$195 per acre, the difference in results in these comparative averages is very wide.

#### Results of Bud Selection in Citrus Fruits.

One of the most striking results observed was from an orange tree, that from bud mutation, produced a branch with variegated foliage of light green and yellow colors of a mottled character. The oranges on that branch were heavily ribbed, and of no market value. Buds were taken from such branches and top-worked upon other trees which invariably produced the same character of foliage and fruit.

In these blocks we saw numbered lemon trees, twenty-five years old, from which the regular monthly picking filled a two-quart paper bag, half full, while other trees in the same row produced from half to a full box at a picking, of the finest quality lemons. The trees that produced the very low yield were of a strong woody character smaller trees which produced the larger yield of good quality lemons.

Another large grower who for four years had kept, and is continuing to keep, individual records of every tree on 1,300 acres of citrus fruits, finds that the unproductive trees, and the undesirable types of oranges and lemons they produce have entailed an annual loss of \$100 an acre, which loss has been going on for years.

In California one of the interesting results of this investigation of individual tree performance, have been the change of methods that is now being adopted in the propagation of trees by some of the most progressive nurserymen. These nurserymen are now using bud wood taken only from trees that have a record for production of fruit in large quantity, and of the best type. We were shown one lemon tree in a grove that had an annual record of 1,280 pounds of lemons that graded high in quantity of fruit that commanded the highest value, and which produced but two per cent of cull fruit. We saw one block of lemon trees propagated from buds from this tree that at eleven months from the time the buds were set had upon many of them fourteen to twenty blossoms and young lemons, set. Every inch of bud wood that it was possible to obtain, was taken from this parent tree by nurserymen, for whose trees thus propagated planters paid \$1.25 each, while other trees could be purchased for from fifteen to twenty cents each.

New York. W. H. JENKINS.



### MAKING BLACKBERRY ROOT CUTTINGS.

Ordinarily there is "nothing doing" in the line of gardening at this time of the year, January 25, except to haul manure on to the ground, perhaps. It is still too early to start the forcing beds for the growing of early vegetable plants. But the present mild weather is so much out of the ordinary that we spent a part of the forenoon digging blackberry plants and making root cuttings. It is best to do such work in the fall before freezing weather sets in; but I didn't get to it. We could not have done this work today had it not been for the protection afforded by a large snow bank, about 18 inches of which yet remains, keeping the ground unfrozen.

The object of digging blackberry plants or making root cuttings in the fall instead of in the spring, is to secure callousing of the roots. Thus treated, a more fibrous compact root system is secured. Plants grown from root cuttings require one year extra to grow to bearing age; but root cutting plants are superior to sucker plants. Propagation is far more rapid too, by this method.

During a conversation last season a fellow gardener said to me, speaking of the Eldorado blackberry: "The Eldorado is a good berry; but sucker growth is so slow that it takes a long while to get a few plants."

I replied that that didn't need to trouble him. Then I explained how one could get new plants in quantities limited only by the quantity of roots obtainable. Roots the size of a lead pencil and up, answer the purpose best, though some will make plants smaller than this. The roots are cut into lengths of about two inches and buried in sand safe from frost, and where they will keep moist. The following spring, as early as the ground will keep worked, the cuttings are planted in rows; about two inches deep and three inches apart in the row will be about right. The ground should be moist and tamped down well. The amount of growth secured the first season is determined by the size of the root cutting; soil conditions and tillage given.

It is best to dig these root cutting plants in the fall, that callousing may again take place, resulting in a still more compact fibrous root system. The following spring they may be set directly to the open field or grown another season in the nursery row.

Emmett Co. M. N. EDGERTON.

### TROUBLE DEPARTMENT.

#### Peanut Culture.

I would like a little information in regards to growing peanuts in Michigan. Will they ripen in Michigan, and what time should they be put in to ripen? What seed house handles such seed? Should they be put in to be worked both ways? What do they generally turn out where peanuts are grown as a crop, and what price do they generally market at, and how are they handled after ripening? Have they ever been grown in Michigan as a crop, to any extent? SUBSCRIBER.

The peanut is particularly adapted to southern states on account of the long growing season required. It needs at least five months in which to ripen and is very susceptible to frost. On this account it has been grown in Michigan for home garden purposes only.

Peanuts will do best on a sandy loam soil and in locations in which the soil warms up quickly in spring and which is well protected from frost. They should be planted as early in spring as one can feel certain that the place in which they are put will be safe from frost. They should be planted not less than two feet apart each way and about two inches deep, with about two seeds in a place. The seed should be hulled but care should be taken not to break the inner husk.

During the growing season they should receive frequent and shallow cultivation but after they begin to

bloom they should not be disturbed. After the vines have been pulled they should be shocked in piles about seven feet high, placing a pole in the center if necessary. The vines should be so piled that the pods are on the inside of the pile. They should also be kept off the ground as much as possible. After the vines have dried from 15 to 20 days the pods may be picked. The average yield is about 18 bushels of 22 pounds each to the acre.

We know of no seedsmen who handle peanuts for northern growing. Most people growing them in a small way buy their peanuts from confectionery stores, which have them in unroasted form. This is probably the most likely and convenient source of seed, but one must make sure that the nuts are not roasted.

Peanuts are not usually sold on the general market by the producer as the practice in the peanut growing districts is to sell them to large concerns which manufacture them into various products or sell them to dealers. We would suggest that you make inquiry of the confectioner and the baker as to what they would be willing to pay for peanuts, as undoubtedly you could sell your product to greatest advantage in that way.

### GROWING EARLY LETTUCE.

To many it seems a long time from the time lettuce seed is sowed in the garden until it is ready for the table. We have found that the best way to provide lettuce early is to sow some seed in the hotbed late in February or early in March and then transplant the young seedlings to the garden when weather conditions admit of doing so. When the young plants are set from four to six inches apart in rows they develop quickly and the result is a head large and firm, with crisp and tender leaves.

It does not require many plants for home use so that the seedlings may be raised in a box in a window if one has no hotbed. It is necessary that the seed be not planted too close or the plants will be weak and spindling, besides the seedlings will grow quite large by the time they are ready to be set out and should therefore be thinned in order that they may have some dirt left clinging to their roots when transplanted.

While this plan may be followed with pleasing results, seed should also be planted in the garden as early as possible. The lettuce can be thinned when it emerges from the ground and thus a continuous supply may be had. It is a hardy plant and can really be planted a little earlier than most farmers are in the habit of doing.

Indiana. J. L. JUSTICE.

### REMOVING BORDEAUX STAINS.

When fruits, such as apples, peaches or plums become smeared with Bordeaux mixture it is often difficult to remove the stains without also injuring the fruits. But this need not be the case. Bordeaux mixture being composed of lime and copper sulphate can be readily dissolved in acetic acid—not pure acid because this might injure the fruit, a dilute solution will do the business just as well, though not quite so quickly, but there would be no injury to the fruit. All that is necessary is to dip the fruit into the liquid, let it stay a few seconds, raising and lowering the receptacle several times to get rid of bubbles, then to place it in a vat or a spray of clean water. This will wash away all the Bordeaux stains because the lime and the copper sulphate will have been chemically changed to the much more soluble acetates. Drying is all that remains to be done before packing.

Penn. M. G. KAINS.

### THE HORT. MEETING.

Don't forget to attend the mid-winter meeting of the State Horticultural Society at Pontiac, February 15-16.



Made For  
Bad Roads  
As Well As  
Good Ones

**T**HE worst possible treatment a tire can receive is the treatment every Goodyear Tire must be able to stand.

We count on bad roads as well as good ones—on abuse, not on normal use—on carelessness, and not on care.

Take the one subject of fabric alone.

Several years ago we decided that the quality of the best fabric left room for improvement.

So we acquired our own fabric mill, and developed a fabric far above the ordinary in its quality.

This was adopted as the Goodyear standard, and now *all* Goodyear fabric must meet a quality test much more severe than formerly.

Now, stop and think what tire fabric must stand. Air-pressure from within—and, from without, a million hidden enemies lying in wait at every inch of the road.

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He has no tire worries, save of the most trivial sort, and his abounding faith in the quality of Goodyear fabric, and the goodness of the tire, has given Goodyear the same sales lead in the country that it holds in the cities and towns.

Perhaps we give greater fabric strength than is actually needed—perhaps, according to ordinary tire standards, we are too particular.

Very well, then—we are too particular.

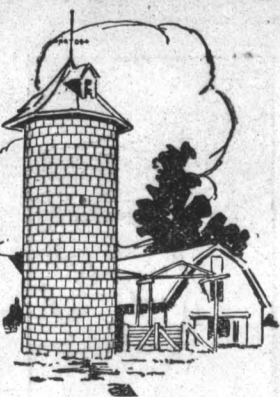
**GOODYEAR**  
AKRON  
**TIRES**



## "Yes, It's A Natco"



As you are riding through the country, take special notice of the silos along the way. Throughout the fertile Middle West country and in the East as well, in every prosperous farming section, wherever livestock farming or dairying is done, will be noted the vitrified tile silos. And in the majority of such cases a closer inspection will identify the silo as a



Delaware State College

## Natco Imperishable Silo

"The silo that lasts for generations"

—so distinctive in appearance you'll know it at once. The handsome glazed tile, contrasting with the white markings of mortar, and our inspection shows our convenient door front, the convenient steps of galvanized iron pipe which, with the steel reinforcement, holds the silo in a grip of steel, the perfectly smooth walls, and last and most important, the sweet, juicy ensilage in all parts. Here's the silo that's windproof, decayproof, fireproof and frost-resisting. In daily use by the following State Experiment Stations:—

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Send for our new Silo Catalog—also our new book, "Natco On The Farm," describing the use of Natco Hollow Tile for all types of farm buildings. Both free. Write now.



New Jersey Agricultural Experiment Station



Purdue Ind. University



Natco Silo Wall. Note perforated shell providing firm anchorage for mortar joints.

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23 Factories—Short hauls—Prompt shipments.

## Pasturing Corn with Sheep

Paper read by E. G. Read, of Kalamazoo Co., before the Michigan Sheep Breeders' and Feeders Association at its recent meeting at the Michigan Agricultural College.

I WAS both surprised and amused to receive on Christmas morning an invitation to be present and take part in this, the Second Annual Meeting of the Michigan Sheep Breeders' and Feeders' Association; surprised that I should be asked to take part in anything anywhere, and amused to find there were actually some people in the state who were becoming interested in the topic assigned me, namely, "Pasturing or Feeding Down Corn with Sheep." I realize there has been little said in public in regard to this method and what little there has been is nearly all uncomplimentary.

Sheeping down corn has been termed the most wasteful method of harvesting the crop. Wasteful!—it makes me laugh to think of it; I guess the people who made those remarks were not acquainted with the Read family and know nothing of their bringing up. The only money that I ever wasted in my life, I believe was when I was picking out my wife, and on reflection, I believe that was the best investment of them all.

### The School of Experience.

Ever since the age of fourteen, I have been managing a farm, without the advantage of an agricultural college, or even a high school, education. For seven years I had followed the usual practice of selling wheat, corn and oats, and if we had more than we needed both hay and straw, from the farm which was not satisfactory, as I considered the farm should not be robbed of these elements of fertilization. We had a neighbor adjoining farms with us who had 70 acres of good strong, rough land. I knew it was not as good as ours, but try my best, I could not produce as much as he. He was buying a few sheep here, a few cattle there, and turning them into beef and mutton, and producing manure to cover the thin spots on those side hills. His example and council got me started right. Whatever success I have attained as a farmer, the credit is due to him more than to any other person, with the exception of two women I might mention.

### Live Stock Farming Brings a Home Market.

I then commenced a system of live stock farming in order to utilize and make a market at home for these products and give the farm the benefit of them. For about twenty years, I fed both sheep and cattle; the past eleven years have been devoted entirely to feeding sheep, finding that it was taking a part of my sheep profit to pay loss on cattle. Why did I commence the practice of sheeping down corn? To find a more economical method of harvesting the crop. Previous to the year 1905, it had been necessary for me to hire my corn harvested by the job or acre and on account of the rape which we were growing in the corn, it was costing me about \$6.50 per acre for harvesting corn, including board. It was also taking the greater part of one man's time to properly care for about 2,000 lambs which I usually had on the farm at that time of the year. If I could induce the sheep to harvest the corn it would surely not take any more time to take care of them than before. I would save the cost of harvesting and could therefore stand some loss from waste which I expected would be considerable.

### An Original Experience.

That year found me with twenty acres of very thin corn, not over 60 per cent of a normal crop, but with a very heavy growth of rape, it was going to cost one-third of it to harvest. Now was the time for my experiment. I turned in 650 native lambs of all kinds and descriptions, such as you would generally find in this state. These lambs were turned in early in September, during the warm weather, before we had even a frost. I see by

the smiles on some of your faces that you are guessing my first experience. I had no intimation of it until one afternoon in showing the lambs to a visitor, I saw what looked like maggots. The result was that I had to tag fully three-fourths of the flock, there were at least fifty that had them at that time, and I only lost one lamb by the operation. What they left of that field of corn was not worth mentioning. It netted me \$20 per acre, figuring gain on lambs at six cents per pound, and I was sorry that I had not harvested another field the same year in like manner. I sold \$10 worth of pelts that year from 2,000 lambs which I fattened—a very low death rate; have been able to increase it materially since. The following year I had the same field in corn, but after my former experience I decided to try western lambs, and purchased 640 in Chicago. Before turning them in the corn, I took out 150 native lambs that had been in the field two weeks, but left in 50 hogs that had been there the same length of time, for two weeks longer. The hogs ate about five acres of the corn, which left 15 acres for the lambs. These lambs gained 9,600 pounds in just five weeks, or 15 pounds per head. If the natives for the two weeks they were in, made as good a gain, and I am sure they did, I would have 10,200 pounds in gain from 15 acres of corn; at six and a half cents per pound for the gain, amounts to \$663, or \$44.20 per acre; only lost one lamb out of the two carloads. These lambs were then put in another corn field for about two weeks and then sent to market well fattened. It will be easy for you to determine if that crop of corn netted \$44.20 per acre, at six and a half cents per pound for gain, there must be a fair margin of profit, when you can get present prices for the gain and also some advance in price on the purchase weight. I think I have given sufficient proof of the good results of harvesting corn in this manner.

### "The Proof of the Pudding."

For further proof, while ten years ago, in my county it was considered both a wasteful and extravagant method of harvesting corn, there are now twenty farmers doing the same thing successfully and some of them are the very ones who condemned it at the start. We have no patent on this method of harvesting corn. Michigan is one of the most ideal states for the practice, being situated between Chicago, which is getting to be the largest consumer of mutton in the world, and Buffalo, which has been the distributing point for the Eastern and Middle states for many years. Any successful farmer should get the same results by giving it the same attention he gives the harvesting and marketing of his other crops.

Gentlemen:—I have found that sheeping down corn is not a wasteful manner of harvesting the crop, but that harvesting corn with lambs is an economical way of fattening them. I have not mentioned the beneficial effect on the crop that follows. I suggest that any of my hearers who contemplate trying it out, fence off a portion of the field to be fed down and not allow the lambs on the balance. Note the difference in color and rankness of the growth of oats the following year and determine for yourselves the benefit and cause.

### Watching the Results.

I believe I never enjoyed myself for five weeks to a greater extent than during the period these lambs were cleaning up the corn. They had to come about sixty rods to the barnyard for water, which was in plain sight of the dining-room windows. They would come up in squads of from a dozen to 200 in a bunch. There was scarcely a day that I did not sneak out on them and run a bunch of them on the scales.

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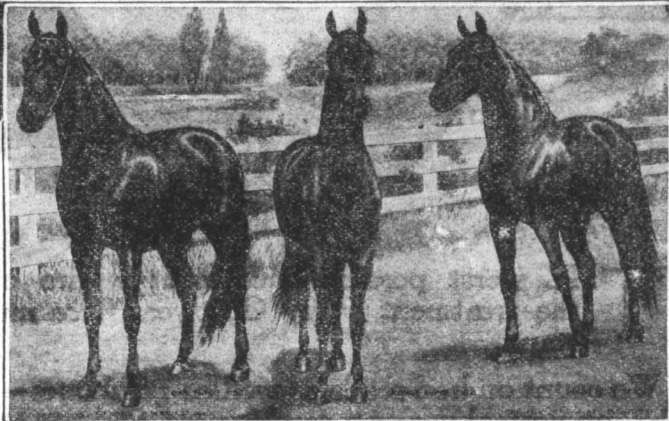
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SHIPPED ON APPROVAL

WANTED: Man to run grain and stock farm, must be thoroughly competent; one with technical knowledge would be more favorably considered. Farm about 400 acres, near Detroit. Application with references only will be considered. Box M. 212, in Care Michigan Farmer.



I was wasting some time but was having a genuine picnic, determining whether I could economically harvest the corn or not. They were bringing me in about \$19 every day and I was hoping it would last indefinitely. I took more money per acre from that field of corn than from any crop up to that time. I bought twenty pigs that fall to clean up after the lambs and in ten days' time they were squealing for feed.

Don't imagine that I am going to tire you out with my experiences since that time, suffice it to say that I am still raising corn on shares—I grow the crop and the lambs take it all for their share and leave me the balance, and I fully believe; yes, I know, that I got bigger net returns out of the deal with those lambs and the corn field than I could in any other way.

What wonderful machines that can harvest and convert into money, and at the same time spread the fertilizer for the next crop! We have had some wonderful inventions in the past century, but if some man could invent such a machine, wouldn't he have a bonanza.

#### Essentials of Success.

Lambs fattening in the corn, as anywhere else, require plenty of salt and good fresh water, and will not make suitable gain if the water is neglected. We have also found it a good practice to have them on a self-feeder of some light grain—we use bran and oats—before turning them into the corn, so as to get them to eating the heavier feed as slowly as possible, trying in this manner to avoid loss by over-eating. We also keep the self-feeder where they can get to it all the time, it makes them in a way, independent of the corn so that if we should at any time have a severe storm, which we are liable to have at that time of the year, they can get plenty to eat, then when the corn is finished, it is an easy matter to remove feeders and lambs to the barnyard without much danger of loss. It is also advisable to furnish plenty of roughage along with the corn, pasture, or plenty of good hay.

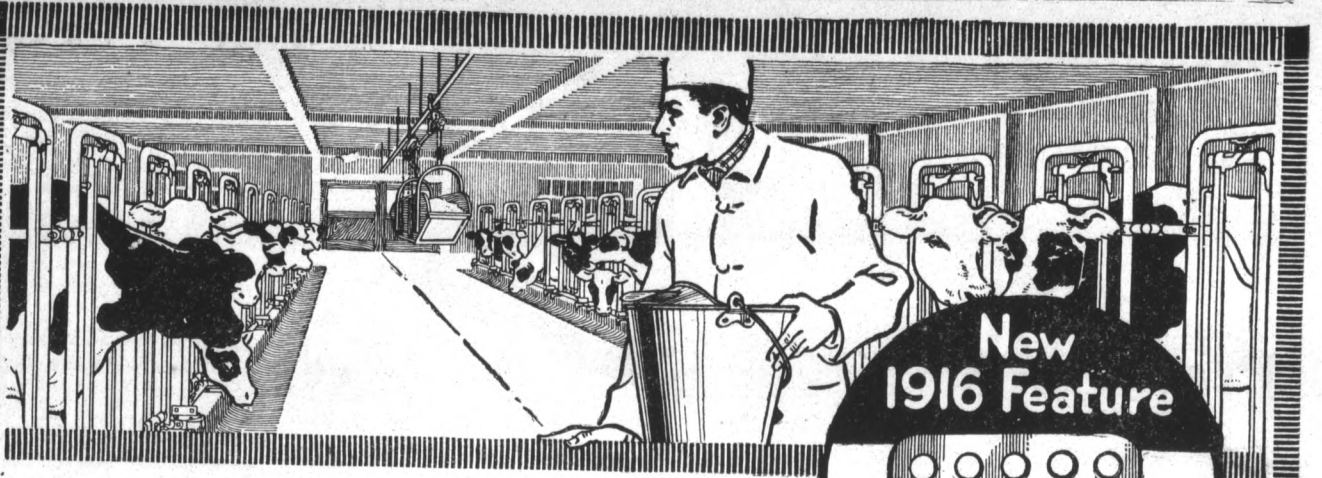
My advice is to feed corn fields down with lambs. If, when corn is gone they are ready for market, ship them; if not, take them to the barnyard and finish fattening them, then, if you have hay and straw still on hand, buy more lambs and grain to feed them, and try and hold your farm in as good condition as when it first came into your possession, instead of selling it out from under yourself and family inch by inch, as at least 90 per cent of the farmers in the country are now doing.

#### Raw Material of Soil Fertility.

During the season of 1911 and 1912, I purchased and fed on my farm \$7,697.24 worth of feed profitably, besides what was grown there, which consisted of \$1,930 worth of alfalfa hay purchased in Chicago, and the balance grain, which was better for my permanent investment than if I had carted everything to market, for you cannot keep even a farm running successfully without supplying it with raw materials, any more than can a manufacturer. It will run somewhat longer than your automobile without certain requirements, but there is a limit. Keep as far from it as possible or, in other words—keep your gasoline tank full.

For example, I will take you again to the 70 acres that we spoke about earlier; what has happened to it? I will tell you. My English neighbor, as thorough a farmer in those days as I ever knew, got tired of working that rough land, sold it, with 45 acres of wheat on the ground good enough to yield 33 bushels per acre. It has passed through what I term two land robbers' hands since that time and is now in the hands of a third, and has deteriorated to such an extent that last season there was taken only three-fourths of a ton of hay to the acre from one of the 20-acre fields, while several fields in the same neighborhood cut two and a half tons to the acre, to my knowledge. Isn't it a won-

(Continued on page 220).



## Stop Throwing Money Away-

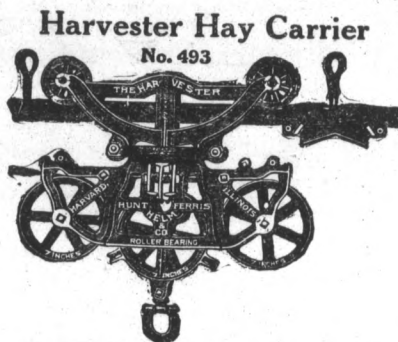
EVERY day you delay putting in STAR BARN EQUIPMENT costs you cash money. You're throwing away the extra profit that more milk—better milk—healthier animals—and labor cut in half, gives. All these things come when you install STAR Equipment. Ask users.

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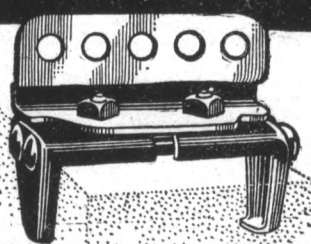
Let us help you design your new barn or remodel your old one. Our Barn Plan Department is at your service and Blue Prints are free. Let us know your wants.

