

# MICHIGAN FARMER

AND  
**LIVE STOCK**  
PUBLISHED WEEKLY.

**JOURNAL.**  
ESTABLISHED 1843.

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

VOL. CLI. No. 14  
Whole Number 4013

DETROIT, MICH., SATURDAY, OCTOBER 5, 1918

\$1.00 A YEAR  
\$3.00 FOR 5 YEARS

## Building Up the Bee Industry

BEE-KEEPERS in this country are facing a critical situation. The loss of bees in some parts of the north amounted to seventy-five per cent last winter, and this loss has not been made up during the summer. Never before have bees cost so much. In some instances, market gardeners have paid \$30 a colony for bees to use in their cucumber houses, the price in ordinary years being \$10 or less. Much feeding that should have been done during the summer has been omitted owing to the difficulty in getting sugar. Unless considerable feeding is done this fall, and extraordinary care given to the wintering of the bees, the number of colonies will be still smaller next spring.

As though to make good the old saying, however, that there is no great loss without some small gain, the government has made an important concession to bee-keepers by admitting bees in pound packages to the mails. Two years of effort on the part of bee men were required to accomplish this result, and the decision came when it was hardly expected. The bee-keepers, though, had a powerful argument in the face that early in the spring the postal authorities consented to the shipping of day-old chicks by mail. There seemed to be no good reason why Uncle Sam's postal army should not handle bees by the pound as well as chickens by the hundred.

The business of sending bees from the south to northern apiaries, including those of Canada, has taken on greater proportions than is commonly realized. This year the demand has been greater than ever before. Many orders have remained unfilled. Bee-keepers who had expected to make up for their losses by the purchase of southern bees have been disappointed. Even when orders were filled, the bees frequently did not arrive at their northern destination until July, which was much too late for building up satisfactory colonies. Furthermore, great numbers of bees shipped by express arrived dead. As soon as parcel post

*Honey Makes the Best Substitute for Sugar. It is Unfortunate for the Bee-Keepers, as Well as for the Public, that the Shortage of Bees Should Come at a Time When the Demand for Honey is Abnormally Great.*

shipments were permitted, the bees were received in much better condition. Postal charges are much heavier than those of the express companies, but the prompter delivery offsets this fact. It makes no difference how much bees may cost if they are dead bees.

It shouldn't be supposed that bees in any sort of package can be shipped through the mails. It is specified that the shipping packages must have double walls so that the bees cannot sting through. Special shipping boxes designed for parcel post use have been put on the market. It is a great help to expert bee-keepers in the north to be able to buy bees in pound packages when they can get them early in the season. If their demands had been met promptly this year, the number of colonies in the northern states would have been much larger than it is. The plan is not a good one for amateurs who have had but little knowledge of bee ways. It is better for them to stick to the purchase of bees in full colonies.

The amateur bee-keeper, though, has taken on increased importance in the eyes of the government. He is being looked to to help in resuscitating the bee-keeping industry in sections where it has languished. In the aggregate, the amateur bee-keepers of the country constitute an army of honey producers. Although they cater mostly to the local market, they supply much of the demand, allowing the crop produced by commercial bee-keepers to be handled in a wholesale way.

Losses among amateurs are more likely to be heavy than among more expert bee-keepers. It is exceedingly important that these losses be minimized the coming winter. The first colonies to perish are naturally those

that are weak, for even while they may have sufficient stores, they will not be able to generate heat enough to keep the hive warm. For that reason weak colonies should be united before cold weather comes. During the honey flow the inmates of two hives can be put together without causing any disturbance, but if this is attempted without some preliminary work when the bees are idle, trouble is certain to follow. Bees always seem willing to fight when they cannot work and they are quickly aroused by any proceeding which will make it possible for other bees to feed on the fruits of their labors.

Probably the simplest way to unite two colonies of bees in the fall is to place one hive over the other, with a thickness of newspaper between them. Have the hives face in opposite directions. By the time the bees have gnawed through the paper, they will be willing to live together in peace and harmony.

Whatever plan may be followed, it is usually best to kill the poorer queen although two queens may be left to battle for the mastery. When two hives are placed one above the other, it is a common plan to kill the queen in the top hive after three days. It may be well to kill both queens and substitute one which is younger. In the fall several weak colonies may be united, one after the other, so as to make one strong hive. The necessity of having young queens can hardly be overlooked. New queens will be substituted in time by the bees themselves, but meantime the colony is likely to degenerate. Queen bee prices have lost all stability this season. Probably a good queen, though, can be purchased in most sections for \$1.50.

Regardless of prices, though, make sure that you purchase a good Italian queen. Black bees can be Italianized by using an Italian queen. Italians have been found altogether the best all-round bees, especially those of the leather colored type.

It is an unfortunate fact, from the bee-keepers' standpoint, and from that of the public, too, for the matter of that, that the shortage of bees should come at a time just when the demand for honey is abnormally great. The natural result has been a decided boom in the price of honey. In fact, honey never sold before for the prices to be obtained now, if anyone has honey to sell. It is freely predicted that extracted honey will be selling the coming winter for fifty cents a pound or more. Last season's crop has practically been exhausted for months. A great amount of honey has come in from Cuba, Porto Rico and South America, but it is not to be compared, as regards quality, with that produced in this country. Nevertheless it has sold for twice as much as prices formerly charged for the finest American quality. Extracted honey has retailed for about any price which the seller chose to charge. Wholesale prices have climbed from six to ten cents to eighteen or twenty cents, and even more. Honey makes the best substitute for sugar, which fact has stimulated the demand. Moreover, large amounts are being sent across the water. It is said that three ships having honey as their exclusive cargo have sailed from New York within the past year. Honey is used to a large extent in the hospitals, and is also issued as a ration, it is said, to some of the allied troops.

Because of the fact that extracted honey is more economical to produce than comb honey, the government has asked bee-keepers everywhere to run their bees, so far as possible, for the extracted article. Of course, some professional bee-keepers with extensive apiaries, equipped wholly for the production of comb honey, could not read-

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## The Michigan Farmer

Published Weekly Established 1913 Copyright 1918

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39 to 45 Congress St. West, Detroit, Michigan  
TELEPHONE MAIN 4355.

NEW YORK OFFICE—381 Fourth Ave.  
CHICAGO OFFICE—111 W. Washington Street.  
CLEVELAND OFFICE—1011-1015 Oregon Ave., N.E.  
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#### TERMS OF SUBSCRIPTION:

One Year, 52 issues.....\$1.00  
Two Years, 104 issues.....\$1.75  
Three Years, 156 issues.....\$2.50  
Five Years, 260 issues.....\$3.00  
All sent postpaid.  
Canadian subscription 50c a year extra for postage.

#### RATES OF ADVERTISING

45 cents per line agate type measurement, or \$6.30 per inch (14 agate lines per inch) per insertion. No adv't inserted for less than \$1.