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INSTEAD of using templets and setting anchors the new Star Curb Clamp enables you to go right ahead and finish up your curb right along with the rest of the concrete work and know that the stall arches will fit when they arrive.

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Write for Literature FREE—a 159 page, profusely illustrated book of valuable barn data if you write, mentioning the number of cows you keep, whether you intend to build or remodel your barn and when. Also mention what you are interested in, Litter Carriers, Hay Tools, Barn Door Hangers, and we will include catalog of same.

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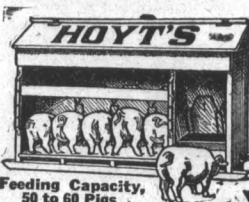
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The new Reliance Separator—the self-oiling machine—the machine that is made up of new, improved and long-desired features. And the demand for this new Reliance when we placed it on the market two years ago was almost instantaneous—even exceeded our biggest hopes. The users of our new model were not only satisfied with it—they were so loud and enthusiastic in praise that we couldn't keep up with orders, and the demand keeps us right up on our tip-toes to this very day. Write us at once for full particulars in order that you may insure yourself of an early delivery. We will send Reliance book as soon as your postal is received.

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Gentlemen: Will say that I am on the fourth year and have had practically no trouble, am using the same long rubbers that came with the machine, got a set of the short ones last spring. I milk from 15 to 20 cows, and lots of times I average about 2½ minutes to a cow. I strip some but do not think it necessary when the cups are all right. I would not trade with any machine. A. F. WHELAN.  
Why continue to have your milking done by hand when other dairymen all around you—thousands of them—are cutting down expenses by using the

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## The Persistent Milker

**A** VERY valuable part of any dairy herd is the cow that is usually termed the persistent milker. If any cow repays the cost of her keep with a generous per cent of profit added thereto, this is certainly the one. Every dairyman who has any desire to add to the productive value of his herd should be on the lookout for any such cows that may be in his locality and, when it is at all possible, add them to his herd. What the progressive dairyman is looking for and what he must have, if he is to secure a full measure of success, is animals capable of taking his valuable feed and converting it into a commodity that has a greater value. To secure such results is an impossibility when the herd contains cows that insist upon being dry three or four months in the year.

In speaking of the persistent milker we have reference to the cow that does not seem inclined to go dry as the time for calving draws near. To be sure, she should not be milked during the entire year, but it is far from being to her discredit if she is willing to be, for that is ample proof that she has the capacity for producing the milk.

There are a great many dairymen who, when they once secure one of these valuable cows are almost certain to lessen her value by milking her too steadily. The demands of nature require that any cow shall be dry for from four to six weeks before calving so that she has ample opportunity to regain her strength so that she is able to properly nourish her offspring. If this is not done the calf is almost sure to be small and not overly vigor-

ous and not at all likely to develop into a first-class animal. In fact, it is almost an impossibility to develop such calves into profitable dairy cows.

Loss is almost certain to develop from another source, for when a cow is not allowed a suitable period of time, before freshening, in which her system may rest up, she is not at all likely to regain her old time flow of milk. Should this occur but once her value may not be seriously impaired, but a repetition is certain to injure her milking qualities permanently. Quite often, when a cow has not had the opportunity for renewing her strength before calving, the dairyman becomes discouraged thinking that her best days have passed. Often times valuable animals are sacrificed when they could yet be made the most valuable animals in the herd.

When, through carelessness or oversight, a cow has been allowed to get into this sort of condition she should not be disposed of, but steps taken to get her back into her old time form. This task should be commenced at the feed box by placing liberal quantities of the best ration that can be devised before her. Give her the best of care and then, next year before she is to freshen, put her dry long enough that she may rest up well. This will, usually, if the cow is not too far along in years, bring her back to the old-time usefulness. It is best, however, to avoid all of this work and loss by giving the cows such attention as will always insure their being in first-class condition for production of milk.

Ohio.

SHERLEY CONNELL.

### KEEPING SILAGE FROM FREEZING.

We have very little ensilage freeze even in the coldest weather, and don't see why others should. Our silo is 14-20 feet, with nine-foot cement base 12 inches thick. The roof is round and covered with prepared roofing paper. The feeding chute is made of inch boards. All cracks are battened outside and inside with waste roofing cut in strips and nailed fast. At the bottom of the stave part and on top of base in the feeding chute we have a door we let down like a trap door, which keeps out the cold and keeps in all the heat there is in the ensilage. We always keep a pickaxe in our silo and if it begins to freeze to the staves we dig it loose at once as far down as we want to feed, and never allow the center to get out of a cone shape. I believe the most of the trouble is in the way the silos are roofed and in not having the chutes protected with a door and in letting the silage freeze on the staves, after which the frost works inward until it reaches the center of the silage.

We have had our silo up four years and have never been bothered with frozen ensilage and believe that it is all due to the fact that we take the above precautions.

Kalkaska Co. W. F. HAYWARD.

### DAIRY PROBLEMS.

#### Wet Brewers' Grains for Cows.

Would fresh brewers' grains make a good feed for Jersey cows for making butter? They are quite dry, the water being all drained out. I would feed them with corn and oats, ground half-and-half, silage, clover hay and corn-stalks, or what feed you would advise me to get. Do you advise having water in front of cows or in a tank outdoors? I could water them in man-gers but I am afraid it will make them sticky and dirty. What kind of bowls do you like best? I have a fine basement barn with steel stanchions, posts, etc. Do you think it would pay better to raise grains for all of the ration than to buy part of it? I thought I would raise barley, peas and oats, soy beans in the corn, and alfalfa and clover.

J. E. M.

Wet brewers' grains are a splendid food for dairy cows if not fed in too large amounts and if fed before they

begin to spoil. You say they are quite dry, and they may be dry for wet brewers' grain, but they contain considerable moisture when compared with dry grain. They contain probably 75 per cent moisture.

I don't think you can get any better feed than corn and oats ground half-and-half and wet brewers' grains. I would estimate it would take three pounds of the wet grains to equal one of dry. Then if you follow the rule of feeding a pound of grain for every four pounds of milk, have two-thirds of this pound of ground corn and oats and the other one-third of brewers' grains, and since it takes three pounds of the wet grains to make one of dry, feed one pound of brewers' grain for every two-third of a pound of corn and oats.

I think it is best to have water in the stable where the cow can help herself when she wants it. Any of the enamel-lined iron bowls on the market are good. Watering the cows outside often chills them as the dairy cow is a sensitive creature. This naturally has a detrimental effect on the production of milk.

If you try to raise all your own grain you cannot keep so many cows, and cannot utilize all your roughage to so good an advantage as where you buy some grain. I think it is generally best to try and raise only part of your grain and buy part, then we can utilize such by-products as cottonseed meal, wheat bran, gluten feed, hominy, etc.

#### A Heavy Feed of Cottonseed Meal.

I have five Jersey heifers two years old that have recently freshened and are now giving from 25@30 lbs. of milk per day. Before freshening they had no grain feed, but had good silage, bean pods, and rather poor pea vines. Since freshening I began by giving a small feed of bran, middlings and cottonseed and have gradually raised until now they are getting two quarts of bran, one quart of middlings, and one quart of cottonseed. Can I better the above feed or can I cheapen it and still keep up a good flow of milk by using other feeds?

Kent Co.

E. J. P.

A quart of cottonseed meal per day for young heifers is pretty heavy feed. I would not want to feed so much. I would cut down half on this and substitute oil meal or gluten meal. You



may not get any bad results from feeding heavily of cottonseed meal for some time, but I think you will eventually. I have given it a pretty thorough test in past years, and think I am right. So far as food nutrients are concerned, your ration is a good one, and the yield of milk from two-year-old heifers proves it.

I can offer no suggestions as to the amount of grain fed, because it depends upon the kind of grain used. Two quarts of bran is not very much, but one quart of cottonseed meal is a lot.

I suggest that you feed not more than two pounds of cottonseed meal per day. Then mix bran, middlings and gluten feed equal parts by weight, or you can cut out the middlings (they are high), and mix bran and gluten equal parts. Then feed one pound of grain per day for every pound of butter-fat produced in a week, or one pound of grain for every three or four pounds of milk produced.

#### Can Make Butter from Scalded Cream.

Can butter be churned when the milk, a day old, has been heated to make the cream rise more quickly? I have churned for hours when temperature was right, and got no butter. Will scalded cream make butter?

Genesee Co.

L. M.

It is not a bad plan in making butter from a few cows to scald the milk. Heat it hot but don't boil it. I think

a job of milking on the second ten cows as they do on the first ten.

My own judgment is that where the work can be properly planned, it is best to have a man for every ten cows, then have him do other work the rest of the time. Good milkers can stand 15, and on a pinch once in a while it is necessary to milk more, but I do not think it best as a general rule.

#### Cost of Filling Silo.

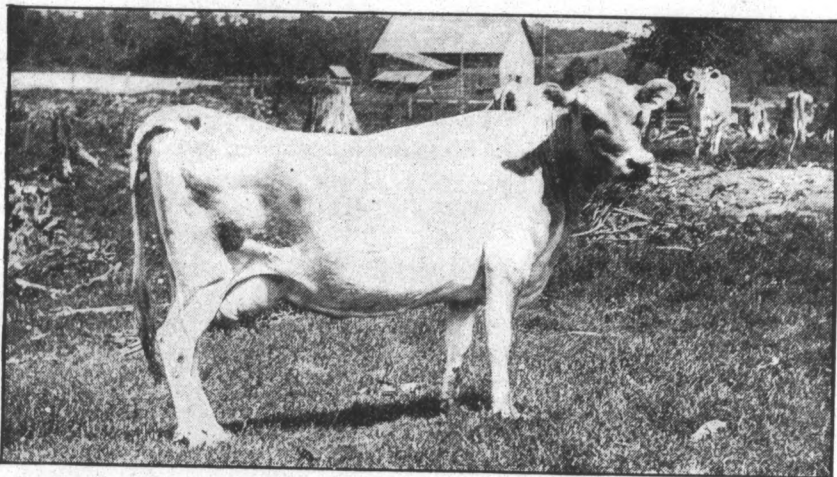
What is the cost and time of filling a 12x30-ft. silo when corn is to be hauled 20 rods from filler and the corn is a good height? Will it pay to fill a silo with corn that will average 50 bushels per acre of good corn to feed to dairy cows on a farm where hogs are selling from \$7@8.50 per cwt., live, and cream is selling from 25@32c per pound?

Gd. Traverse Co.

C. L. P.

A silo 12 feet by 30 feet will hold about 75 tons of ensilage and this can be filled in one day with a good cutter and plenty of help. The cutter will cost \$1.25 to \$1.50 per hour, or not to exceed \$15. It will take two teams to haul the corn, and two or three men to load in the field, also one extra man to help teamster unload, and one man in silo. If it costs \$3.50 per day for man and team and \$1.50 for man, then the labor cost would be \$14.50, or \$29.50 total besides board for men and cost of cutting corn.

If you feed the corn crop dry or the



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your trouble came from not ripening the cream before churning. Warm it to 70 degrees and let it stand for 24 hours, then cool to 60 degrees and churn.

#### Wheat Bran and Corn Meal Sufficient.

Please give me a balanced ration for my cows. I have cornstalks and clover hay, with one-third alfalfa mixed in. I have been feeding cornstalks at night and hay in the morning, together with corn-and-cob meal, wheat bran, equal parts by weight, and gluten, half as much as either of the above. I have the corn but have to buy the bran and gluten. What change would you advise, using what I have on hand?

Washtenaw Co.

R. W.

With clover hay one-third alfalfa you can get along nicely with corn meal and wheat bran. Or if you want to feed corn-and-cob meal then I would use gluten fed, and there is no objection to using both bran and gluten feed, using a less amount of each. Feed all the hay they will eat up clean, and feed corn-and-cob meal and gluten feed equal parts by weight, or corn meal and wheat bran, equal parts by weight, or corn meal one-half, gluten meal one-quarter and bran one-quarter, and feed as many pounds of grain per day to each cow as she produces pounds of butter-fat per week.

#### How Many Cows Can One Man Milk?

How many cows is it figured one man can milk on the large dairy farms? I don't mean the limit, but the average allowed.

Oceana Co.

C. G. S.

The proportion of milkers to cows varies considerably. Some dairies require one man to milk 20 cows, others 15, and some think 10 cows are all a man should milk and do the job right, and do it every day. You cannot get a proportion that will work alike in all instances. It depends on the man; some milk continuously for several hours seemingly without becoming tired, but most men will not do as good

old way, more than one-third of its food value is lost, but if put into a good silo the loss of actual food is less than five per cent. For cattle there can be no question as to how to harvest the corn. For hogs, however, silage will not do. The hog is not built right, not adapted to such foods as silage. Silage is pre-eminently the food of ruminants, (animals that chew their cud). To finish hogs for market some ear corn or shelled corn is the best food. Part of the corn crop can be husked for this purpose, or the ears may be picked or snapped off as soon as mature enough, and then the green stalks put into the silo. If you have only enough corn for the silo you can buy corn for the hogs.

#### Cottonseed Meal for Calves.

In looking through your paper I read where one man says you should not feed cottonseed meal to small animals. I am feeding about 20 head of good thrifty calves and would like a balanced ration for them. I have ensilage, cottonseed meal, oats, barley, corn, clover hay, and bean pods for roughage. Some of these calves run with cows yet and some are about seven to ten months old.

Tuscola Co.

SUBSCRIBER.

Cottonseed meal is not a safe feed for any young animals. Even mature animals, if fed heavily for long periods are affected. It contains a poison that in small amounts will not affect mature animals, cows, horses, etc., but hogs never should be fed cottonseed meal.

Ground corn and oats, (chop), is the best food for young calves after they are weaned. A little wheat bran mixed with it is splendid. Let the growing calves have all the clover hay and corn silage they will eat. Bean pods are also good for roughage, and ground barley is another splendid concentrate. I would not under any circumstances feed cottonseed meal to these calves.

COLON C. LILLIE.

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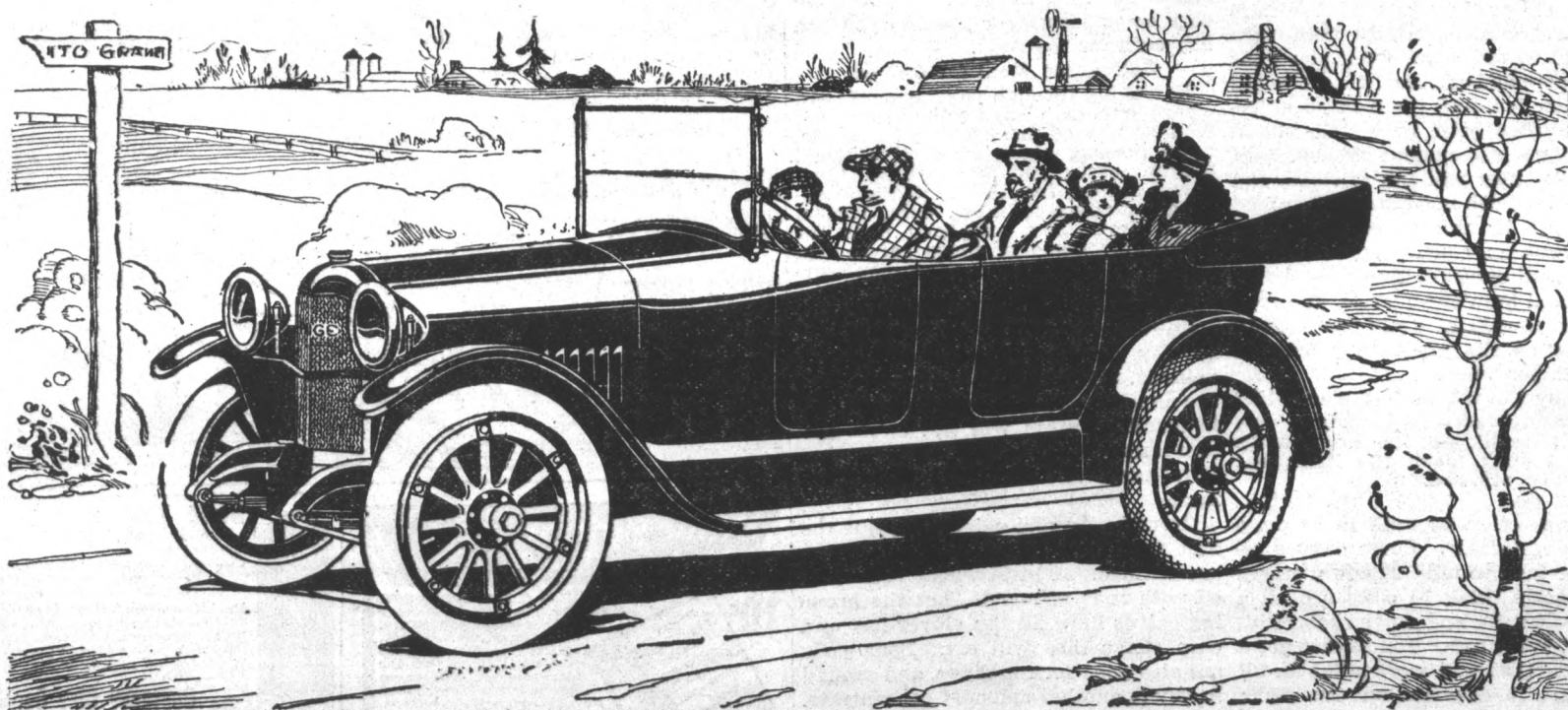
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This Magazine Section forms a part of our paper every week. Every article is written especially for it, and does not appear elsewhere

## Evolution of Hope Hollow District

By  
NELLIE F. ADAMS

FER the land sakes, Henry," said Mrs. Andrews to her husband one evening when he came in from work, "What kind of a teacher have the directors hired this time to teach our school? It was bad enough last year. The children might as well have staid at home for all they learned, but this new teacher does beat all with her queer notions.

"Ever since school began Mary and Sammy have been telling the queerest things the new teacher has been doing. I don't believe they study their books much, but it do beat all how they're taken with her.

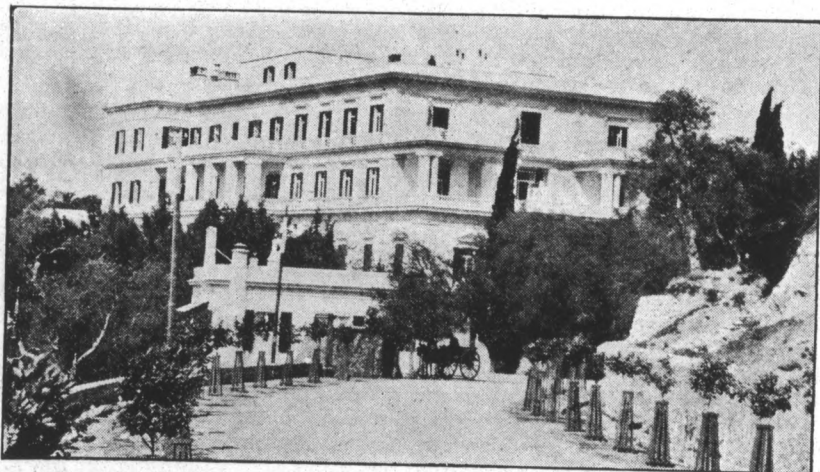
"The very first day she told them as how they spent most of their time at the school house they must fix it up. You wouldn't think that old school house could be made to look decent, but Mary says it looks real nice. The teacher put white curtains to all the windows and has put some pictures and flags of her own on the walls and now she is having the scholars bring leaves and bunches of grain and ears of corn to put up. They'll soon have all the holes and dirty spots covered up. Now she has started what she calls an exhibit table. They are getting samples of nearly everything

that's raised around here. They've even got bottles of dirt, soil they call it. She tells them all sorts of things about the kind of ground it takes to raise things and if the soil isn't right she tells them how it ought to be or where they can find out about it. Today they were talking about corn and how to pick the right kind for seed and how to keep it. Sammy is chuck full and says he can hardly wait to help you gather the seed corn this fall.

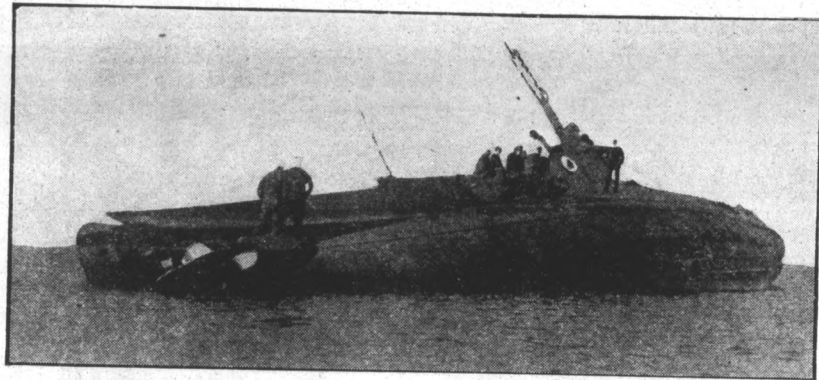
"But tonight was the climax when Sammy and Mary came home they were wild over a new scheme Miss Brown, their teacher has. She has

been telling them she was going to give them credits for their work, I guess that's a mark or something that tells when their work is good, for she said they had to have so many credits to be promoted and the ones that get the most are honor pupils. They each brought a card home and if it ain't the craziest thing. There's a long list of things she gives credits for. Besides the things they do at school, there's places for credits for nearly everything a child can do at home. On Mary's card are places for credits for washing dishes, making beds, sweeping, dusting, feeding chickens, and a

## WORLD EVENTS IN PICTURES



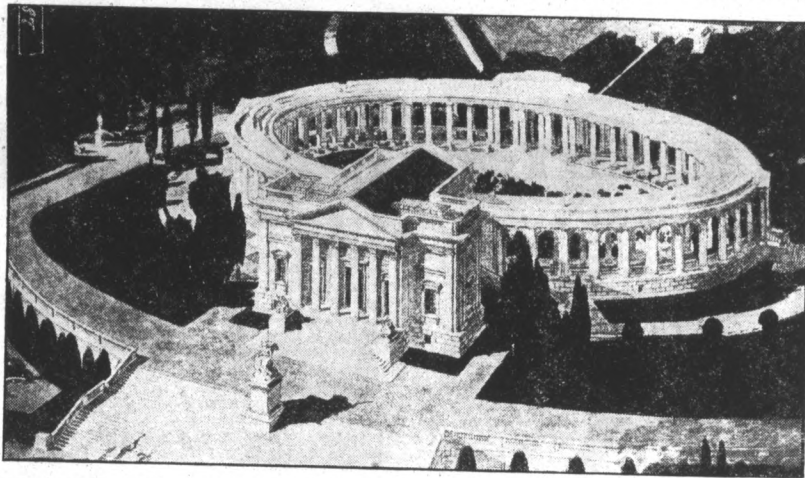
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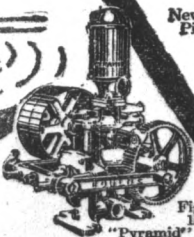


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lot of other things. On Sammy's card was a place for getting in wood, milking, hoeing, pulling weeds, and I don't know what all, but you can see them when you get the chores done."

Mr. and Mrs. Andrews had in their early days of married life taken a claim which had not proved very productive. They had toiled on year after year for their little family, each year farming under the same old methods. The soil had not been improved and Mr. Andrews had become discouraged with life. He laid it all to his poor luck, saying some people were born lucky but he wasn't.

The district was not a prosperous one and the poor wages paid the teachers had not been attractive to many, but this fall the directors had hired from a distant state a young lady who having lost her parents had come on an extended visit to one of the patrons of the school. Miss Brown had taken a course in agriculture and having lived in an up-to-date farming community saw great need for improvement in this locality and had determined to do what she could to improve conditions.

That evening the new teacher and her notions, as they called them, were discussed by the Andrews family. Mary had washed the dishes without being called to do it, and had even begged to do them all by herself so eager was she to earn credits.

"It's a good thing if it makes you youngsters take hold of the work a bit," said Mr. Andrews, "but I don't suppose it will last long."

But it did last. Days slipped by and the whole neighborhood waked up to the fact that their children were learning many useful things.

The school house yard which had been an unsightly, weedy place, was

mowed and cleaned. Many a farm yard took on a neater appearance and unconsciously many parents were changing their conditions.

Miss Brown had a Parents' Day at the school before the cold weather. After a short program she had a social hour, with light refreshments. Neighbors mingled with each other and school matters were discussed.

Before the company left it was decided to have an all-day picnic the following Saturday; the men to make some needed repairs and the women to do some general house cleaning and furnish the dinner. This was only a beginning.

An agriculture class was started, some ground near the school house was rented and the pupils were given some plots of their own to work. Bulletins from the state Department of Agriculture were studied and discussed by pupils and patrons.

To the Andrews family, especially were all these things helpful. Sammy sent some samples of soil from their farm during the winter to state experts to be examined. The instructions returned were such as to make almost a complete change in the manner of handling the farm. It's true, Mr. Andrews was at first a bit skeptical, but agreed that things couldn't be worse than they had been and consented to try the new methods.

What is true of the Andrews family is true of many others in Hope Hollow District. Farm life has been elevated to a higher place. No longer it is a vocation to be disliked by the young people. With the school as a social center radiating happiness, encouragement and contentment the neighborhood is fast becoming a prosperous community.

## Light of Western Stars

By ZANE GREY

Madeline was stirred with an anger toward the cowboy that was as strong as her sorrow for the loyal old cattleman; and yet, when Stillwell gave up, she resolved to take a hand herself. She sent Nels, mounted upon his own horse, and leading Majesty, to Rodero in search of Stewart, with instructions to bring him back to the ranch. In due time Nels returned, leading the roan without a rider.

"Yep, I shore found him," replied Nels, when questioned. "Found him half sobered up. He'd been in a scrap, an' somebody hed put him to sleep, I guess. Wal, when he seen thet roan hoss he let out a yell an' grabbed him round the neck. The hoss knowed him, all right. Gene hugged the hoss an' cried—cried like—I neever seen no one who cried like he did. I waited

(Continued on page 208).



"I will study, I will learn, Opportunity may come."—Lincoln.



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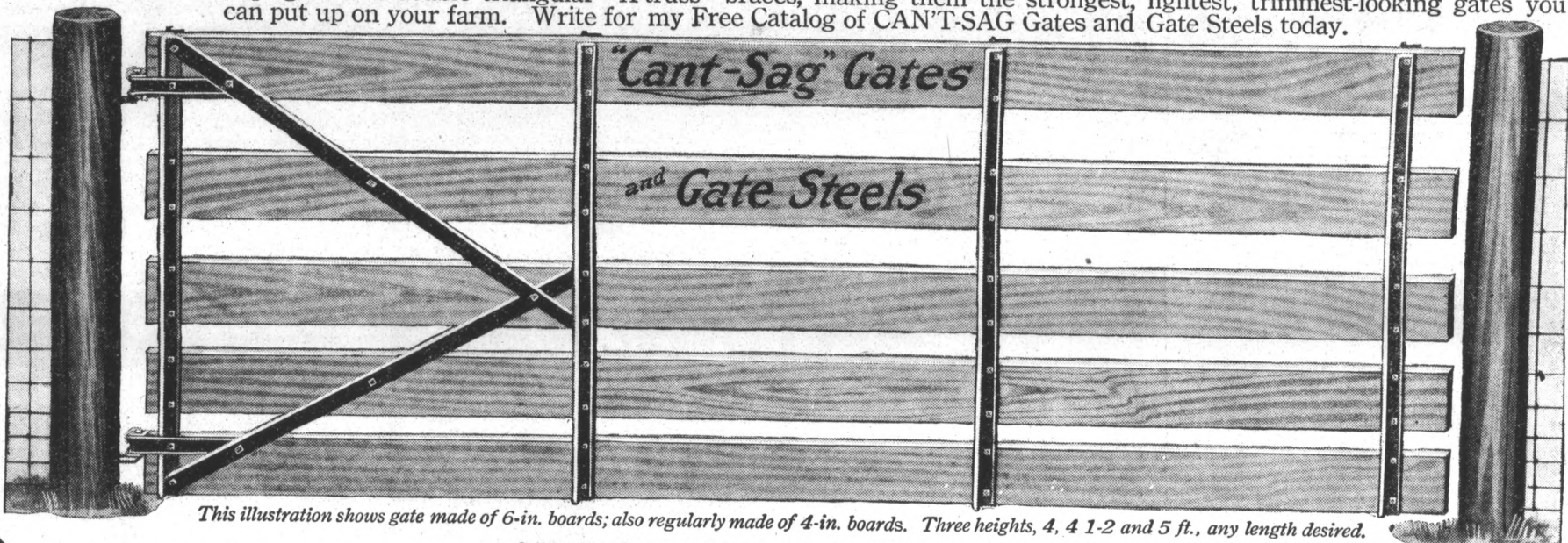
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Note how they are built—a happy combination of wood and steel. The wood gives flexibility and prevents injury to stock—the angle steel uprights give durability, unusual strength, lightness and absolutely prevents sagging. Each board is double bolted between four pairs of angle steel uprights and double triangular "X-truss" braces, making them the strongest, lightest, trimmest-looking gates you can put up on your farm. Write for my Free Catalog of CAN'T-SAG Gates and Gate Steels today.



This illustration shows gate made of 6-in. boards; also regularly made of 4-in. boards. Three heights, 4, 4 1-2 and 5 ft., any length desired.

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"CAN'T-SAG" Gates are guaranteed never to sag. Stock can't twist them out of shape. The double set of angle steel uprights keeps them square and plumb.

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The angle steel uprights being bolted on are fairly drawn into the board on each side making a smooth joint that is water-proof. Another advantage the angle steel is no wider than the board is thick, thus forming a narrow joint which dries out just as quickly as the surface of the board.

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The "CAN'T SAG" Hinges are all steel—unbreakable and many times stronger than necessary. They permit the gate to swing easily either way and have a special self-locking feature which makes it impossible to lift the gate from its hinges when closed. A "CAN'T-SAG" Gate really locks at both ends. This feature makes "CAN'T-SAGS" the best hog gate on the market. Rooting hogs can't lift them from their hinges. They can't crowd under, nor crawl through.

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Gates  
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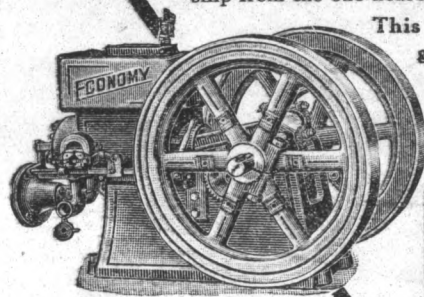
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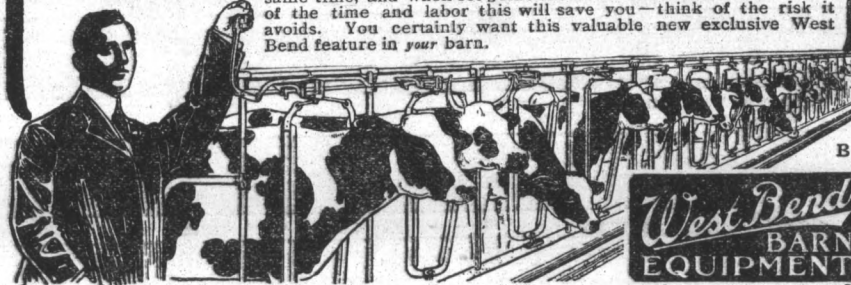


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Write for Catalog that tells all about them, with free folder about values of different feeds and manures.

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## LIGHT OF WESTERN STARS.

(Continued from page 206).

a while, an' 'was jest goin' to say somethin' to him, when he turned on me red-eyed—mad as fire.

"Nels," he said, "I cared a lot fer thet hoss, an' I liked you pretty well, but if you don't take him away I'll shoot you both!"

"Wal, I lit out. I didn't even git to say howdy to him."

"Nels, you think it useless to try to persuade him?" asked Madeline

"I shore do, Miss Hamomnd," replied Nels gravely.

Madeline dismissed Nels, but before he got out of ear-shot she heard him speak to Stillwell, who awaited him on the porch.

"Bill, put this in your pipe an' smoke it—none of them scraps Gene has hed was over a woman. It used to be thet when he was drunk he'd scrap over every pretty greaser girl he'd run across. Thet's why Pat Hawe thinks Gene plugged the strange vaqueor who was with little Bonita thet night last fall. Wal, Gene's scraffin' now jest to git shot up hisself.

Nels's story of how Stewart wept over his horse influenced Madeline powerfully. Her next move was to persuade Alfred to see if he could do better with this doggedly bent cowboy. Alfred needed only a word of persuasion, for he had already considered going to Rodero. He went—and returned alone.

"Majesty, I can't explain Stewart's actions," said Alfred. "I saw him, I talked with him, and he knew me, but nothing I said appeared to get to him. He has changed terribly. It actually hurt me to look at him. I couldn't have fetched him back here—not as he is now. I heard all about him, and if he isn't out of his mind he's determined to get himself killed. Some of his escapades are—terrible, and not for your ears. Bill did all any man could do for another. We've all done our best for Stewart. If you had had a chance, perhaps you could have saved him; but it's too late now."

Days passed, and each one brought additional gossip of Stewart's headlong career toward the Yuma penitentiary. He had crossed the line into Cochise County, Arizona, where sheriffs kept a stricter observance of law. Finally a letter came from a friend of Nels's in Chiricahua, saying that Stewart had been hurt in a brawl there. His hurt was not serious, but it would probably keep him quiet long enough to get sober, and the opportunity, Nels's informant said, would be a good one for Stewart's friends to take him home.

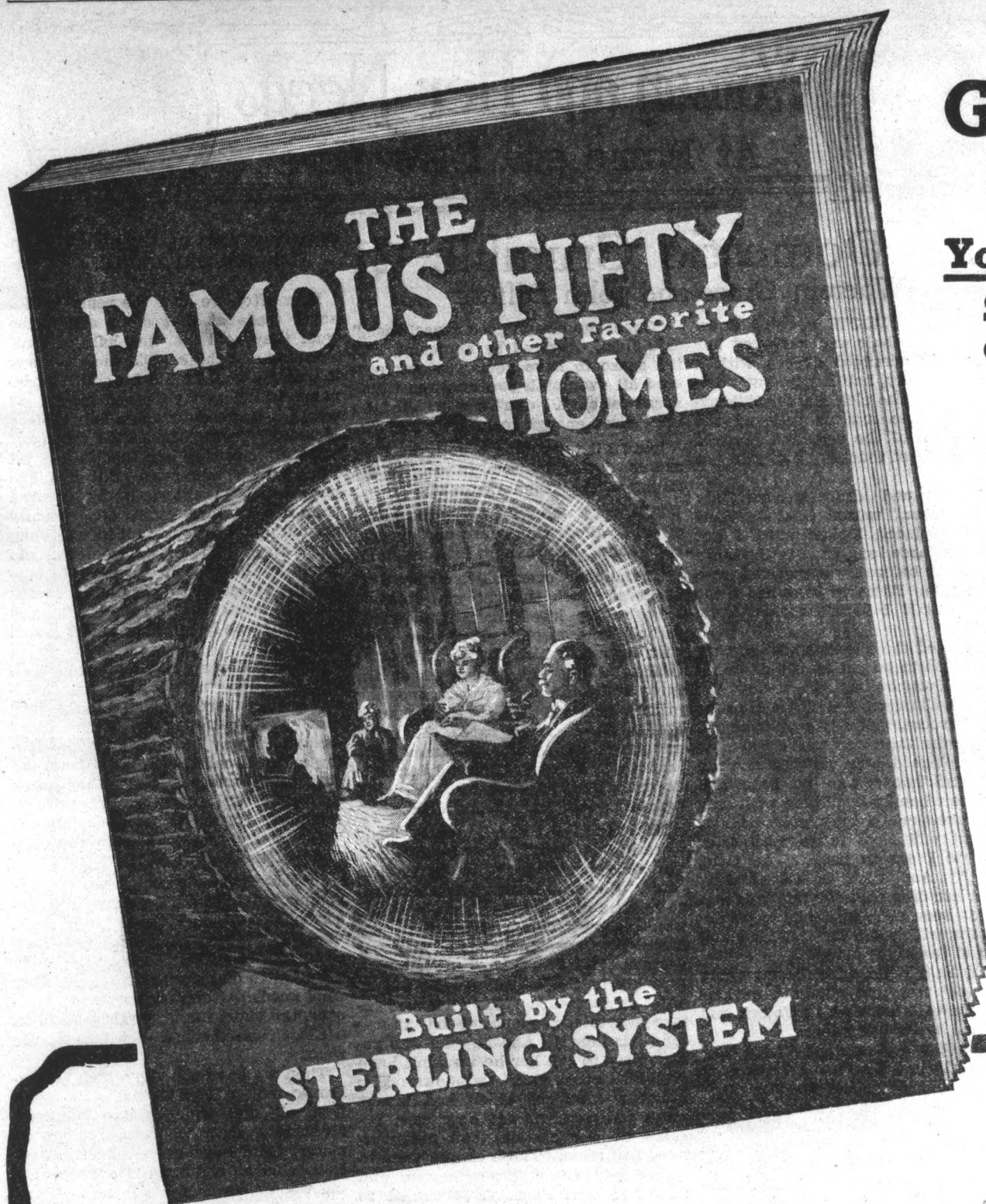
This epistle enclosed a letter to Stewart from his sister, which had been found upon him. It told a story of illness and destitution, and made an appeal for aid. Nels's friend said that he forwarded it without Gene's knowledge, thinking Stillwell might care to help the errant cowboy's family. Stewart had no money, he said.

The sister's letter found its way to Madeline. She read it, tears in her eyes. It told her much more than its brief story of illness and poverty, and of wonder why Gene had not written home for so long. It told of motherly love, sisterly love, brotherly love—dear family ties that had not been broken. It spoke of pride in this El Capitan brother who had become famous. It was signed "your loving sister Letty."

Not improbably, Madeline thought, this letter was one reason for Stewart's headstrong and long-continued abasement. It had been received too late—after he had squandered the money that would have meant so much to mother and sister. Be that as it might, Madeline immediately sent a bank-draft to Stewart's sister, with a letter explaining that the money was drawn in advance on Stewart's salary. This done, she impulsively determined to go to Chiricahua herself.

(Continued next week).





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## Woman and Her Needs

At Home and Elsewhere



### The Domestic Crucible—21

Wherein Grace and John Differ

GRACE LUDLOW stepped down from a chair and surveyed her newly arranged drapes with a smile half weary, half happy, but wholly satisfied. The rich maroon silk over sheer white madras relieved the sober brown of the rug, and brought out the faintest touches of gold in the paper.

"Curtains and draperies certainly make a room," mused Grace. "How bare this place looked until I got these up. Those long days in the store the summer before I was married were worth while. I'd never have had these silk drapes if I hadn't earned them then."

She patted the pile at her side, waiting for time to be put up. Apple green for the dining-room, soft yellow for the north chamber, a delicate blue for her own room, and gay posy-sprigged cretonne for the hired man's room.

"How pleased John will be," she ran on. "The house was so bare and cheerless when he lived here with only a housekeeper to look after things. The rest will have to go until after dinner if I am to have it on time, though." And with a last gloating look at her draperies she left the room and was soon deep in finishing up the meal, for which she had planned and prepared the night before.

A boyish whistle, with the stamping of horses' feet and clanking of harness soon told her that 12 o'clock and John had arrived together.

"I won't tell him what I've done," she thought happily, "just let him walk into the living-room and surprise him." A pleased little smile hovered about eyes and lips as she returned John's kiss. "Just three minutes more and it'll be on the table. Go into the living-room and wait," she said. At the dining-room door she waited expectantly for his exclamation of pleasure.

But the looked-for outburst of approval did not greet her latest improvement. There was a moment of tense silence, then—

"Gee Whillikens, Grace, what have you got it so dark in here for? I had three more windows cut in here this spring just to get plenty of sun and air, and now you've gone and draped 'em all over so thick the sun couldn't shine in if it wanted to. I suppose we've got to have curtains to be in it, but aren't white ones enough? What do you call these red things on top?"

The silence which followed John's outbreak was even more tense than that which preceded it. During the minute before she replied Grace experienced more real live emotions than she had supposed could be crowded in sixty seconds. Disappointment, chagrin and real red fury swept over her. Her precious maroon drapes for which she had planned and hoped and actually sweat, to be dubbed "red things!" Her mind could only register that one fact and no single ray of humor flashed forth to relieve the situation. Physical inability to speak alone kept her from flying at John like a virago. Her heart had been so set on her treasures, she had been so sure of John's delight, that the revulsion was too much for her. When she did reply, it was very quietly, the quiet of suppressed rage:

"They're over-drapes," she said, "and they're not red, they are maroon. Everybody has them, at least everybody who has sense enough to know what's good taste in housekeeping and the money to carry out her ideas."

"Count me out on good sense, then," said John, deceived by her calm. "If it's sense to have your windows covered all over with two or three thicknesses of cloth I don't see it. I'll take mine clear enough to look through."

"And I'll take mine exactly as they are now," flared Grace, turning to the dining-room. "Dinner is ready."

"Oh, very well. I'll sit in the kitchen while those things are up," flashed back John. "I prefer to look out."

The dinner over which Grace had spent so much thought was relished only by the hired man, who, undisturbed by domestic dissension, ate with a gusto which further infuriated Grace. She could hardly sit at the table until the men were gone, but pride kept her from letting John know how much she really cared. The kitchen screen had scarcely slammed behind them before she was lying face down on her bed, crying stormily and breathing forth wrath and defiance.

His windows clear, indeed! They were her windows, too, if he did have the farm partly paid for before she came. She was working just as hard as anyone else around there, and she would show John Ludlow that one farmer's wife was going to be an equal partner. Hadn't she worked from half-past six in the morning until ten at night in Bascom's store all one summer just to earn money to buy things for their home? And now he was going to try to tell her he wouldn't have curtains over "his" windows. Her precious curtains, which had meant more to her than anything else, because no one else in their neighborhood had them. Those drapes were to define her social pre-eminence, and now her own husband presumed to criticize them. Men were always like that, no sense whatever of the niceties of life.

And Grace, who dearly loved the finer things, who reveled in hand embroidery, fine laces, delicate china, rich rugs and soft colorings, wept afresh. She recalled with exquisite torture the thrills of pleasure with which she selected her drapes the summer before. How the suave salesman in the big city store brought out fabric after fabric and draped them over the long rods for her admiration and choice. And when at last she had made her selections her one great over-whelming thought had been of John and his delight in their artistic home. It was too much. No one but a brute could be so utterly oblivious to his wife's feelings. Well, if he was a brute he should be treated as one. The curtains should stay up and he could sit in the kitchen all his life for all of her.

Thoughts of the kitchen recalled the table still waiting her, and with a final enraged sniffle Grace arose, washed her face, dabbed a generous coating of rice powder over nose and eyes, and went forth again to battle. Dishes must be washed though tragedy reigned, and there were the rest of the curtains to go up before supper, for up they should!

Grim lines settled about Grace's mouth. Married life had not been all smooth sailing, but things were growing worse. She'd put in a few rocks herself, then, just to even things up. With which determination she proceeded to dishwashing.

DEBORAH.

WHY WE ARE CHEATED IN BUY-  
ING MATERIALS.

How often we hear the remark, "I'll never trade at that store again, the wool they sold me was half cotton." But stop and think. Did the clerk say it was all wool or did he call it some name which you supposed meant all wool? I saw a clerk sell a lady a piece of material which he called "mungo," solemnly assuring her that it was all wool, which was true. But had she known that "mungo" is wool recovered from old clothes, rags, etc., usually ground up and used to fill in with long fibers to make cheap woollens, she would not have been cheated into buying it. It seems to me that it is our place to know what we are buying and the sooner we learn it the better it will be for us.

Let us take up silk materials first. We have the "silk cotton" and "artificial silk." Artificial silk looks very much like real silk, but is torn more easily. It may be tested by moistening a few threads. If it is artificial the threads become soft and either break or form a pulpy mass. Natural silk remains the same as before moistened. "Silk cotton" may be told by the elasticity of the material.

In the wool substitutes we include "mungo" and "noils." Mungo was described above, and "noils" are short fibers in worsted yarn combings. New materials of either mungo or noils are hard to distinguish from long fiber wool goods. After they are worn, however, the short fibers rough up, and in a short time the material is unfit for wear.

Then we have shoddy, which is similar to mungo, except that it is made from old soft woollens like blankets, stockings, etc., whereas mungo is made from hard or felted woollens. Both shoddy and mungo are raveled old woolen. In shoddy the threads are rather short and of different colors. By the color is the best way to detect shoddy remanufactured goods.

Linen is often simulated by a grass fiber called "ramie." It is a good substitute but when we buy it we should not pay linen prices for it. "Ramie linen" is often sold at linen prices and will continue to be until people learn the difference. We must not condemn the store-keepers, they are for business and it is the purchaser's fault if she buys ramie for linen. (But ramie is a very satisfactory material, and costs 15 to 25 cents per yard.—Editor).

"Sizing" is a widely used method of adulterating goods, generally cotton and silk. If a piece of goods is thin or loosely woven, it is often heavily starched which gives it the appearance of being heavy. But when the material is worn or washed it loses this "dressing" and becomes flimsy. A simple test is to rub a sample between the fingers, the "sizing" fills the crevices between the warp and woof threads, and this is visible if closely examined. Muslins, cambrics, and such materials are the ones commonly "sized."

Now, let us consider colors. Red, black and dark blue are poor colors for cotton goods as they lose their brilliancy in washing. Lavender and green fade unevenly. Pink and light blue generally fade quite evenly. In woolen, brown, black, red and dark blue are very satisfactory colors.

There are several methods of testing the fastness of colors. The best way is to rub the piece on white material. If the colors are not fast they will rub off on the white piece. A



### What Standardization Means to Motor Car Buyers

IT means VALUE. Just to the extent that a car is standardized does the buyer's dollar approach the maximum of purchasing power.

Standardization means definite, proved quality, known manufacturing costs and reduced selling costs.

Of the million autos that will be sold in 1916, 75% will be standardized cars selling for less than \$1000.00 each. This remarkable American achievement is the direct result of standardization.

Finally the upholstery has been standardized by the almost universal adoption of



#### MOTOR QUALITY

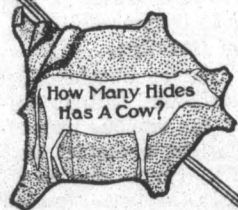
40% of all 1915 cars sold were upholstered in this proved, guaranteed material and in 1916 the total will be at least 60%.

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When writing advertisers mention Michigan Farmer

soda solution placed on material, dried, then brushed off, will tell if the colors are fast. These are the simplest tests.—Ohio Farmer.

#### WORK FOR THE LONG EVENINGS.

BY EMMA GARY WALLACE.

The young women on the farm will find a most delightful employment for fall and winter evenings in the making of fancy strings of beads. The materials are not expensive, the work is easy to do and the results are all that even an artist could desire.

These Florentine beads are much richer in appearance than the salt and cornstarch, and flower beads. The work may all be finished at a single sitting and a variety of other things as well as beads made. The materials required are, a single cheap hat pin, one or two for a penny kind, a candle, a bowl of water, a box of perfumed sealing wax, stout silk thread or dental floss and snap fasteners.

The knack of making these beads is soon learned and after a single one is successfully finished, others may be made of the same size or a string of graduated beads may be made. A very little practice soon enables one to shape them, either perfectly round, barrel shaped or flattened on the sides. This is the way to go to work.

Choose one of the less attractive shades of sealing wax for the foundation of the bead. Hold the stick of sealing wax above the flame of the candle until it becomes sufficiently softened to drop. Apply this softened wax to the sharp end of the hat pin until it is covered with enough of the wax for the size of bead you want to make. Roll the mass of wax constantly until the right shape is obtained. The wax should not be hot enough to run, but just soft enough to work well.

Now, shape the bead by molding the warm wax with the fingers or rolling it on the palm of the hand. Cool and harden by dipping into the bowl of water. Now dry the bead with a soft cloth. The finishing process comes next. Select three rich colors of sealing wax. Heat these three sticks, one after the other and dot a little of the softened wax on the bead. Now twirl the bead in the candle flame. By careful handling the wax will melt and the different shades flow together and blend in rich stripes and splashes of color. If a little more of any one color is desired it can now be added and smoothed in the flame.

Thus, if you have a lavender dress, or an old rose, or a green one, you can easily make your beads harmonize in color. Cool the bead in water, dry and pass once more through the flame to give it a final lustre. The bead is now complete. To get it off the hat pin, heat the steel pin about two inches above the bead. The heat will be communicated to the point of the pin. Pull the bead carefully and it may be removed easily. Now heat the end of the pin again and thrust it through the opening, turning it about so as to make the hole smooth.

After a few are made they may be very quickly finished so that a whole string can be readily done in an evening. Sometimes these sealing wax beads are alternated with pearl beads. Very artistic hat pins may be made in the same manner by covering the round heads of the cheap hat pins. These can be built up to any desired size and shaped to one's liking.

Just try having a small box for the kindling, to save time, dirt, and kindling, put paper and anything good to light the fire in this box. In the morning after fires are made set the box away. No muss on the floor, woodbox not getting filled up, and kindling is saved.—E. M. K.

Keep a child's washboard in the kitchen to wash out small articles with. The washboard will go into a milk pail, and just as good work can be done with one off them as a larger one.—T.

# Here's something New about California for You

Two trainloads of Eastern farmers saw California under my personal escort last Fall.

Showing them the country by auto, covering more than 600 miles, was something never tried before.

Both of the **Santa Fe Farmers' Special** parties were made up of real farmers. They were conservative, calculating people who wanted to be "shown."

It was not a land-selling trip—it was solely for investigation. We were guests of the local communities. They provided the autos and guides who showed us the agricultural activities in their neighborhoods.

The party was impressed with the cheap hauling and easy getting about on smooth roads.

The climate delighted them. The cozy homes appealed to them. They were convinced of the pleasure of living in California.

They saw fruit orchards. They saw thrifty poultry and dairy farms. They saw cattle ranches. They saw farms devoted to grain and hay. And they saw diversified farming with its sure returns paying still better under California conditions.

The reasonable land values, based on earning capacity, convinced all that California land is a good investment and a dividend-earner.

Many in these two parties expressed a desire to live in California. Some are now arranging for farms and homes there. All said they would like to visit California again and again.

#### A Book of Pictures

taken on this trip is now ready for free distribution. Let me send you a copy. It includes many views of just what you have wanted to see. These Eastern farmers are proving for themselves the truth of what they, and you, have read about California.

**You can prolong your active business life at least fifteen years in California. It is a country where you can farm twelve months in the year. You need not spend a large share of your earnings just to keep warm.**

Write me to-day. Let me help you plan your trip. Reduced fares next spring and summer will give you a chance to see the San Diego Exposition and agricultural sections of California at small cost. Winter tourist fares now in effect. Ask all the questions you want, and say: "Send Farmers' Special Book."

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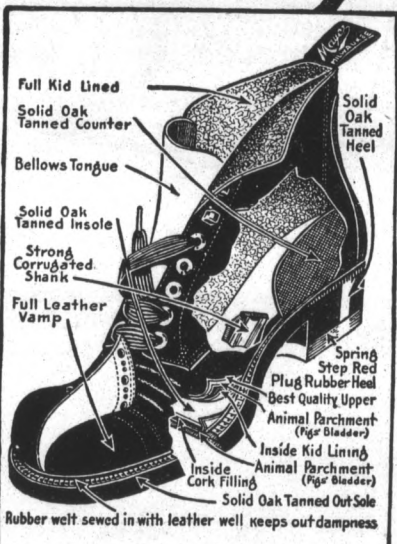
## Mayer DRY-SOX SHOES HONORBILT

Give unusual wear on account of the way they are made, oak tanned soles, full vamp—strong, steel shank—solid counters.

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We make Mayer Honorbilt Shoes in all styles for men, women, children; Honorbilt Cushion Shoes, Martha Washington Comfort Shoes.

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# Practical Science.

## Gasoline

(Continued from last week.)

### A Few Terse Directions.

- Don't spill gasoline.
- Don't fill the tank of the liquid-fuel stove full.
- Don't use a liquid-fuel stove that leaks.
- Don't fill a gasoline stove in a closed room. Have plenty of ventilation to carry the vapor out of the room.
- Don't use gasoline or naphtha for washing the hands.

### Extinguishing Burning Liquids.

There are two principal methods of extinguishing burning liquids, as follows:

1. To form a blanket of gas or solid material over the burning liquid and cut off the air (oxygen) supply.
2. To dilute the burning liquid with a non-inflammable extinguishing agent that will mix with it.

Water may be used for extinguishing burning liquids, such as denatured alcohol, wood alcohol, and acetone, that are miscible with it. If such a liquid as gasoline, which is not miscible with water, catches fire, the application of water produces little or no effect except to spread the burning liquid, and thus scatter the fire over a larger area. However, the application of a large quantity of water to a small quantity of burning oil, by its cooling effect, may aid in extinguishing the fire.

Of materials used to form a blanket of gas or solid material over burning liquid, thus cutting off the oxygen supply, several are in common use. These include sawdust, sand, carbon tetrachloride, and the so-called foam or frothy mixtures.

The efficiency of sawdust is due to its floating for a time on the liquid and excluding the oxygen of the air. Sawdust itself is not easily ignitable, and when it does ignite burns without a flame. The character of the sawdust and its moisture content is of little or no importance. It may be well handled for extinguishing small fires, when just started, by means of long handled wooden shovels.

Sand probably serves about as well as sawdust for extinguishing fires on the ground, but is heavier and more awkward to handle. When thrown on a burning tank it sinks, whereas sawdust floats.

Carbon tetrachloride, the basis of various chemical fire extinguishers, if thrown on a fire forms a heavy non-inflammable vapor over the liquid, and mixes readily with oils, waxes, japan, etc. The vapor is about five times as heavy as air. Much of the carbon tetrachloride contains impurities that give it a bad odor, but when pure its specific gravity is 1.632 at 32 degrees F. When thrown on a fire, it produces black smoke, the hue of which is caused by unconsumed particles of carbon. Pungent gases are also produced, probably hydrochloric acid gas and small volumes of chlorine gas. Although the fumes are pungent, brief exposure to them does not cause permanent injury.

The efficacy of carbon tetrachloride depends largely on the skill of the user. If liquid in a tank is on fire, the height of the liquid is important. When the liquid is low, the sides of the tank form a wall which retains the vapor, but when a tank is nearly full of highly volatile liquid like gasoline, only the most skilled operator can extinguish the fire.

For smothering some small fires of burning gasoline an ordinary blanket may be used.

### Use of Foam or a Frothy Liquid as an Extinguisher.

Installations embracing the use of foam or frothy liquid mixtures to extinguish fires in large gasoline storage

tanks originated in Germany. For such an extinguisher two liquids are caused to mix in a tank, whereupon foam is produced. The tank is made air-tight and sufficiently strong to permit the foam to be forced out under pressure of a gas (carbon dioxide) simultaneously generated. The frothy mixture owes its efficacy to its blanketing action in excluding air (oxygen) from the fire. It is stiff and shrinks only slightly in volume even after half an hour. In one installation water, bicarbonate of soda, and soap bark are used in one tank and acid in another tank. A fusible link, which will melt at 212 degrees F., releases a hammer, which breaks the glass tank containing the acid. The released acid is let through two perforated pipes into the solution, producing a violent ebullition of foam, which finds its way into the tank of burning oil.

The National Fire Protection Association has experimented with this and other methods of extinguishing fire. These experiments show the method to be promising.

In some large plants gasoline is continually stored under the pressure of non-inflammable gas, as nitrogen or carbon dioxide. In other plants it is stored in a tank, which is always kept filled, no air being admitted at any time. The tank may be filled with all gasoline or part gasoline and part water, when desired. The water may be drained off when more gasoline is to be added to the tank.

### Relation of Properties of Gasoline and Gasoline Vapor to Inflammability Source of Gasoline.

Gasoline is a product obtained by distilling crude petroleum, and the different grades used for various purposes differ somewhat in chemical and physical properties. Some grades of gasoline, particularly the better grades used to drive automobiles, are much more hazardous to handle than are others. They mix with air in larger portions and pass into the vapor form (evaporate) more rapidly, and hence more quickly render a given volume of air explosive than do the heavier grades, such as are used for cleaning purposes and for fuel in the engines of some motor trucks and other large internal combustion engines.

### Action of Gasoline Vapor in Air.

Gasoline vapor mingles with air in the same manner that water vapor does. At any particular temperature a definite proportion of water vapor will be found in the atmosphere if it has become completely saturated, a condition that seldom exists. Usually a limited supply of water has been given off into the air, and the atmosphere is spoken of as having a certain relative humidity, meaning that the saturation is incomplete or that more water vapor could exist in the air were a source of moisture available. In a similar manner gasoline vapor mixes with air. The amount of vapor carried will depend on the temperature of the air and the readiness with which the vapor can be obtained.

If gasoline is exposed to the air of a room for a long enough time, the air will contain at a certain temperature a fixed portion of gasoline vapor, differing for different grades of gasoline, that can not be exceeded. The author has worked out the values for four different grades. The results for a temperature of 17.5 degrees C. (63.5 degrees F.) are shown in the following table:

Grade of Gasoline.	Proportion of Gasoline Vapor Per Cent.
Cleaner's naphtha	5.0
64 degs. B. gasoline	11.0
69 degs. B. gasoline	15.0
73 degs. B. gasoline	28.0

## Bumper Grain Crops Good Markets — High Prices

Prizes Awarded to Western Canada for Wheat, Oats, Barley, Alfalfa and Grasses

The winnings of Western Canada at the Soil Products Exposition at Denver were easily made. The list comprised Wheat, Oats, Barley and Grasses, the most important being the prizes for Wheat and Oats and sweep stake on Alfalfa. No less important than the splendid quality of Western Canada's wheat and other grains, is the excellence of the cattle fed and fattened on the grasses of that country. A recent shipment of cattle to Chicago topped the market in that city for quality and price.

Western Canada produced in 1915 one-third as much wheat as all of the United States, or over 300,000,000 bushels.

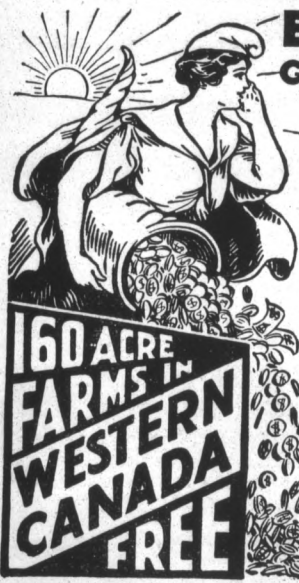
Canada in proportion to population has a greater exportable surplus of wheat this year than any country in the world, and at present prices you can figure out the revenue for the producer. In Western Canada you will find good markets, splendid schools, exceptional social conditions, perfect climate, and other great attractions. There is no war tax on land and no conscription.

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**Government Farmers Wanted.** \$80 to \$125 monthly. Write, OZMENT, 17 F. St. Louis.





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Check full of saving offers in High-Yielding Stiffens of all important farm and garden seeds. A helpful illustrated Guide to seed-buying and planting. Write-to-day, a postcard will do.

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Grape Vines 500—2 yr. for \$9.00. 100 currants 2 yr. for \$2.00. Strawberry plants. Catalogue free. Woodbine Nurseries, Geneva, O.

## Grange.

Our Motto:—"The farmer is of more consequence than the farm, and should be first improved."

### MILLINGTON GRANGE AN ACTIVE ORGANIZATION.

An organization among farmers which will help to make farm life more interesting and to make the farm return dividends in pleasure and happiness, as well as dollars and cents, should be encouraged and supported by every farmer. In fact it seems that such an organization is the very life and backbone of every farm community.

The Grange has a larger membership than any other farm organization and consequently has greater opportunities and greater possibilities to do a greater work. Millington Grange, which has a membership of over 125 is exceptionally fortunate in having among its members some of the best farmers, dairymen and stockraisers in the state. It is again fortunate that these men are qualified and willing to discuss points of interest which will help others to become more successful. These features and many others, help to make the Millington Grange one of the successful Granges in Michigan and a benefit not only to its own members but to the entire farm community.—Harry Burns.

### AMONG THE LIVE GRANGES.

Portland Grange held a highly enjoyable session at Blanchard's Hall on February 4, when a class of six candidates took the first and second degrees. A dinner furnished and served by the men was a feature of the noon hour. Fully sixty members of the Order sat down to the two long tables upon which the big repast was spread. The society is enjoying a very gratifying growth, several applicants for membership being on the waiting list at the present time.

## Farmers' Clubs

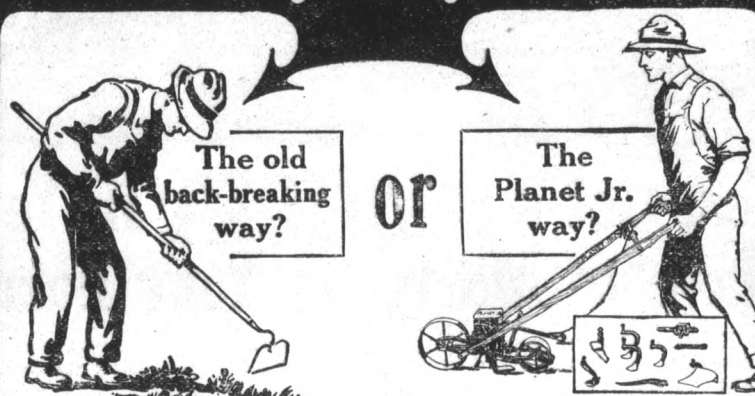
Address all communications relative to the organization of new Clubs to Mrs. J. S. Brown, Howell, Mich.

### CLUB DISCUSSIONS.

Get Suggestions from State Meeting.—The Salem Farmers' Club held its January meeting at the pleasant and commodious home of Mr. and Mrs. Bert Nelson. A large number were in attendance. About 75 members and guests of the Club sat down to the bountiful dinner which the ladies of the Club know so well how to prepare. The Club was then called to order by the president; program opened with "America" by the Club, and prayer by Rev. L. Carter. The delegates to the state meeting at Lansing, Mrs. I. Johnson and Miss Grace Geiger, were then called on and gave an excellent report. Some of which, especially the work among the young people, seemed very practical to be taken up by our own Club. Meeting on Saturday so the students could attend attracted attention. Also the preventive work in the tuberculosis campaign was something deserving the attention of every member of the Club. A good musical and literary program was rendered.—Mrs. H. C. Thompson, Cor. Sec.

Hold Annual Meeting.—The Putman and Hamburg Farmers' Club held their annual meeting at the farm home of Mr. and Mrs. John Chambers, Saturday, January 8. After partaking of a fine dinner the meeting was called to order by the president, C. E. Dunning. The opening number on the program was a song, "The Old Oaken Bucket." The following officers were elected for the ensuing year: President, Lyman Hendee; vice-presidents, John Chambers and George Van Horn; secretary, Mrs. Frank Mackinder; treasurer, Myron Hendrick; organist, Mrs. S. E. Swarthout. Mr. R. C. Reed, of Howell, gave an excellent talk on "Farmers' Opportunities," which subject he handled in an able and pleasing manner. Frank Mackinder gave a humorous reading, "X-Ray Circumstances." Remarks by Rev. Camburn along the lines of practical helps for the farmers, system for farmers' wives, and the rural churches, proved very interesting and full of good sentiment.

## Which way do you work?



You can't afford to cultivate in the old slow back-breaking way. The Planet Jr way takes the drudgery out of labor, and produces bigger, better crops. Planet Jrs are the greatest time-savers ever invented for farm or garden; and the most economical cultivating tools you can use.

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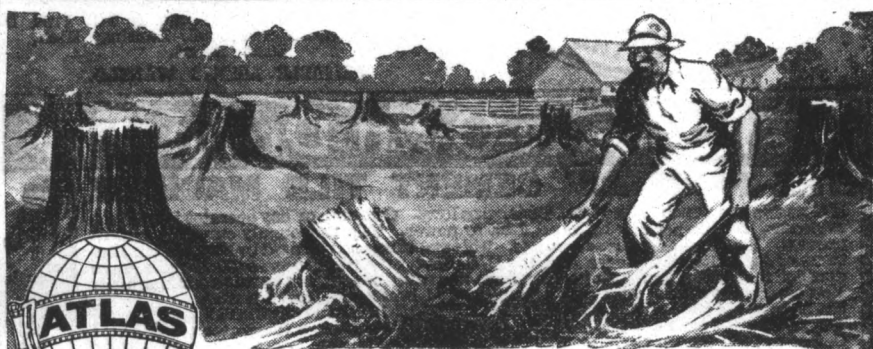
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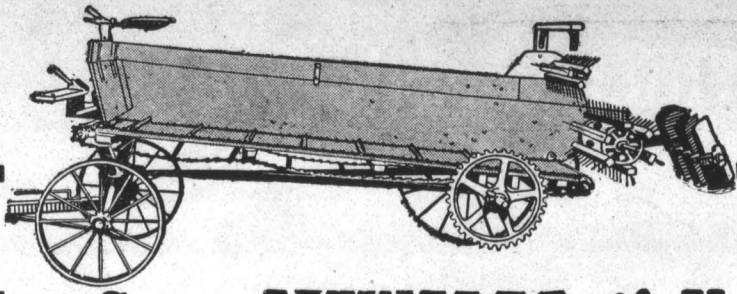
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Another proof of New Idea superiority. This spreader is operated by a heavy sprocket chain. This saves power and is easier on the horses. Special axle feed. Strong chain conveyor running over tight bottom brings every bit of manure to the cylinders. Can't slip and won't race going up hill. Wheels track, making easy going.

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"Helping Mother Nature," a special book on manuring sent free on request. Worth money but we give it free. Ask your dealer for a copy and demonstration of spreader or write us direct.

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Look out for Buckhorn and other weeds in clover this year. Very little pure seed to be had. Ours is practically free from weed seeds and waste. Much the cheapest to sow. All other varieties of field seeds. Samples and instructions "How to Know Good Seed" Free. Write today. O.M. SCOTT & SONS CO., 136 Main St., Marysville, O.



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So light a woman can handle, so strong they cannot break. Single, Extension, Step and Fruit. Write for catalog and get them at Winter Discounts.

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Clover, Timothy, Alsike, Alfalfa and all kinds of PURE FIELD SEEDS direct from producer to consumer, free from all noxious weeds. Ask for samples. A. C. HOYT & CO., Box M, FOSTORIA, OHIO.

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Made of special saw steel after our own analysis. Every saw given uniform and tough temper to the very points of the teeth. These saws hand set and filed. Arbor hole 1 1/2 in.

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Size	Price	Size	Price	Size	Price
20 in.	\$2.50	24 in.	\$3.50	30 in.	\$4.75
22 in.	\$3.00	26 in.	\$4.00	32 in.	\$5.25

Hardwood Tilting Table Saw Frame. Weight 370 lbs. Thoroughly braced, complete, \$14.90. Send personal check or money order. We make immediate shipment by express or freight.

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The greatest forage plant that grows. Superior to all as a fertilizer. Equal to Alfalfa for hay. Excels for pasture. Builds up worn-out soil quickly and produces immense crops, worth from \$50 to \$125 per acre. Easy to start, grows everywhere, on all soils. Write today for our Big 100-page free catalog and circular about unhulled and scarified hulled sweet clover. We can save you money on best tested, guaranteed seed. Sample Free. A. A. BERRY SEED CO., BOX 931, CLARINDA, IOWA

## Suggests State Grade Products

By A. HAYMAKER.

ULTIMATELY a carefully planned scheme of inspection will characterize our methods of disposing of farm products. This is the only hopeful way of thoroughly standardizing agricultural goods, and since the careful grading of these products as to size, shape, color, moisture content, etc., is necessary to place distributing on a sane business basis and to do it with the greatest economy, it is imperative that not only those who grow and those who buy give the matter attention, but the whole state should become keenly sensitive to the problem.

In making a sale there must of necessity be two parties to the transaction. Both have a direct financial interest. The man who sells wishes to secure the highest quotation for his goods and since quotations advance with the grades, he is desirous that his products be placed in the best grade possible. On the other hand, the buyer seeks to purchase the products at the lowest possible cost, which is more likely of achievement if he succeeds in having the product cut down in grade.

This conflict of interest is responsible for a large number of the ills of our marketing system, and inspectors chosen by either the seller or the buyer are quite likely by reason of the source of their authority, to be favorable to the parties who employ them. The records of farmers' co-operative associations would afford many examples of disaster through inefficient inspection service. The insistence of some influential members on having their products graded higher than the quality warranted has often moved the inspector to do this, with the result that dissatisfied buyers discriminate against the association's products.

City boards of trade have been obliged to appoint inspectors to grade grain, hay and other products sold through the organizations. These inspectors who receive their pay from the boards hiring them would be tempted to favor the members of the organization rather than the producers or primary shippers who forward the goods. Even if this is an unjust charge to make against these men, the parties who forward the goods are quite likely to place such an interpretation upon their acts because of the fact that the inspectors are in the service of the purchasers of the goods.

Again we have criticism coming from another quarter where the inspectors are responsible to one side of the deal only. We refer to the inspectors sent out by the cities to pass upon the dairies of farmers who are supplying milk for consumption within the limits of the respective municipalities. As suggested in the beginning, this inspection has come to be a necessity and the benefits are pronounced, but dairy farmers feel that greater justice would be meted out if these inspectors could be made responsible to both parties instead of to the buying side alone.

The testing of butter-fat by creameries, milk stations, and itinerant buyers, the examination of sugar beets for sugar content, the picking of samples of beans to learn the amount to be deducted from basic price for a load of beans, etc., are all examples of how one party to the sale of these products has control over the processes necessary to determine the grade or class to which the products belong, and upon which the price is based.

It is apparent to all sane minds that those whose business it is to determine matters of this kind should have no outside influence acting upon their minds to cause them to make unfair decisions. It would certainly be an improvement over the present system if these men were responsible to both the seller and the buyer when making determinations.

The probability is, however, that an inspection service where the men employed are answerable to neither side would prove to be the most ideal one. Here the inspectors could work absolutely without fear, and would be free to grade goods upon merit. When we consider the large amount of transactions of the character we have hinted at it at once seems feasible to employ public men qualified to grade these products and to pass upon them, and it would further appear to us that it is within the province of the state through some of its departments to provide for this service. With the increased interest in the marketing of farm products and the effective organization of the buying interests, it would seem a prudent move on the part of the agriculturists of the state to demand the gradual organization of a service of this kind.

## Doings of Michigan's "Co-Ops"

The Hillsdale Co-operative Association met at Hillsdale and elected the following officers: President, B. S. Lamb; vice-president, Marion Mosher; secretary-treasurer, Elmer B. Hagan; business manager, Angus Beers; stock manager for Hillsdale, Osseo and Pittsford townships, E. D. Cheney; stock manager for North Adams, Ora Holcomb. The association has shipped \$125,000 worth of live stock during the past year.

About 50 farmers of southern Calhoun county met at Tekonsha and after hearing a talk by E. A. Dunton, manager of the Coldwater Association, voted to organize a co-operative association to market live stock and buy and sell all kinds of produce and supplies. The temporary officers are: Roy Sanders, president, Haskell Doolittle, secretary.

The co-operative association formed at Jonesville, Hillsdale county, last March, now has 117 members and from one to three cars of stock are shipped each week. Officers for the year have been elected as follows: President, Wm. P. Green; vice-president and manager, Grant S. Emery; secretary-treasurer, Elsworth Lovell.

Three hundred farmers of Ingham and other central Michigan counties who sell milk in the Lansing market

met in the capitol city and organized the Central Michigan Milk Producers' Association, with officers as follows: President, John Hull, Dimondale; vice-president, H. D. Box, Lansing; secretary-treasurer, John B. Fay, Holt. Standardization of milk tests and other matters tending to better conditions in the trade are the main objects in view.

The Bridgman Fruit Growers' Association of Berrien county, has closed a successful season, re-electing the following officers: President, Wm. H. Gast; vice-president, T. A. Botham; secretary-treasurer, W. S. Seymour; directors, Wm. Baldwin, P. Weinheimer, T. Katzbach and A. F. Mayer. The association loaded 28 cars of strawberries, or 19,539 crates, with average returns to growers of \$1.19 per crate; 49 cars of grapes (about 60 per cent of a crop), with average return to grower of 14.82 cents per eight-pound basket. The association deducted six cents per crate on strawberries and one cent on grapes for operating expenses but was able at the close of the season to refund to growers \$728.46, or two cents on each crate of strawberries and a quarter of a cent on each basket of grapes that were shipped.

Kent Co. ALMOND GRIFFEN.



## EXTENDING SCOPE OF ASSOCIATION.

F. Kern, of Wisconsin, has been hired by the Grand Traverse Fruit & Produce Exchange of Traverse City, Mich., to build up a big selling organization for the fruit growers of Northwestern Michigan, which in a limited way is to do for the Grand Traverse fruit growers what the California Exchange is doing for the citrus growers of the west. Mr. Kern is hired at a salary of \$3,600 for the first year, with promises of advances for each year for the first four or five. He is assured of working capital in sufficient abundance so that he can go into the big consuming markets of the North Central states and establish marketing connections. The Grand Traverse Exchange which is a co-operative association of growers, last season tried marketing their cherry, peach, and apple crops through a brokerage organization and with fair results, but the members are now convinced that their best interests call for their own selling machinery.

## Crop and Market Notes.

## Michigan.

Kalkaska Co., Feb. 5.—There has been some ice on wheat fields, but a light snow now affords some protection. Not more than 20 per cent of the usual amount of wheat sown on account of wet fall. It will take all the feed farmers have to finish the feeding season. Cattle and hogs were sold off close last fall. Live stock generally in good condition. Hogs are very scarce. Most of the potato crop has been marketed at 80¢@90¢; corn 80¢; oats 50¢; rye 90¢; hay \$15@18; cows \$50@75; fine young horses can be purchased at a reasonable price.

Hillsdale Co., Feb. 5.—Conditions are not very favorable for wheat and clover, though not much damage done. Clover had an excellent showing when winter set in, but wheat was small. Roads are in very bad condition. The farmers have plenty of all kinds of feed, and about the usual amount of stock of all kinds except feeding lambs, is being cared for. Wheat is \$1.30; rye 95¢; oats 46¢; clover seed \$10@11; potatoes 75¢; hogs \$6.50@7.50; beef cattle \$4@5.50; veal calves \$10; chickens 13¢; eggs 26¢; butter 25¢ a pound.

## New York.

Columbia Co., Feb. 3.—An unusual amount of snow during January, and winter grains have been well protected and are in good condition. Winter feed is rather scarce, as the hay crop was short and corn below the average. About the usual number of cattle and hogs being wintered. Hens are laying better than formerly. Butter 35¢; milk \$2.25 per cwt; potatoes \$1.25; timothy hay \$24.

## New Jersey.

Monmouth Co., Jan. 29.—Fall sown grain looking well. Farmers have sufficient feed on hand for home use. Very little stock being fed for market. Production of eggs small for this time of year. Milk 4½¢ a quart; wheat \$1.25; corn 85¢; cattle about 10¢ a lb; hogs 8@8½¢.

## Indiana.

Elkhart Co., Feb. 5.—The weather the past month has been rough, with little snow. Winter grain has had little protection, and the freezing weather has been hard on it. Corn has not been keeping well, as a large amount of it was immature when frosted, and the damp weather has kept it from drying. Hens are laying better, so the price has dropped to 30¢. Cream 48¢ per gal. for 20 per cent; wheat \$1.28; corn 60¢; potatoes 75¢; hogs \$6.50.

Laporte Co., Feb. 2.—Cold weather with about an inch of snow. Feed is plentiful; not much stock being fed, though all live stock is healthy. Very few hogs fed, as most of them have been sold. Not much demand for dairy cows.

## Ohio.

Medina Co., Feb. 2.—Considering a lack of snow, wheat and rye are in fairly good condition. Farmers have sufficient feed for own use. There seems to be a surplus of cattle on hand. Hens are beginning to lay. Wheat \$1.34; potatoes \$1; hay \$16; cattle \$6; hogs \$7.50; milk 18¢ per gal; butter 32¢; eggs 26¢.

Shelby Co., Feb. 2.—The open rainy weather is hard on fall sown grains but still looking fair. Plenty of feed for farmers' own use. Not very much stock on hand for feeding purposes as the corn crop is a little scarce. The egg supply is coming in heavy, with a drop in price to 18¢ a dozen. Cream 31¢; wheat \$1.29; corn 7¢ per cwt; oats 48¢; potatoes \$1.25; cattle \$5.50@7.25; hogs \$6@7.25.

# This Big Crop was not Big Enough!

Prizes  
Amount-  
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IN CASH

*Thirty farmers have received \$3000 in cash* for the largest 30 crops of wheat, corn and potatoes, grown on our fertilizers exclusively, under severe restrictions as to measuring the land and weighing the crops. Here are the results:

## BEST YIELDS

Potatoes	375	bush. per acre
Corn	115	bush. per acre
Wheat	59.86	bush. per acre

## AVERAGE YIELDS

10 Prize Winners	321.3	bush. per acre
10 Prize Winners	96.74	bush. per acre
10 Prize Winners	48.50	bush. per acre

The crop shown in the photograph was good but not good enough to win a prize.

## HOW DID THEY DO IT?

figures and pictures of the great crops.

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CLEVELAND, CINCINNATI, DETROIT

## His Profit Was \$415.00

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TRIAL

MR. W. D. BALMER, a well-known farmer, bought a Chatham Grain Grader and Cleaner just a year ago. He cleaned and graded his seed, raised a bumper crop, then paid for his machine out of the increased profits and had \$415 net gain for his work. Charles C. Wine claims he made \$700 extra profit in one season. George Dunnington made \$257 out of his Chatham first year. Geo. Bridel made \$330 extra on oats alone. Mr. I. C. Foote made \$48 the first 11 days by cleaning neighbors' seed. The names, addresses and complete letters are all printed in the Book here shown. Over 300 such letters will be sent you for the asking—just to prove the Chatham is the greatest money-making Farm machine in existence. You, reader, are losing hundreds of dollars every season you put off buying a Chatham.

## CHATHAM Grain Grader and Cleaner

No matter where you live or what crops you grow, the Chatham is simply indispensable. It cleans out all chaff, dirt and weed seed; takes cracked shrunken grains from the plump ones; separates any two grain mixtures. Breaks the clean, pure seed. Does it easily, rapidly and surely. A priceless asset on any farm that grows corn, oats, wheat, rye, barley, timothy, clover, flax, alfalfa, beans or peas. Big Capacity. Hand power or gas. Over 400,000 in daily use.

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Don't wait 'till the price goes up. Send postal now! Send for my Special Offer and this astonishing free book. It tells the entrancing story of multiplied Wheat Yields; extra bumper Corn Crops; beautiful Oat yields; record-breaking Harvests of Barley, Flax, Timothy, Clover, Alfalfa, etc.—all results from sowing cleaned and graded Seed Grains! A large part of the story is told by farmers themselves—in their own exact words. SEND POSTAL NOW!

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Wonderful  
Crop Book  
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# Markets.

## GRAINS AND SEEDS.

February 8, 1916.

**Wheat.**—The bears got control of the wheat trade Monday morning and prices declined in American markets. The chief reasons were limited bottoms for carrying wheat to Europe where there is general need of the grain, and the expectation of larger receipts from farmers in the northwest as soon as the weather allows them to deliver. With the visible supply and wheat in bond decreased 3,432,000 bushels during the past week, together with the growing foreign demand, farmers should not make temporary conditions worse by crowding the markets when the quotations are headed downward. One year ago No. 2 red wheat was quoted here at \$1.62½ per bushel. Last week's quotations were:

	No. 2	No. 1	May
	Red.	White.	
Wednesday	1.34	1.29	1.38½
Thursday	1.34½	1.29½	1.38½
Friday	1.35½	1.30½	1.39½
Saturday	1.34½	1.29½	1.38½
Monday	1.31	1.26	1.35½
Tuesday	1.33	1.28	1.37½

Chicago.—May wheat \$1.30½; July \$1.22½.

**Corn.**—The weakness of wheat and liberal primary receipts forced corn values down on Monday. A year ago No. 3 corn was quoted at 77½c per bushel. Last week's local prices were:

	No. 3	No. 2	Yellow
	Mixed.		
Wednesday	76	77½	77½
Thursday	76	77½	77½
Friday	75½	77	77
Saturday	75	76½	76½
Monday	73½	75	75
Tuesday	74	75½	75½

Chicago.—May corn 77½c per bu; July 77½c.

**Oats.**—values have declined with wheat and corn notwithstanding free buying for seaboard concerns. Domestic needs are moderate. A year ago standard oats were quoted at 61c per bushel. Last week's prices were:

	No. 3	Standard	White
Wednesday	53½	52	52
Thursday	53½	52	52
Friday	53½	52	52
Saturday	52½	51½	51½
Monday	51	50	50
Tuesday	51	50	50

Chicago.—May oats 49c; July 46½c.

**Rye.**—Cash No. 2 has declined 2c to \$1.03 per bushel.

**Barley.**—Milwaukee's price steady at 74¢ for malting, and Chicago price higher at 68¢@81c.

**Beans.**—No dealing here. March is quoted at \$3.70 and immediate, prompt and February at \$3.65. Private sales up state have been quoted above these values. At Chicago pea beans, hand-picked, are quoted at \$3.80@3.85 per bushel; prime choice \$3.65@3.70; red kidneys \$5.20@5.25.

Timothy Seed.—Prime spot \$3.80.

## FLOUR AND FEEDS.

**Flour.**—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$7; seconds \$6.70; straight \$6.50; spring patent \$7.40; rye flour \$6.

**Feed.**—In 100-lb. sacks, jobbing lots are: Bran \$25; standard middlings \$25; fine middlings \$30; cracked corn \$33; corn and oat chop \$29 per ton.

## DAIRY AND POULTRY PRODUCTS.

**Butter.**—Market firm with prices unchanged. Extra creamery 30c; firsts 27½c; dairy 21c; packing stock 18c.

**Eggs.**—The feeling is firm, especially for fancy goods, and prices have advanced 1c. Prices based on sales, are 30½c.

Chicago.—The feeling is firm with prices for fancy goods ½c higher. Extra creamery 30½c; extra firsts 29@29½c; firsts 25½@27½c; extra dairies 29c; packing stock 19½c.

**Eggs.**—Receipts are light and the demand is active. Prices ½c higher. Current receipts are quoted at 28c; candled firsts 29c.

Chicago.—The feeling is unsettled, prices for fresh have declined ½c, but storage stock has advanced. Firsts 28½c; ordinary firsts 27@27½c; miscellaneous lots, cases included 24@28½c; refrigerator stock 15@20c, depending on quality.

**Poultry.**—The market is firm with prices for chickens and geese higher. Turkeys 16@17c; spring turkeys 21@23c; fowls 12@17½c, according to the quality; spring chickens 16@17½c; ducks 17@18c; geese 16½@17c.

Chicago.—The market is steady and prices for all kinds except turkeys are higher. Turkeys, young and old 12@18c; fowls 16½c; springs 17c; ducks 16@17c; geese 10@14c.

## FRUITS AND VEGETABLES.

**Apples.**—There is no change, the market being quiet. Greenings at \$2.50 \$3.50; Spys \$3.50@4; Baldwins \$3 @3.50; Steel Red \$4.50@5. At Chicago the peddlers are taking lower grades but the demand for better grades is slight. No. 1 Greenings \$2.50@2.75 per bbl; Jonathans, No. 1, \$3@3.50; Baldwins \$3@3.25; Wageners \$2.25 @2.75; Spys \$3@3.75.

**Potatoes.**—Are firm but prices are 5c lower. Carlots on track, white \$1.05 @1.10; red \$1@1.05 per bushel. At Chicago the market ruled quiet. Fancy stock brought an advance of 3c. Fancy Michigan Rurals sold for 97c@ \$1.05 per bushel. Other prices range from 92c@1.05. At Greenville the price is 80c per bushel. The arrivals are light on account of cold weather.

## WOOL.

Boston.—Trading active at Boston with prices firm to higher. The bulk of the sales is of foreign wools. Half-blood Ohio wools sold last week at 32c. No Michigan sales reported.

## DETROIT EASTERN MARKET.

Potatoes \$1@1.25; apples 60c@\$1.30; cabbage 50@65c; eggs 38@40c; pork \$10.50 per cwt; loose hay \$18@22.

## GRAND RAPIDS.

Potatoes are quoted at 80@90c here, with movement light on account of the cold weather. Firm markets and higher prices are looked for in both potatoes and beans, though consumption in cities is reduced because of the high prices. Choice hand-picked apples in storage are selling in a small way at \$1@1.75 per bushel. Sharp weather has stiffened egg prices, with fresh laid quoted at 26@27c early this week. Grain prices at the mills are: Wheat, No. 2 red \$1.27; oats 50c; corn 78c; rye 90c; buckwheat 70@90c.

## LIVE STOCK MARKETS.

### Buffalo.

February 7, 1916.

(Special Report of Dunning and Stevens, New York Central Stock Yards, Buffalo, N. Y.)

Receipts of stock here today as follows: Cattle 110 cars; hogs 100 d. d.; sheep and lambs 65 d. d.; calves 900 head.

With 110 cars of cattle on the market, the trade today was unevenly higher. The stale stock, held over, and common thin stuff showed least advance. All fresh receipts of killing and shipping grades was up 25@35c, and some desirable lots of steers were 40@50c higher. With a good clearance of the light receipts and weather colder, prospect, from present outlook, is good.

We had a rather light supply of hogs today, a good demand and prices strong on yorkers and mixed, while pigs sold anywhere from 25@50c per cwt. higher than Saturday. The bulk of the sales around \$8.60, with a few selected lots at \$8.65; pigs generally 8c per lb; roughs \$7.25@7.50; stags \$5 @6. Everything sold at the close and looks like we will have a strong market the balance of the week.

The sheep and lamb market was active today and prices 15c lower than the close of last week. All sold and we look for steady prices balance of the week.

We quote: Lambs \$11.40@11.50; cull to fair \$8@11.25; yearlings \$8.50 @10.25; bucks \$4.50@6.25; handy ewes \$7.75@8; heavy do \$7.50@7.75; wethers \$8.25@8.50; cull sheep \$4.50@6; veals, good to choice, \$12.25@12.50; common to fair \$8@11; heavy \$6@9.

### Chicago.

February 7, 1916.

Cattle. Hogs. Sheep.

Receipts today. 22,000 62,000 16,000  
Same day 1915. 13,473 41,339 15,589  
Last week. 37,392 234,110 66,496  
Same wk 1915. 21,799 160,091 61,520

Another week opens today with early steady prices for steers and fat butcher stock showing especial firmness, but later signs of weakening in the commoner class of steers were noticed. Hogs went higher than ever, with sales at \$7.65@8.25. Hogs received last week averaged 199 lbs. Sheep and lambs opened firm.

Shipments from here last week aggregated 7,752 cattle; 60,987 hogs and 12,367 sheep, comparing with 9,000 cattle; 23,252 hogs and 2,148 sheep a year ago.

Sheep, yearlings, wethers and ewes of desirable quality sold extremely high last week because of meager offerings and a large local and shipping demand, despite some sharp breaks in prices at times, and at one time, when the bulk of the lambs sold much lower, prime lambs made a fresh high record for the season, bringing \$11.25. Most of the offerings consisted of fed western lambs, t



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Blatchford's Fig. Meal insures quick, sturdy growth of young pigs at weaning time, without setback or falling off.

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Blatchford Calf Meal Factory

Madison St., Waukegan, Ill.

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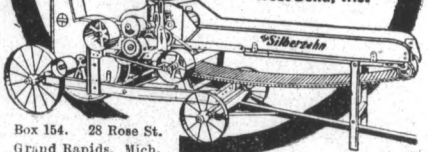
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## DETROIT LIVE STOCK MARKET.

Thursday's Market.  
February 3, 1916.  
Cattle.

Receipts 1332. There was a light supply in all departments at the local stock yards this week, and nearly all the Detroit lines had their stock in before noon.

The cattle trade was active from start to finish at an advance of 15¢ to 20¢ on last week on all grades, few going back for feeding purposes, and only a few bought for outsiders. The Newton Beef Co. bought heavily and every head was cleaned up early and the close was strong. Good milch cows sold well but common grades were dull and draggy.

Best heavy steers \$7.25@7.60; best handy weight butcher steers \$6.25@6.75; mixed steers and heifers \$5.50@6.50; handy light butchers \$5@6.25; light butchers \$5@5.50; best cows \$5.50@6; butcher cows \$4.50@5.25; common cows \$4@4.50; canners \$3@3.75; best heavy bulls \$6@6.50; bologna bulls \$5@5.50; stock bulls \$4@5; feeders \$6@7; stockers \$5@6.25; milkers and springers \$25@75.

Bishop, B. & H. sold Sullivan P. Co. 19 steers av 1126 at \$7.25, 3 do av 1217 at \$7.25, 12 do av 852 at \$6, 1 bull wgh 1570 at \$5.75, 10 butchers av 1047 at \$6.75; to Hammond, S. & Co. 21 do av 726 at \$6.50, 12 do av 650 at \$5.75, 6 do av 760 at \$6.75, 2 cows av 1045 at \$5.75, 5 do av 1050 at \$5.60, 1 do wgh 810 at \$4, 1 bull wgh 1000 at \$5.75, 1 do wgh 1340 at \$5.75, 1 do wgh 1610 at \$5.75, 9 butchers av 757 at \$6.50, 3 steers av 1151 at \$7.25, 7 do av 743 at \$6.50, 11 do av 852 at \$6.75; to Newton B. Co. 1 bull wgh 1300 at \$5.60, 6 cows av 1021 at \$5.65, 18 steers av 904 at \$6.75, 3 do av 1073 at \$7.25; to Bresnahan 3 cows av 677 at \$4.50, 7 do av 900 at \$4.25, 15 do av 1052 at \$5.25; to Sullivan P. Co. 26 steers av 973 at \$7.25, 4 cows av 1060 at \$5.75, 4 do av 1092 at \$5.75, 3 do av 1073 at \$5.65, 2 do av 1125 at \$4.25, 2 do av 1025 at \$5.50, 4 steers av 1032 at \$7.35, 3 cows av 960 at \$4.25, 2 steers av 850 at \$6.60; to Bray 2 cows av 850 at \$4, 5 do av 910 at \$5; to Egan & Co. 6 do av 1093 at \$5.60, 3 do av 1057 at \$5.40, 11 do av 1015 at \$5.35, 2 do av 910 at \$4.75, 2 steers av 1390 at \$7.25.

Roe Com. Co. sold Hammond, S. & Co. 1 cow wgh 1430 at \$6.25; to Breitenbach 1 do wgh 1020 at \$4.60; to Applebaum 3 butchers av 413 at \$5; to Sullivan P. Co. 1 steer wgh 620 at \$6, 1 do wgh 780 at \$6.85, 2 cow and bull av 1265 at \$6.25, 5 cows av 960 at \$4.35, 6 butchers av 765 at \$5.85; to Hammond, S. & Co. 1 bull wgh 1430 at \$6.25; to Breitenbach 1 cow wgh 1020 at \$4.60; to Hoffend 1 do wgh 1030 at \$5, 2 do av 1055 at \$5; to Kull 11 steers av 941 at \$7; to Thompson Bros. 2 cows av 1275 at \$4.60.

## Veal Calves.

Receipts 595. The veal calf trade was steady to a trifle higher than last week, a few small bunches of choice selling at \$11.50, but the bulk of sales for good was at from \$10@11; heavy and common \$7@9.

Haley & M. sold Thompson Bros. 8 av 150 at \$11.

Reason & S. sold Thompson Bros. 4 av 140 at \$11.

Sandel, S., B. & G. sold Thompson Bros. 2 av 160 at \$11, 2 av 160 at \$10.50, 3 av 125 at \$11, 3 av 135 at \$10; to Burnstine 4 av 105 at \$10.50.

## Sheep and Lambs.

Receipts 3667. The sheep and lamb trade was active; good lambs 10@15¢ higher and sheep strong; top lambs bringing as high as \$11 per cwt. The close was strong as follows: Best lambs \$10.75@11; fair lambs \$10@10.50; light to common lambs \$8.75@9.50; yearlings \$9.50@9.75; fair to good sheep \$6@7; culls and common \$5@5.75.

Haley & M. sold Nagle P. Co. 16 lambs av 75 at \$10.50, 23 do av 85 at \$10.25, 33 do av 65 at \$10.40; to Mich. B. Co. 49 do av 80 at \$10.75, 3 sheep av 115 at \$7, 13 do av 55 at \$9.25.

Roe Com. Co. sold Sullivan P. Co. 4 sheep av 90 at \$7, 27 lambs av 60 at \$9, 29 do av 65 at \$10.65; to Nagle P. Co. 7 yearlings av 80 at \$9.50.

Reason & S. sold Nagle P. Co. 20 sheep av 85 at \$6.75; to Costello 35 lambs av 50 at \$9; to Nagle P. Co. 12 sheep av 110 at \$7.25; to Young 50 lambs av 65 at \$10.65, 25 do av 70 at \$10.25.

## Hogs.

Receipts 8202. In the hog department the receipts were of the common order, being made up largely of pigs and light weights, the general market was steady with Wednesday. Pigs \$6.75@7; yorkers and heavy \$7.75@7.90.

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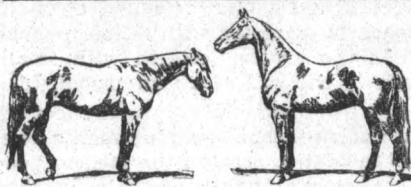
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fied. Incubator is covered  
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er. Set up ready to run.  
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This book contains scientific facts on white diarrhoea  
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every hatch. All poultry raisers should certainly write Mr. Reefer  
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**WE PAY \$80 A MONTH SALARY**  
and furnish rig and all expenses to introduce  
our guaranteed poultry and stock powders.  
**BIGLER COMPANY, X 682, SPRINGFIELD, ILLINOIS**

## Make the Hens Exercise

**A**LTHOUGH of comparatively re-  
cent introduction, the automatic  
feeder and exerciser for poultry  
has won the general approval of poul-  
trymen. So many poultry appliances  
are placed on the market that serve  
no more laudable purpose than to sep-  
arate the credulous beginner from his  
money that the old timers view any-  
thing new with some suspicion. This  
feeder, however, is an important addi-  
tion to the equipment of a well con-  
ducted poultry plant, whether it runs  
twenty hens or two thousand.

### Automatic Feeder Increases Activity.

In winter especially is it useful as  
it keeps the hens on the move all day  
long and does away with the habit of  
humping up in corners or on the  
perches. There are always a few  
grains to be scrambled for after a peck  
is made at the bait, and it is surpris-  
ing how soon the hens learn to come  
running at the sound of the grain rat-  
tling down the tin deflector. This ten-  
dency to promote exercise is its great-  
est merit but it is also saving in labor,  
for if the hopper is large enough one  
filling will last several days, and it  
also saves grain. By this I do not  
mean that less grain is used, but that  
the amount consumed is distributed to  
better advantage with less danger of  
over or under-feeding.

Anyone at all handy with tools can  
make a feeder that will answer the  
purpose as well as a manufactured  
one, and use in the making articles  
that are to be picked up on any farm  
—an old oil can, some tin or sheet  
iron, a clothespin, a couple of spools  
and a short piece of light rod or heavy  
wire. All the materials used in mak-  
ing the feeder shown in the photo-  
graph were taken from the farm scrap  
heap. By referring to the drawing the  
following directions may be readily  
understood:

(a) A can with a cone-shaped top

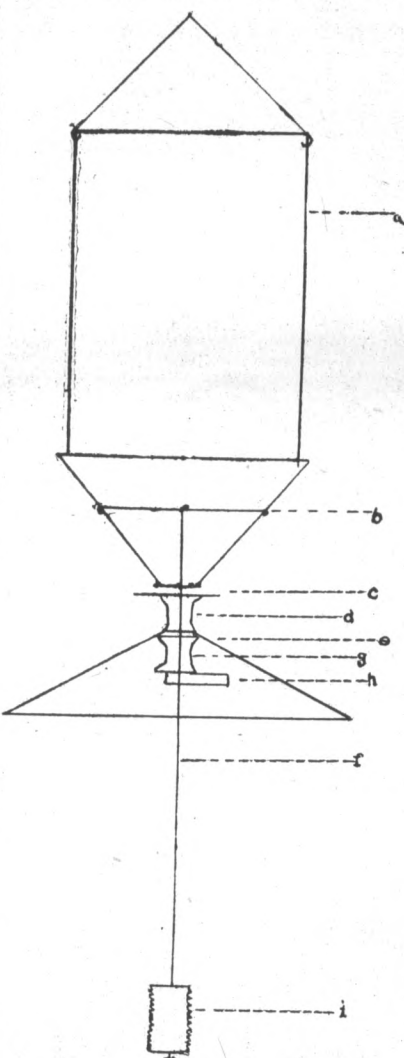
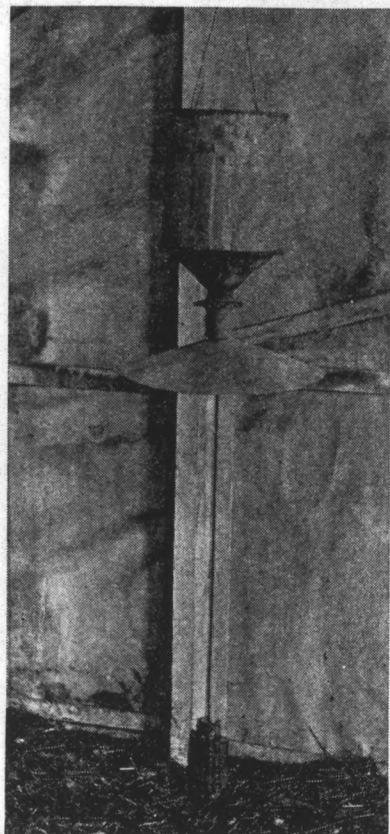


Diagram of Home-made Exerciser.

and mouth about an inch across. Four  
to eight quarts is about the right ca-  
pacity but it may be larger or smaller.  
Cut out the bottom. In case you can-  
not find a can your tinner will make  
you a hopper six inches in diameter  
at one end and one inch at the other  
fourteen inches long, for fifteen or

twenty cents. Three inches from the  
bottom or small end, a slot is cut on  
each side of the hopper to take (b)

(b) This is a heavy strip of tin or  
sheet iron, one-half inch in diameter  
and long enough to pass through both



The Automatic Feeder Ready for Use.

slots and bend down on each end so  
it will not move. Before placing it in  
position punch a hole in the middle  
and see that this hole comes squarely  
over the center of the bottom opening  
in (a).

(c) is a tin disc, two and one-half  
inches in diameter with a hole punch-  
ed in the center. Attach with small  
nails to one end of a large spool, (d).

(e) The deflector. Take a sheet of  
tin twelve inches square, punch a hole  
in the center, scratch the largest pos-  
sible circle around it and trim on this  
scratch. Then cut from the outside  
to the center on one side, lap the two  
ends thus made about two inches and  
fasten with rivets or tacks. Nail this  
to the other end of the spool (d). It  
may be necessary to dig out the end  
of the spool somewhat in order to  
make it hang properly.

(f) For the bait rod nothing is bet-  
ter than one of those rods that comes  
in rolls of felt roofing. (A heavy steel  
wire will answer the purpose). Re-  
move the burr and run the threaded  
end-down through the hole (b) where  
it hangs by the hook, then through (c),  
(d) and (e), which are fastened to-  
gether. To hold these in position  
against the bottom of the hopper (a)  
run the rod through another spool (g)  
and then clamp to the rod a clothes-  
pin with a stiff spring (h). Put a small  
piece of soft rubber between the jaws  
of the pin to keep it from slipping on  
the rod.

### The Kind of Bait to Use.

(i) The bait is a large ear of hard  
corn from which the small end has  
been broken. Run the rod through this  
end and attach the burr. Add a bail  
and the feeder is finished.

The disc (c) should be about one-  
fourth of an inch below the mouth of  
the hopper. This must be regulated  
by the size of grain and amount of  
feed required. By the time the hens  
have picked off the corn they will  
have learned how to get the grain and  
will keep right on pecking at the cob.  
The usual feeding should be continued  
until the fowls have become perfectly  
familiar with the working of the feed-  
er and even then it is advisable to give  
a small feeding of grain at night, scat-  
tered well through the litter in order  
that the fowls may be sure to have

## When the Lamp Is Underneath



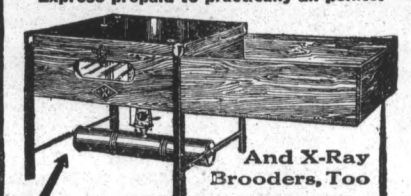
There are no  
cold cor-  
ners. You  
save oil  
and get  
**BIGGEST**  
hatches

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plant squarely underneath. No  
cold corners or sides, no "cooked"  
eggs. Note the big oil tank—re-  
quires only one filling—one gallon  
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are heated from a central heating plant. San-  
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Set Up Ready for Use  
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Brooders.** Won-  
derful bargains—built  
from best materials with latest im-  
provements. Only machine with hun-  
dreds of dead air cells to protect eggs  
against sudden changes.

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wood; Copper Hot Water Heater; Double-disc Regu-  
lator; Double Doors; Safety Lamp; Tester, etc.

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all for results.

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Current which insures best ven-  
tilation. Shows why  
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heat. All complete. Incubator book free.  
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their crops full at roosting time. When a feeder is empty it should be either filled at once or removed from the reach of the hens. When in use the bait should be within easy reach of the hens, yet not too low for them to pass under it.

Van Buren Co. C. N. WHITAKER.

### THE OPEN-FRONT POULTRY HOUSE.

Will you please describe the open-front poultry house? Are they practicable?

The open-front poultry house is a practical one, in fact, it is the most advisable type of house to erect. In the past it was thought that warmth was essential for the well-being of hens, and in order to gain this warmth the houses were of the closed type, but the lack of ventilation was not taken into consideration, and the result was that the moisture from the breath of the hens would freeze on the cold walls and produce conditions inside which made it worse for the hens than if they were outside.

The chief essentials of a good coop are ventilation without draft, and dryness. The open-front coop provides these essentials better than any other type. The style of coop most generally in use is one of the shed roof type. The front is usually about seven feet high and the back about four and a half feet high. The depth should not be more than 15 feet so that the sunlight can get into the back of the coop.

Some arrange the front of the coop by having an opening about three feet high extending along almost the entire length of the front. Others make the opening shorter and put in a window at each end of the opening. To get the greatest benefit from the sunlight the opening should be about two feet from the bottom. The opening is usually covered with wire netting, and most poultry raisers have a muslin curtain tacked on a frame, which should be kept raised except in stormy weather.

One of the chief essentials in building a coop of the open-front type is to have the sides and back practically airtight. In order to make them so the outside of the coop should be covered with roofing paper and the seams should be cemented with the cement supplied with such paper, or the coop may be double walled and a good quality of building paper put between the walls. If the coop is not made draft-proof the hens will undoubtedly suffer from the cold.

This type of coop has been used in all parts of the country, including northern Maine and Canada, and it has been successful wherever used.

### PEN POINTS.

A poor layer is usually poor. Hens increase in weight just before beginning to lay, which goes to prove that a hen must carry a surplus of flesh before she can lay.

Even during severe weather, the poultry-house should be well ventilated. The excess of moisture in a fowl's body passes off through the breath, and a tight house soon becomes damp. Fowls can stand any degree of cold, when the house is well ventilated and free of draughts, but dampness is fatal. The best method of providing ventilation is to leave at least part of the south side open. During stormy weather the opening should be covered with a curtain to keep rain and snow out.

If a supply of dry road dust cannot be had for the dust box, finely sifted coal ashes are a good substitute. A pound or two of sulphur, Persian insect powder, or powdered tobacco, thoroughly mixed with the dusting material, improves the "bath" as a killing agent.

Abrupt changes in feeding will likely throw the hens out of condition. Any change in the bill of fare should be made gradually.

Charcoal, grit and oyster shell should be kept before the hens all the time.

T. Z. RICHEY.



H. H. Johnson



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THIS was what Old Trusty Incubator did for Bessie Warren of Tryon, Neb. Pretty good record don't you think? And when you consider that you can get Old Trusty for less than \$10, it's a pretty low cost per year of service. Back of

## Old Trusty

there's 20 years of Johnson "knowhow" plus the experience of about 650,000 satisfied owners. Hundreds of thousands of more owners than any other. Makes big hatches easy in cold east weather.

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and let me tell you why chicken profits come so easy with Old Trusty. Still less than \$10, freight paid east of Rockies—a little more farther west. Write today.

H. H. JOHNSON

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# Another Victory



The jury of awards at the Panama-Pacific Exposition have confirmed the verdict of thousands of American Farmers. To the Saginaw Silo this group of men have awarded the gold medal—the highest award made to any silo manufacturer.

And the premium came not only because of the scientific construction and quality of the Saginaw Silo, but also in recognition of the work we have done in promoting silage feeding—thereby adding in no small measure to the prosperity of this country.

The merit of the Saginaw Silo, as shown by the attitude of the exposition authorities, and also the success of the Saginaw Silo in the hands of thousands of owners is one of the things that should govern you in your choice of a Silo.

You will find upon investigation, the many reasons why the Saginaw occupies first place, why it is the real Gold Medal Silo.

Would you like sweet, clean, palatable silage the year round? Would you like to get away from spoilage and the losses it brings? Would you like gold medal silage—first quality—then put your corn into a Saginaw Gold Medal Silo.

Write us for new interesting silage feeding literature. Sent you free.

**The McClure Company**  
(Formerly Farmers Handy Wagon Co.)

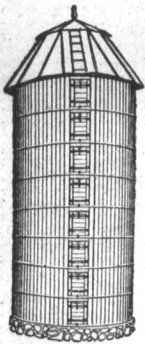
Saginaw, Mich. Cairo, Ill.  
Des Moines, Iowa. St. Paul, Minn.  
Fort Worth, Texas. (19)

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keeps ensilage fresh and sweet. Many exclusive features. Doors on hinges; triple, bevel refrigerator type door and frame; oval door frame to fit the exact circumference of silo; extra heavy hoops and lugs bent to fit silo; continuous door frame.

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Our 66 years of manufacturing experience is valuable to you. Write for our instructive Silo Book. We also make Enamelled metal silos. Agents wanted. The E. W. Ross Co., Box 14 Springfield, O.



**9 1/2 CORDS IN 10 HOURS**  
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A B. V. T. Silo will be the most permanent building on your farm. Made of everlasting Brazil vitrified fire clay tile. Wind, heat, cold, fire and time have no effect on a B. V. T. Silo.

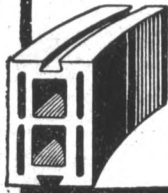
## Air-tight Joints in Double Wall Tile

There's no silo tile to compare with the B. V. T. It's different—a patented, exclusive design. The large, central air space (see illustration) provides abundant dead air insulation against moisture, frost and heat.

The double walls of the B. V. T. tile provide additional dead air spaces. The mortar in each joint is squeezed into ends of these narrow spaces. This absolutely seals them. It also holds mortar in place, preventing sagging and leaky joints. No other silo tile makes such an air-tight joint, which is the secret of B. V. T. success.

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Strong, steel rods, embedded in mortar in dovetail grooves, make the B. V. T. the strongest silo in the world. Will stand three times the pressure ever put on it.



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**THE JOS. DICK MFG. CO.**  
Box 315, Canton, Ohio



**Blizzards Ensilage Cutter**

## PASTURING CORN WITH SHEEP.

(Continued from page 201).

der that land will produce anything when everything has been taken from it and scarcely anything returned for nearly a third of a century?

### How the Champions were Fed.

The western lambs that won the grand championship at the 1912 International Live Stock Exposition in Chicago, were turned over to me unexpectedly. My berths in corn fields were already reserved. I only had 51 days for their preparation and must act quickly. They were put on a self-feeder of grain the day following their arrival and gained 25 pounds each in 51 days, without a sick one during that time, and had to compete for the championship honors with a car of native lambs from Ohio that had won in their class from five of the best loads of native lambs that had ever shown in Chicago at one time, and that had been close-fed and been on feed for more than twice the length of time. To show you that they might have been finished in the corn field in like manner, I will also state that the year previous, out of a bunch of 498 yearlings, weighing 83 pounds in Chicago, and on feed in Michigan 80 days, I took out one car weighing 120 pounds each, good enough to win first in their class, and was informed by the judge that if they could have had two weeks' more feed, they would have been entitled to the grand championship over all and they were strictly corn field fed.

### Can we Get Western Lambs?

Four years ago we had a two-day institute in our county. By an extra effort I was able to attend the second day. I was interested in two of the topics; one was a talk on growing potatoes, the other, fattening western lambs. The potato man told what he had done, the success he had attained and advised us to follow his example and we would reach the same results. The sheep feeder also told us what he had accomplished, the money he had made at the business, but finished his address something like this: "It is practically all over now, the deal is off, or nearly so, you are not going to get many more western lambs, they are going to be all fattened in the west."

Those last remarks would have spoiled it all for me, but for an opportunity that immediately presented itself. A messenger handed me the following telegram: "Can you use load good feeding lambs at five and a half cents?" Could I use them? I would have had those lambs then after those remarks if for no other reason than to demonstrate that the remarks were misleading. This purchase was followed with three more loads, one February 27, costing \$5.85, and two loads March 27, costing \$6.85, making an average cost of six and a half cents laid down, an average weight of 71 pounds, costing, all told, \$4,976.45. Sold lambs after 80 days' average feed, including wool, for \$10,318.43, average gain 26 pounds, besides the wool, bringing \$5,342 more than first cost; allowing they had eaten two pounds of shelled corn per head per day and three-quarters of a pound of alfalfa at \$25 a ton for alfalfa, and 80 cents per bushel for the corn, I had left for the care and interest on the money, \$2,066, \$25 per day, and nearly \$2.00 per head; there were 1,084 of them.

### Michigan Can Successfully Compete in Lamb Production.

Thus far we have been able to get western lambs and will be as long as we are willing to pay as much as the other fellow. Since I have been feeding lambs, yes, in the last ten years, at Schoolcraft the largest sheep feeding point in our county when I was a young man, sheep feeding has dwindled until at the present time they are feeding scarcely any, not because they could not buy them, but because they would not pay the price. During this time, the state of Iowa has developed

into one of the greatest lamb-feeding states, especially for feeding down corn, and this on land selling from two to three times as much per acre and a market at least one-half dollar per hundred lower than ours. Shall we, the sheep-feeders of Michigan, admit that we cannot compete with the feeders of Iowa under these conditions? Let them take away their western lambs if must be, we will be better off then than before. Michigan will do what she should have done long ago—produce on her cut-over lands in the north, the feeding lambs for the southern part of the state.

Will you, the sheep breeders and feeders of Michigan, take up the work and carry it to a successful conclusion. Induce the state, if need be, to locate an experiment station somewhere in the northern part of Southern Michigan and demonstrate to the people what can be done in sheep raising. Persuade the Land Promotion Associations in Northern Michigan to devote their time and energy to an industry peculiarly adapted to their climate and conditions. They will not again be in the same predicament they were last season when caught by an early frost.

I am not a prophet nor the son of one, but would say if the same amount of encouragement is given sheep raising in the state that has been given other industries, those lands in the north will not long be a drug on the market.

Michigan will then be recognized as one of the great mutton producing states, will pass many of her sister states in the production of live stock. Her farm lands will be materially enhanced in value, for the production of one good lamb to the acre on much of that northern land will be a greater return on their present values than we the grain producers, are receiving at the present time.

Let all this come about through your efforts and The Michigan Sheep Breeders' and Feeders will come into their own. Accomplish what I have outlined and your industry will be one of the first in the state and it will be an honor to become a member of your organization.

### FEEDERS' PROBLEMS.

#### Rye Meal and Oats for Horses.

Would rye meal be good to mix with oats for horse feed and what proportion?

Ingham Co.

F. C.

Rye meal can be successfully fed with oats, preferably using in combination a little bran and some oil meal in making up a ration for work horses. It has practically the same feeding value as corn, but is a sticky feed and should either be fed on cut straw or with a liberal admixture of other grains to overcome this difficulty. In Germany it is often used as a horse feed, from two to six pounds per day being fed per animal in combination with other feeds. A change to rye should be made gradually where this is made a considerable factor in the horses' ration.

At present market values, however, it will not pay to use rye as a horse feed, since rye is much higher in price than corn, to which it can be best compared and which is a better horse feed.

Never before were such high prices seen for live muttons in midwinter as have been paid in the Chicago stock yards recently, and the prevailing opinion is strongly inclined to the view that the top has not yet been seen, predictions having been made recently that before next Easter prime lambs of medium weight will be selling for \$12.50 per 100 lbs. It is simply a case of meager receipts at a time when there is a large demand from local killers and shippers, with fat lambs weighing from 70 to 80 lbs. especially favored by killers, while their comparative scarcity compels killers in many instances to buy lots averaging 85 lbs. or more as substitutes. There has been a good demand in the Missouri river markets for good feeding lambs, and buyers have paid from \$9@9.50 per 100 lbs.



## THE LIVE STOCK ORGANIZATIONS.

The following is the list of officers elected by the various live stock organizations of the state at the recent meeting held at the Agricultural College. Officers of other organizations will be published as soon as complete reports are received:

## Officers of the Michigan Improved Live Stock Breeders' and Feeders' Association.

President, W. H. Schantz, Hastings, Mich.; vice-president, F. R. Crandall, Howell, Mich.; secretary, G. A. Brown, East Lansing, Mich.; treasurer, C. P. Reed, East Lansing, Mich.

Executive Committee.—Colon C. Little, Chairman, Coopersville, Mich.; C. G. Parnall, Jackson, Mich.; J. Fred Smith, Byron, Mich.; A. T. Roberts, Marquette, Mich.; Jacob DeGus, Alicia, Mich.

## Michigan Horse Breeders' Association.

President, Jacob DeGus, Alicia, Mich.; vice-president, June Elliott, Onondaga, Mich.; secretary-treasurer, R. S. Hudson, East Lansing, Mich.

Executive Committee.—Thos. Sweeney, Mason, Mich.; William Hicks, St. Johns, Mich.; R. E. Whitney, Onondaga, Mich.

## Michigan Shorthorn Breeders' Association.

President, Jay Smith, Ann Arbor, Mich.; vice-president, George Prescott, Tawas City, Mich.; secretary-treasurer, W. W. Knapp, Howell, Mich.

Directors.—Floyd Anderson, St. Johns, Mich.; J. B. Hummel, Mason, Mich.; W. B. McQuillan, Howell, Mich.

## Michigan Jersey Cattle Club.

President, R. R. Smith, Howell, Mich.; vice-president, Dr. G. A. Waterman, Ann Arbor, Mich.; secretary-treasurer, Phebe H. Walker, Kalamazoo, Mich.

## Michigan Guernsey Cattle Club.

President, J. L. Snyder, East Lansing, Mich.; vice-president, T. V. Hicks, Battle Creek, Mich.; second vice-president, H. E. Squire, Decatur, Mich.; third vice-president, G. D. Pope, Pontiac, Mich.; secretary-treasurer, C. G. Parnall, Jackson, Mich.

## Michigan Hereford Breeders' Association.

President, T. F. B. Sotham, Lansing, Mich.; first vice-president, E. J. Taylor, Fremont, Mich.; second vice-president, Louis Norton, Quimby, Mich.; third vice-president, Robt. H. Rayburn, Alpena, Mich.; secretary-treasurer, Earl C. McCarty, Bad Axe, Mich.

## Michigan Aberdeen Angus Breeders' Association.

President, Cephus Buttles, Lewiston, Mich.; vice-president, G. W. Gilbert, Onstead, Mich.; secretary, Alexander Minty, Ionia, Mich.; treasurer, G. A. Prescott, Jr., Tawas City, Mich.

## Michigan Red Poll Breeders' Association.

President, N. C. Herbison, Birmingham, Mich.; vice-president, J. M. East, Marcellus, Mich.; secretary-treasurer, E. J. Peabody, Mulliken, Mich.

Director.—Newton Parish, Allendale, Mich.

## Michigan Swine Breeders' Association.

President, W. H. Schantz, Hastings, Mich.; vice-president, Carey U. Edmonds, Hastings, Mich.

Executive Committee.—J. W. Hubbard, Bennington, Mich.; Robt. Martin, Hastings, Mich.; M. T. Story, Lowell, Mich.; C. M. Case, Adrian, Mich.; E. N. Ball, Hamburg, Mich.; W. S. Adams, Litchfield, Mich.; George A. Waterman, Ann Arbor, Mich.; W. Huber, Charlotte, Mich.; Ralph Emory, Kalamazoo, Mich.

## Michigan Chester White Association.

President, Harry T. Crandall, Cass City, Mich.; secretary-treasurer, J. Carl Jewett, Mason, Mich.

Executive Committee.—J. Carl Jewett, Mason, Mich.; O. W. Wilson, East Lansing, Mich.; Albert Newman, Marlette, Mich.

## Michigan Sheep Breeders' and Feeders' Association.

President, C. A. Tyler, Coldwater, Mich.; vice-president, H. H. Hinds, Stanton, Mich.; secretary-treasurer, W. H. Schantz, Hastings, Mich.

Directors.—H. E. Powell, Ionia, Mich.; Sig L. Wing, Kinderhook, Mich.; I. R. Waterbury, Highland, Mich.; Carey U. Edmonds, Hastings, Mich.; R. A. Kyser, Lowell, Mich.; Bert Smith, Charlotte, Mich.; E. N. Ball, Hamburg, Mich.; H. H. Halliday, Clinton, Mich.

## Michigan Shropshire Association.

President, H. E. Powell, Ionia, Mich.; vice-president, W. P. Pulling, Parma, Mich.; secretary-treasurer, W. H. Schantz, Hastings, Mich.

## Michigan Merino Sheep Breeders' Association.

President, H. L. Mayo, Nashville, Mich.; secretary, E. N. Ball, Hamburg, Mich.; treasurer, R. D. Stephens, South Lyon, Mich.

Directors.—Louis Adams, Armada, Mich.; O. Frost, Armada, Mich.; J. Smith, Dexter, Mich.

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## THE BIG NEW BOOK—JUST OUT

which tells you why we save you money and give you a better engine—why light-weight, high-speeded engines are not to be compared with Masterpiece engines and why you are asked four profits for some engines no better. The truth of the engine business is all set down in black and white and I want you to get this book. If you expect to buy an engine I'll pay the postage and be glad to send the book.

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**LARGE BORE—LONG STROKE** and heavy weight means power that is horsepower. An engine that will "stand up" year in and year out—a lifetime of satisfaction! Users say so!

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**ECONOMY CARBURETOR** with special cold weather valve for easy starting. Also gets great power from small amount of gasoline. Our own invention. Exclusively used on Masterpiece engines.

**NO OVERHEATING** because of giant water pot and larger cooling surfaces. Water will not boil. Cylinders frost-proof.

**PERFECTED OILING** of all bearings. Elevated grease cups. Positive piston lubrication. Adjustable bearings.

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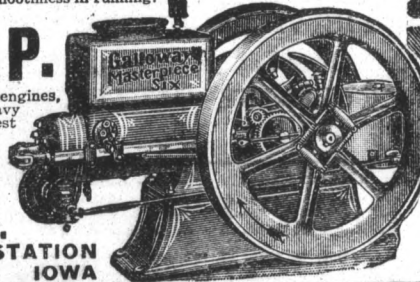
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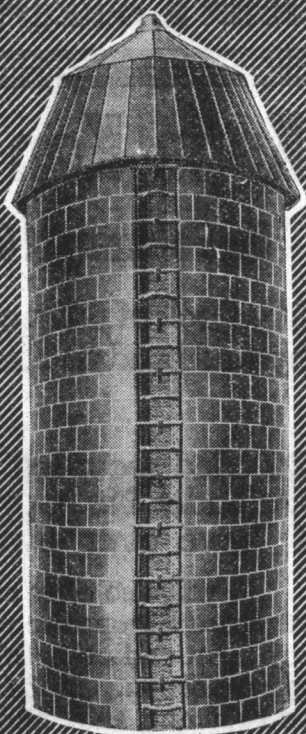
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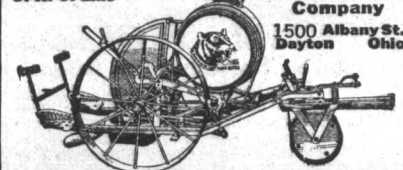
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Ready For Service.

From a grand daughter of The King of the  
Pontiacs. Sired by a bull that is more than a half  
brother to the Champion Holstein Cow of the  
World, and whose dam is a 30 lb. 6 1/2 % fat daughter  
of Pontiac Aggie Korndyke who has more 30 lb.  
daughters than any other living bull. If you do  
write for pedigree.

EDWIN S. LEWIS, Marshall, Mich.

**The Two Greatest Bulls**

KING OF THE PONTIACS  
DE KOL 2d's BUTTER BOY 3rd

I have young bulls from cows having high official  
records and Granddaughters of above bulls. Stock  
extra good. Prices reasonable.

**BIGELOW'S HOLSTEIN FARMS,**  
BREEDSVILLE, MICH.

**HATCH HERD**

YPSILANTI, MICHIGAN

Registered Holstein-Friesian sires, grandson's of  
World's greatest dairy sire, out of choice A. R. O.  
dams and King Pontiac Jewel Korndyke. Brother of  
K. P. Pontiac Lass 44.5; average record of 50 dams  
in his pedigree 31.25 in 7 days; average per cent of fat  
three nearest dams 4.37; of his own dam 4.98. Sires in  
first three generations already have over 600 A. R. O.  
daughters. A few females bred to "King". Prices  
reasonable.

**HOLSTEIN** Bull Calf: Born Nov. 8th. A nice indi-  
vidual, well grown, about evenly marked. His dam  
and Sire's dam have A. R. O. records that average Butter  
7 days 24.83 lbs. Milk 563 lbs. W. B. READER, Howell, Mich.

**\$190** Buys Reg. Holstein heifer 8 mos. old and  
Reg. Bull 3 mos. old. Not akin. Good  
breeding. FERD J. LANGE, Sebawaing, Michigan.

**Choice Holstein Bulls.** All from A. R. O. Dams. Semi-or-  
4yr. old class to over 1000 lbs. in mature class Breeding: Cross  
"King of the Pontiacs" and the "Demick blood." Cherry  
Creek Stock Farm, Hilliards, Mich. M. E. Parmelee, Proprietor.

**HOLSTEIN BULLS**  
For Sale By  
**Callam Stock Farm**

No. 1. Prince Fayne Callam, ready for service, born December  
24th, 1914. Sire—King Keka Fayne. Dam—Lady Nig Volga, official  
record 24.67 lbs. of butter and 515 lbs. of milk in 7 days. Grand-  
daughter of Hengerveld De Kol.

No. 2. Lucky Burke Callam, born October 22nd, 1915. Sire—  
Burke De Kol Callam. Dam—Lucky Girl Callam, now in official test,  
and making big record. Her dam an A. R. O. cow.

No. 3. Pet De Kol Callam, born October 23rd, 1915. Sire—King  
Keka Fayne. Dam—Pet Fairmount De Kol, A. R. O. record 19.16 lbs.  
of butter and 406 lbs. of milk in 7 days.

No. 4. De Kol Callam, born November 24th, 1915. Sire—Burke  
De Kol Callam. Dam—Segis De Kol Callam, now in official test,  
and making big A. R. O. record. Daughter of Pet Fairmount De Kol, an  
A. R. O. cow of nearly 20 lbs. of butter and over 400 lbs. of milk in  
7 days.

No. 5. Sir Clyde Burke Callam, born December 11th, 1915. Sire  
—Burke De Kol Callam. Dam—Miss Korndyke Callam, now in official  
test, making large A. R. O. record. Daughter of Clyde Burke  
Callam, an A. R. O. cow.

No. 6. King Keka Fayne Junior, born January 12th, 1916. Sire  
—King Keka Fayne. Dam—Bessie Withroon Pauline 3d. A. R. O.  
record 17 lbs. of butter and 366 lbs. milk in 7 days. Now in official  
test and will make a record of over 25 lbs. butter and 450 lbs.  
milk in 7 days.

King Keka Fayne, the Sire of Nos. 1, 3 and 6, above, is a son of  
King Fayne Segis, a grandson of King Segis, Grace Fayne 2nd's  
Homestead, and a great grandson of Pontiac Korndyke. The A. R. O.  
of his sire's dam, Grace Fayne 2nd's Homestead is 35.55 lbs. butter in  
7 days. No better bull in the United States.

Burke De Kol Callam, the sire of Nos. 2, 4 and 5, above, is my  
junior sire. His dam is the great A. R. O. cow, Rockledge Callam,  
whose dam is a granddaughter of De Kol Burke and Lord Netherland  
De Kol, two of the greatest sires of the breed. Burke De Kol Callam  
is by the noted A. R. O. sire, King Keka Fayne.

These bulls are all registered, choicely bred, handsomely marked  
and of perfect dairy conformation. They are guaranteed free from  
disease.

Write me today for price and description.

**JOHN F. O'KEEFE, SAGINAW, MICHIGAN.**

**Kope Kon Dispersal Sale**  
On February 16th I Will Sell at Auction

My flock of 60 recorded Shropshire Ewes sired  
by and bred to the best of Imported Rams.

ALSO

20 tried recorded Duroc Sows Bred to Fancy  
Defender No. 54575 the best Producing boar  
I have ever owned.

I will also offer at private sale about two hundred  
recorded Shropshire ram and ewe lambs. I have rented  
my farm and everything goes. This stock is in breed-  
ing condition. Not fat. Come to Coldwater, Mich.,  
or Fremont, Ind., and I will meet you.

**S. L. WING, - - Kinderhook, Mich.**

**Duroc Jersey Boars and Sows**  
**BROOKWATERS' WINNING COMBINATION**

Best Blood Lines. Individual Merit. Prices that will make you money.

This is our record, one which we shall maintain. Choice fall and spring pigs and mature stock. Send for  
our new circular and state your wants. Write or better come. If you wish one of the best young Jersey bulls  
in Michigan we have him for sale.

**Brookwater Farm, Swine Dept., Ann Arbor, Mich.**

**ALFALFADALE** HERD of  
Holsteins.  
Contains aged cows producing 32.94 lbs. of  
butter in 7 days: 4yr. olds producing 31.76: 3 yr.  
olds producing 28.37: 2yr. olds 25.69 all officially  
tested. Sons and brothers of these high testing cows  
for sale. Geo. H. Gillespie & Son, Mason, Mich.

**\$50** gets another 2 mo. old Hazel-let grandson of  
Maplecrest De Kol Parthena and Pontiac  
Maid 30.2 lb. butter 7 days. Dam traces to Pontiac  
Korndyke twice Pieterje 2nd twice, DeKol 2nd five  
times. M. L. McLaughlin, Redford, Mich.

**Ypsilanti Farms** Registered Holstein young bulls  
of choicest breeding at \$50 and  
up. Ypsilanti, Michigan.

**Holstein Bulls Ready  
For Service.**

Grandsons of Friend Hengerveld DeKol Butter  
Boy and Pontiac Aggie Korndyke. From high  
record A. R. O. dams at farmers' prices.

**LONG BEACH FARM,**  
Augusta, Michigan. (Kalamazoo Co.)

**I Have Holstein Bulls,** Bull Calves and Cows  
ready for service, and bull calves, also females.  
I can show breeding records, individuality and at rac-  
tive prices. L. E. CONNELL, Fayette, Ohio.

**Special Notice**

Registered Holsteins for Sale.

Our present farm being more valuable for real  
estate than dairy farming, we are going to move  
our herd further out from the city. We have twelve  
bull calves which will be sold at prices from \$35 to  
\$150 according to breeding—A rare chance to buy  
a bull calf at a low price.

**Espanore Farm, Lansing, Mich.**

**Choice Holstein Bull Calves**

Ready for service, **World's Champion Parentage**  
**HILLCREST FARM - Kalamazoo, Mich.**

**"TOPNOTCH" Holsteins**

By careful retention, for many years, of largest pro-  
ducing females, and use of superior sires, a breeding  
herd of wonderful quality has been established. We  
are selling young bulls of this "TOP NOTCH" quality  
of serviceable age, at moderate prices. Information,  
pedigrees, etc., on application. McPHERSON FARMS  
CO., Howell, Michigan.

**FOR SALE Registered Holstein Bulls**  
ready for service, and bull calves, also females.  
**FREEMAN J. FISHBEEK, Howell, Michigan.**

**Registered HOLSTEIN BULL.** Sire is son of former  
state champion cow, 32.94 lbs. of butter  
in 7 days. 4 months old, mostly white, beautiful in-  
dividual. 2 nearest dams average 26 lbs. of butter and  
647 lbs. of milk in 7 days. \$100 delivered, safe arrival  
guaranteed. Write for pedigree and photo.  
**HOBERT W. FAY, MASON, MICH.**

**8** Reg. Holstein heifers, 4 are 8 months old and 4 are 5  
months, at \$100 each. Also, 4 young bull calves at  
\$30 each. Ernest A. Black, R. 3, Howard City, Mich.

**HOLSTEIN** Friesian son of G. Champion female Mich.  
State Fair A. R. O. 2 yr. 9 days 37.2 milk, 16.143 but-  
ter. Hengerveld DeKol breeding John A. Rinke, R. 1, Warren, Mich.

**FOR Sale**—Registered Holsteins. 3 Bull calves sired  
by a 30 lb. bull, 1 from a 28.58 lb. dam. Also 2 heifers 8  
and 15 months old. Wm. Griffin, R. No. 5, Howell, Mich.

**\$200** Buys Holstein cows 5 to 7 yrs. old. Fresh soon.  
Calves contracted at \$100 each if heifers.  
**B. B. REAVEY, Akron, Michigan.**

**The Bull** Advertised in this paper last week is sold,  
but I have another good, robust young  
bull, Ready for Service, sired by a Grandson of  
Colantha Johanna Lad, Write, **CEO. D. CLARKE,**  
Owner of Nederland Farms, VASSAR, MICH.

**Registered Holsteins at half Price.** Cow five years  
old, calf by side. Heifer one year old  
bred bull world's record breeding. 23 lb. dam, one  
year old. Sold separately or the six head for \$500.00.  
Also 8 high grade cows for \$550.00.  
**J. C. BUTLER, Portland, Mich., Bell Phone.**

**One 3 year old Registered** Holstein Bull for  
sale, gentle and kind. **JOHN R. MCCARTEN, Three Oaks, Michigan.**

**WANTED** Registered Holstein Females. Must be will-  
ing to have them tuberculin tested. Give description  
and lowest cash price. Lynn Pardee, East Lansing, Mich.

**Little Farmstead Jersey Cattle.** Bull calves from R.  
of M. Cows, also heifer calves and several bred  
heifers for sale. Colon C. Little, Coopersville, Mich.

**THE WILDWOOD Jersey Herd.** Registered Jersey  
Cattle of Quality. Forty head Tuberculin tested  
Majesty's Wonder 90717 heads the herd. His daughters  
are producing from 400 to 500 lbs. butter in one year as  
two year old heifers, and are bred to Majesty's Oxford  
Fox 134214 a class grandson of Oxford Majesty which  
combines type and production. Alvin Balden, Canaan, Mich.

**MAPLELANE R. of M. Jersey Herd.** Tuberculin tested  
by the U. S. Government. For sale bulls, cows,  
bull calves and heifer calves. The lowest record of any  
mature cow of this strain is 559 lbs. of 55% butter.  
**IRVIN FOX, Allegan, Michigan.**

**Jerseys.** Bulls ready for service, extra quality sired  
by Jacoba's Fairy Emanon. No. 10711, from high  
producing dams. **SMITH & PARKER, Howell, Mich.**

**Jersey Bulls for Sale** from high-producing dams, with  
testing Asso. records, also on  
semi-official test. C. B. Wehner, R. 6, Allegan, Mich

**HILLSIDE Farm Jerseys,** yearling bulls, solid  
color, half brothers to ex-world's-record senior 2yr  
old from R. of M. dams, with records from 400 lbs.  
to 800 lbs. C. and O. **DEAKE, Ypsilanti, Michigan.**

**23 Registered Tuberculin** tested Jersey Cows for  
sale. Also, young females  
**HERMAN HARMS, Reese, Michigan.**

**For Sale**—Registered and line bred Jersey  
Cows and heifers. Tuberculin  
tested. Chas. B. Cook Farm, Owosso, Michigan.

**BIDWELL SHORTHORNS**



For "Beef and Milk"  
Registered bulls,  
Scotch-topped roans,  
reds and white for sale.  
Farm at N.Y.C. Depot;  
also D. T. & I. R'y.

**BIDWELL STOCK FARM**  
Box B, Tecumseh, Mich.

Albion Stamp 352670

**Shorthorn Cattle of both Sex for Sale**  
**W. W. KNAPP, Howell, Michigan.**

**Shorthorns**—Dairy or beef bred. Breeding stock all  
ages for sale at farmers prices. C. W. Crum,  
Secy. Cent. Mich. Shorthorn Breeders' Assn., McBride, Mich.

**Auction** Sale Mar. 1st, 1916. 25 head shorthorns, 7 males,  
at "Locust" on D. U. R. between Albion &  
Imley City. **WARNER BROS. Albion, Mich.**

**Two Shorthorn** Bulls old enough for service. Golden  
Wyandotte Cockerels. Collie puppies  
**S. G. BELCHER, R. No. 5, Hudson, Michigan.**

**Shorthorns** For Sale—One red scotch bull 16 mos. Sire  
Uppermill Omega. One white scotch top-  
ped, Sire Bright Sultan. W. B. McQuillan, Howell, Mich.

**FOR Sale**—18 Reg. Short Horn Bulls by Maxwalton  
F. Monarch 2nd, a son of Avondale, from 2 to 13 mos. old  
John Schmidt, Reed City, R. No. 5, Michigan.

**MILKING SHORTHORNS.** Young bulls for sale  
after July 1st.  
**DAVIDSON & HALL, Tecumseh, Michigan**

**COWS FOR SALE**

13 high grade Short Horns, Reds and Roans, good ones.  
8 high grade Holsteins coming three and four. Giving  
milk now. Also about 40 yearlings and calves half to  
three quarter blood Holsteins.

**B. J. DOWNING, ST. CHARLES, MICH.**

**POLLED** Durhams for sale, pure Short Horns, bred  
hornless. Rose of Sharon and Young Mary, 2 bulls  
12 mo. 10 young cows and heifers. L. C. Kelly, Plymouth Mich.

**HOGS.**

**Durocs & Victorias**—Grand bunch of Gilts  
due March and April.  
Comprising the blood  
of Superba, Defender, Much Col. Orions and others.  
A few young boars. M. T. STORY, Lowell, Mich.

**Royalton Bred Berkshires**—Fine October pigs both  
sexes, sired by Royalton  
Emperor, registered with papers at fair prices. Write  
to D. F. Valentine, Supt., Temperance, Michigan.

**Berkshires** of best breeding. Special price  
on two Spring Boars.  
**D. W. SMITH, Wixom, Michigan.**

**SWIGARTDALE BERKSHIRES**

Are the kind that win at the Fairs and also produce  
the litters as all of our show stock are regular breeders.  
They have the size with the bone to carry them and  
their breeding is unsurpassed. All the leading families  
are represented. We have a few choice Spring Boars  
now crowding the 300 lb. mark, for sale, prices from  
\$20 up. We are now booking orders for Fall pigs for  
January delivery. Can furnish choice Trios not akin,  
for \$45 to \$50. We Guarantee Satisfaction.

**Swigartdale Farm, Petersburg, Mich.**

**Berkshires** of best breeding, of various ages, either  
special reduced price. Write your wants quick.  
Mitchell's Lakeside Farms, R. 2, Bloomington, Mich.

**Berkshires** Have a choice lot of gilts. I am breed-  
ing for spring farrowing. Write me  
your wants. A. A. Pattullo, Deckerville, Mich.

**Breeders' Directory—Continued on page 223.**



## Veterinary.

CONDUCTED BY W. C. FAIR, V. S.

**Cats were Poisoned—Worms.**—We have lost five cats in as many weeks. At first they sleep, don't want to be disturbed, then they stagger or crawl around, begin to vomit and their eyes have a strange sunken appearance. They appear to be in terrible pain as the disease progresses, and usually die within one or two days. What is it? Can it be prevented or cured? Have a fox terrier that is bothered with worms. Misses E. & S., Shelby, Mich.—I am inclined to believe that the food your cats eat kills them. Perhaps they eat mice and rats, or pick up meat which contains ptomaine. See treatment for worms in dogs, this column.

**Bunch on Stifle.**—I have a yearling colt with bunch on its stifle which our local Vet. has been treating, but fails to remove. J. H. S., Bad Axe, Mich.—Apply one part red iodide mercury and eight parts lard once a week.

**Warts.**—My 12-year-old mare has two hard lumps in mouth, one in front of grinders the other on upper lip—each about the size of a hickory nut. M. C., Shepherd, Mich.—Have bunches cut out. Dissolve 1 oz. borax in a pint of water and apply to sores twice a day.

**Sore Shoulders.**—I have a pair of horses that have sore shoulders which I am unable to heal. W. H. B., Lewiston, Mich.—Dissolve 1 dr. of permanganate of potash in one quart of a pint of water and paint sore once a day.

**Weakness.**—My 16-months-old bull appears to be sluggish and indisposed and does not promise to be a good stock bull. I have been feeding him ensilage, clover hay, cornstalks and grain, and I might say that he has been running with my cows. E. J. H., Lapeer, Mich.—I do not believe it a good plan to let the herd bull run with cows, especially if any of them are in heat. Give 1 dr. of ground nux vomica, ½ oz. of ground ginger, ½ oz. of ground gentian at a dose in feed two or three times a day and discontinue feeding him ensilage.

**W. F. H., South Boardman, Mich.**—Writes me that some time ago he had trouble with pigs choking when they went to eat, and he gave them a teaspoonful of turpentine in some milk daily for three days and the trouble stopped. Neighbors of his put turpentine in the swill a few times and had no more trouble. (Doubtless if their fits were caused by worms, turpentine is one of the common and none too expensive remedies.—Ed.)

**Piles.**—My hogs have been troubled with piles and I would like to have you give me a remedy. Have been feeding them three or four ears of corn each once a day and have also fed equal parts of corn and oats. J. B. C., Mendon, Mich.—Piles are very often the result of constipation; therefore if the bowels were kept more open, this nasty ailment would be avoided. Dissolve ¼ lb. acetate of lead and 3 ozs. of tannic acid in a gallon of clean boiled water and apply to tumors two or three times a day. In my practice I often find it necessary to remove a portion or all of the tumors on bowel, using a clamp and knife-shaped red hot iron to burn them off.

**Mange.**—I have a young hound whose legs are sore from the knee down. They itch and he licks them continually. The hair is off and the skin is wrinkled and appears as if blistered. I have treated twice a day with a mixture of lard and sulphur but this does not seem to do any good. S. F. H., Milford, Mich.—Apply one part iodine and 24 parts vaseline every day or two until the itching ceases. If your dog suffers from follicular mange and the case is chronic, you will never be able to cure him.

**Snagged Breast—Ringworm.**—Have a 12-year-old horse that was snagged in breast last spring and she is sore and stiff. Our local Vet. says she will not recover. I also have a steer troubled with sores on heels. M. A. G., Bellevue, Mich.—Are you sure that there is no foreign body in breast which keeps wound from healing? Apply tincture iodine every day or two to breast; also paint sores on steer's heels with tincture iodine three times a week.

**Indigestion.**—I have a brood sow that bloats after meals. E. L. C., Cheboygan, Mich.—Give her a half teaspoonful of hyposulphite soda in feed two or three times daily.

**Stomach Worms in Horses.**—I have a horse that has been troubled for some time with stomach worms and the remedies I have given him have done no good. F. W., Goodrich, Mich.—Give 2 ozs. of turpentine in 20 ozs. of raw linseed oil once a week for three weeks.

C. G. PHILLIPS  
THE WOOL  
FAT MAN

# TRY This Big Can on 20 Days FREE TRIAL



## Save Your Horses Save Your Cows

A postal brings it, postpaid. All you need to do is simply say, send me your big can of Corona Wool Fat on 20 days' FREE trial. Use all or part of it—test it on one or more animals suffering from cuts, wounds or sore feet of any kind. If it don't do all I claim—if you don't feel perfectly satisfied after the test you won't owe me one penny.

I make this liberal offer simply to prove before you pay that Corona Wool Fat is the greatest healing preparation for horses and cows you ever used.

## Corona Wool Fat

"Heals Without a Scar"

Corona Wool Fat is now used by more than 1,000,000 stockmen, horse owners, blacksmiths and farmers. It causes no pain, no blistering, no scars. Stops inflammation—cures QUICK. The only remedy that will penetrate a horse's hoof and take out soreness. Will grow a new hoof.

### Send No Money, Just a Post Card

If you have never sent for a trial can of Corona Wool Fat simply write me, giving your name and address plainly and I will send you this big can postpaid, by return mail. All I ask is, if satisfied after 20 days' trial, that you send me 50c. If not satisfied, write and say so—you won't owe me one cent. Send today. Mention adment you intend to use it on.

C. G. PHILLIPS, Manager

**The Corona Mfg. Co.**  
48 Corona Block  
KENTON, OHIO

It heals Barb Wire Cuts, Sore Shoulders, Old Sores, Ulcers, Wounds, Sore Teats of Cows, takes out the soreness of inflamed udders.

Corona Wool Fat heals Quarter Cracks, Sand Cracks, Grease Heel, Thrush, Corns, Mud Fever, Contracted Feet

CANT PLAY POSSUM WITH A SABO TRAP



For Skunk Possum Coon Mink Wood-Chuck Etc.

Here Mr. Trapper, is a trap which is placed in the animal's burrow; requires no bait and is positively sure-catch first trip in or out.

Our free booklet explains this wonderful trap; shows how to increase your catch and profits with saving of time and labor; shows how to make trapping a business proposition. Write for booklet today. Agents wanted.

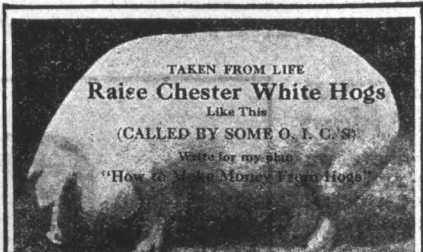
**SABO TRAP MANUFACTURING CO.,**  
3120 W. 25th St., Cleveland, Ohio

## The All-Around Jersey

is the farmer's cow. She's his friend and pride—the beautiful, gentle, ever-paying milk machine that lifts the mortgage, builds up the fertility of the farm, and puts the whole business on a sound, paying, permanent basis. She adapts herself to all climates and all feeds and does not need fancy care. She matures early and lives long. And she's so sleek, clean cut and handsome, as to be the family pet and pride. She produces well and sells well. Learn about her in our fine, free book, "About Jersey Cattle." Write for it now.

**THE AMERICAN JERSEY CATTLE CLUB**  
346 West 23d St., N.Y. City

## HOGS



I have started thousands of breeders on the road to success. I have a very large and fine herd. Every one an early developer, ready for market at six months old. I want to place one hog in each community to advertise my herd.

G. S. BENJAMIN R. No. 10, Portland, Michigan

**Berkshires**—Three nice spring gilts bred for May farrow, one Boar ready for Service. Fall Pigs either sex. Priced for quick sale. RIVERVIEW FARM, R. 2, Vassar, Michigan.

**Registered** Chester White males and females. Reg. Holstein male calves, herd bull and cows. Farham's Pedigree Stock Farm, Bronson, Mich.

**Chesters and O. I. C's.** Sows bred for March and April farrow. F. W. Alexander, Vassar, Michigan.

**Capitol Herd—D. J. Swine.** Young sows bred, young boars, pigs both sex. Express prepaid. J. H. BANGHART, Lansing, Mich.

**Chester Whites:** Long type prolific kind. Orders booked for spring pigs. Write your wants. Meadow View Stock Farm, R. 5, Holland, Mich.

## DUROC JERSEYS

Choice Spring boars and fine lot of gilts we are breeding for Spring farrowing from Michigan Masterpiece and other noted boars. Prices reasonable. The Jennings Farm, R. 1, Bailey, Mich.

**DUROC JERSEY BOARS** a choice lot of spring boars. Fall pigs, pairs and trios not akin. W. C. TAYLOR, Milan, Michigan.

**Duroc Jerseys**—Fall and spring pigs either sex, from choice strains. S. C. STAHLMAN, CHERRY LAWN FARM, Shepherd, Michigan.

**J. W. KEENEY, Erie, Mich.** Gilts for April farrow. D. M. & T. Local from Monroe or Toledo, Keeney Stop.

**Duroc Jersey Boars** of the growthy, heavy boned type, also a few gilts. Inspection invited. E. D. HEYDENBERG, Wayland, Mich.

**DUROCS** of the best of breeding. April farrow. Either sex. The gilts will be bred for Apr. farrow. Price \$20.00 to \$25.00 while they last. H. G. KEESLER, R. No. 5, Cassopolis, Mich.

**DUROC Jerseys, Yearling Sows & gilts** bred for Apr. farrow to a son of Orion Cherry King the greatest Boar of his breed. Also fall pigs either sex. F. J. DROD, R. 1, Monroe, Mich.

**DUROC Jerseys**—A couple of choice gilts bred for Apr. farrow. Also an extra good spring boar. Send card for price, etc. E. R. CORNELL, Howell, Mich.

**Duroc** Jerseys for sale—a few choice fall pigs of either sex. Fancy Buff Rock cockerels. JOHN MCNICOLL, Station A, Route 4, Bay City, Mich.

**DUROC Jersey, Mar. gilts** bred for April. Sept. pigs either sex and Holstein bull calves & 4 Registered Holstein cows. E. H. MORRIS, Monroe, Mich.

**Heavy Boned Durocs**—A fine bunch of Bred sows and fall pigs For Sale. M. A. BRAY, OKEMOS, (Ingham Co.) Mich.

**DUROC JERSEYS** Boars and sows all sold. Some good fall pigs either sex for sale. Wm. W. Kennedy, R. 3, Grass Lake, Mich.

**Durocs** yearling sows and gilts bred for Apr. farrow. Aug. Boars. Booking orders for Spring pigs at wean ing time. E. J. ALDRICH, R. 1, Tekonsha, Calhoun Co., Mich.

**DUROC JERSEYS**—A few bred gilts for sale. Carey U. Edmonds, Hastings, Michigan.

**For Sale**—A few of these big bone Duroc Gilts, bigger and better than ever. Safe in pig to an Orion boar. Prices from \$25 to \$40. Also tried sows and a few boars cheap. F. A. LAMB & SON, CASSOPOLIS, MICHIGAN.

**Will Buy 10 Bred Sows** or gilts, Duroc Jersey. Also 20 fall pigs, gilts. Quote price delivered at Pavilion, Michigan. Grand Trunk Ry. F. W. WAIT, Sturgis, Michigan.



**Registered O. I. C. Swine** Stock For Sale—All Ages Correspondence Solicited, Visitors Always Welcome Brightside, Grand Lodge, Mich.

**O. I. C. Bred Gilts** Choice 100 lb. Pigs \$16. J. CARL JEWETT, Mason, Mich.

**O. I. C's** Fine gilt farrow in February, yearling, bred, sows, price right. A. R. GRAHAM, Flint, Michigan.

**O. I. C. SPRING BOARS** of good type and Red Polled bull calves. John Berner and Son, Grand Lodge, Mich.

**O. I. C.** choice serviceable boars; bred gilts for April and May farrow; Fall pigs not akin. Write for low prices and photo. A. V. HATT, Grass Lake, Mich.

**O. I. C's.** All sold except one July boar and a few Oct. pigs. C. J. THOMPSON, Rockford, Michigan.

**Way Brothers Stock Farm.** The home of the big bone O. I. C. Hogs. Stock for sale. Registered free. J. R. Way, Three Rivers, Mich.

**O. I. C.** serviceable boars, tried sows, gilts bred for March and April farrow, summer and fall pigs. I pay express. G. P. ANDREWS, Dansville, Mich.

**O. I. C.** Gilts bred for March, April and May farrow. Recorded in buyer's name. H. W. MANN, Dansville, Michigan.

**O. I. C's. Strictly Big Type.** Four boars fit for service, four July boars, 25 Spring gilts, four fall yearlings, four tried sows, all bred for Spring farrow. Also fall pigs not akin. Extra good ones. As I am crowded for room, this good stock will be sold at Farmers' prices. They are good enough that I will send them C.O.D. & record them free. Newman's Stock Farm, Mariette, Mich. R. 1.

**O. I. C. and CHESTER WHITE SWINE** Big type with quality. We have the undefeated breeders young herd at seven State fairs this year. They were sired by Abo 2nd, one of our many good herd boars. Special prices on all boars for the next 30 days. Get a Gilt bred to the Great Schoolmaster, the highest priced boar of the breed, Champion over champions. Write for our big catalogues with history of the best herds in the whole country. Come and see them. Rolling View Stock Farms, Cass City, Mich.

**O. I. C.** Choice Spring boars and bred Gilts. We pay Express and Register free. Glenwood Stock Farm, Zeeland, Michigan.

**Registered O. I. C's.** Attractive prices on fall pigs and last spring gilts. All from large litters. Elmer E. Smith, Redford, Mich.

**O. I. C's.** 20 bred sows for sale. 8 last April gilts averaged 270 lbs. Jan. 10, 1916. They are a very growthy lot. Have some May gilts and last fall yearlings, also a few service boars and plenty of last fall pigs. Otto B. Schulze, Nashville, Mich.

**O. I. C.** Choice gilts bred for April and May farrow. Also last fall pigs of excellent quality. A. J. BARKER, ADA, MICH. R. No. 3

**O. I. C.** Sows bred for March and April farrow. Priced to sell, from best of stock. Write for photo and pedigree. E. B. MILETT, Fowlerville, Michigan.

**O. I. C. SWINE** choice gilts strictly O. I. C. type bred to farrow the forepart of May, also fall pigs price right. Stock registered in purchaser's name free of charge. A. J. Gordon, R. 2, Dor, Mich.

## POLAND CHINAS

From our thousand pound Grand Champion Boar and Big Stretchy Sows of best breeding. Spring Boars at a bargain. Bred Gilts and Brood Sows. Hillcrest Farm, Kalamazoo, Mich.

**Big Type** Poland China Brood Sow Sale Sat. Jan. 29th. 50 Sows bred for spring litters. My offering excels any offering ever offered at public sale in the State. Write for catalog. WILLIAM WAFFLE, Coldwater, Michigan.

**BIG TYPE P. C.** Either sex, pairs or trios not akin. Bred sows and gilts. Have several 1000 lb. boars prospects. Absolutely no larger breeding. Everything guaranteed right. FRANK KRUGER, Ravenna, Mich.

**POLAND CHINA** gilts bred for March and April farrow. Fall pigs, satisfaction guaranteed. G. W. HOLTON, Kalamazoo, Michigan.

**POLAND CHINAS** of the big type, Spring boars, Gilts bred for April farrow. A. A. WOOD & SON, Saline, Michigan.

**Large Strain P. C.** a few choice boars of spring and early summer farrow. A choice lot of spring Gilts bred for spring farrow sired by Big Defender the boar that every body goes wild over. H. O. SWARTZ, Schoolcraft, Michigan.

**Large Type P. C.** Gilts and sows bred for Mar. and April farrow. Bred by Big Des Moines, Big Knox Jr. and Giant Defender. Bred to Big Knox Jr. Smooth Wonder 3 and Big Jumbo, four greatest boars in state. Come or write. W. E. Livingston, Parma, Mich.

**Big Type Boars** all sold. Have several good Gilts bred to Smooth Jumbo Jr. Top Boar of J. D. Collin Sale. Priced right to go quick. A. D. Gregory, Ionia, Mich.

**BIG Type** Poland China Gilts, bred to a good son of Wonderful Wonder. He sold in Iowa for \$825. This will lease you. Robert Martin, R. 7, Hastings, Mich.

**For Sale Poland Chinas** either sex, all ages. Something good at a low price. P. D. LONG, R. F. D. No. 8, Grand Rapids, Mich.

**Heavy Boned** Poland Chinas. Both sex and all ages at bargain prices. Also, B. P. Rock Cockerels. ROBERT NEVE, Pierson, Michigan.

**POLAND Chinas**—Big and medium type. Gilts bred to big type boars for April farrow. Fall pigs, either sex. L. W. Barnes & Son, Byron, Michigan.

**REGISTERED** Poland China Spring Boars and Sows at \$15 each. Making this special price to make room for others. A. G. Meade, Stanton, Mich., Colby's Ranch.

**Big Type P. C.** Bred sow sale, Feb. 18th. Write for Catalog. W. J. HAGESHAW, Augusta, Michigan.

**BIG type** Poland Chinas—Western bred, large bodied, Bextra large bone, pairs or trios not akin. We have Peter Mauw, H. Fessenmeyer and Geo. Marshall breeding. Call or write. W. Brewbaker & Sons, Elsie, Michigan.

**Large Yorkshires** Gilts bred for spring farrow. Service boars. Pigs all ages. Prices Reasonable. W. C. COOK, Route No. 1, ADA, MICHIGAN.

**"Jones Pays the Freight"** Yorksires Pay the Mortgage. Bred Gilts for March and April farrowing. Meadowland Farm, Waterman & Waterman. Ann Arbor, Mich.

**Mulefoot Hogs**—Fall Pigs, Brood Sows and Gilts. Young service Boars. Pairs not akin. Write for prices. C. F. Bacon, R. 3 Britton, Mich.

**Hampshire Hogs**—Nothing for sale but Apr. Boars. Taking orders for spring pigs. Write your wants. John W. Snyder, St. Johns, R. No. 4, Mich.

**Hampshire Swine.** Pigs of both sex. Bred Sows, Service boars. Write for prices. Price to sell. FLOYD MYERS, R. No. 9, Decatur, Ind.

**HAMPSHIRE Swine.** The great pasture hog. Select herd headed by a mammoth son of the Great "Look Out." Have a few bred sows and fall pigs for sale. Booking orders for spring pigs in pairs and trios, not akin, at reasonable prices. Geo. E. Starr, Grass Lake, Mich.

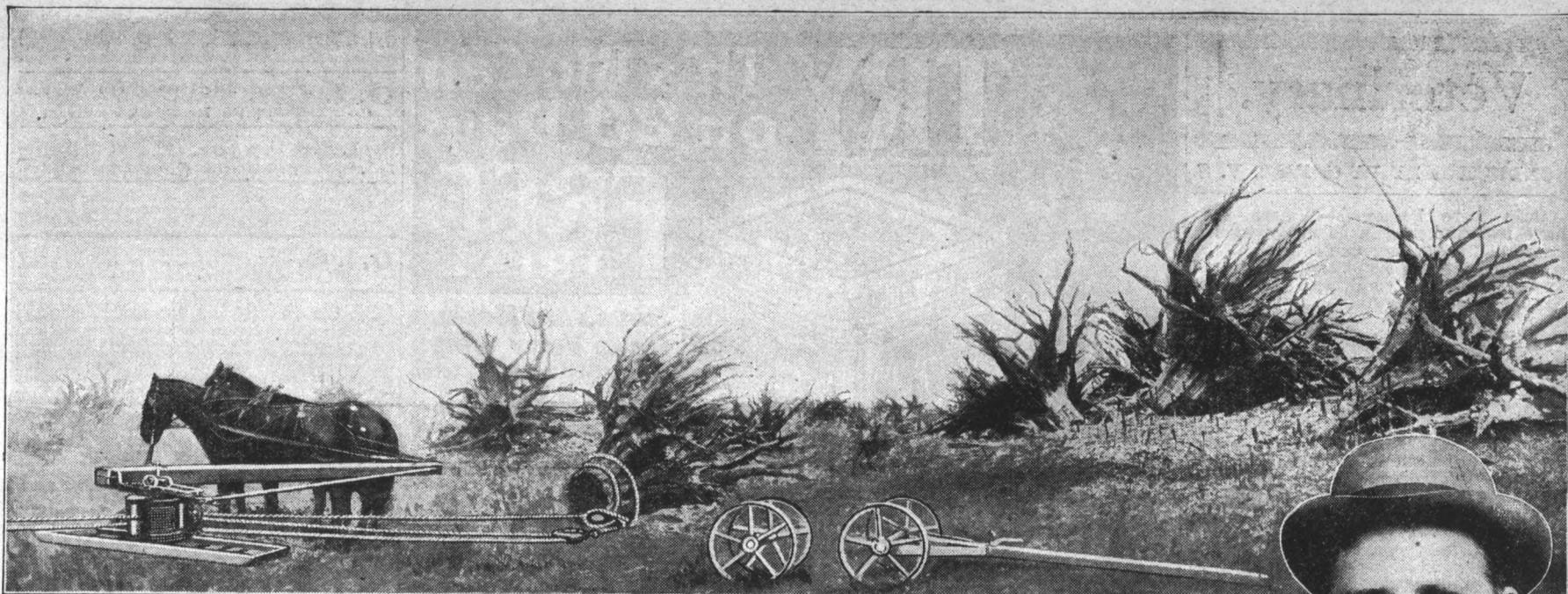
## SHEEP.

**Oxford Down Sheep.** no stock for sale at present. M. F. GANSSLEY, Lennon, Michigan.

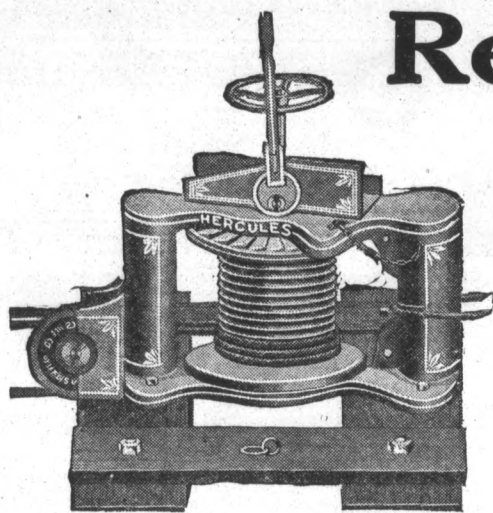
**Leicesters**—Yearling and ram lambs from Champion stock of Thumb of Mich. Also select Berkshire swine. Elmhurst Stock Farm, Almont, Mich.

**Shropshire** Registered bred ewes, also ewe lambs. These are first class sheep at reasonable prices. G. P. ANDREWS, Dansville, Michigan.





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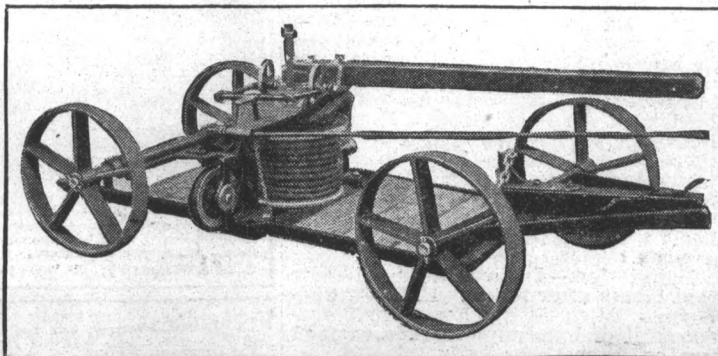
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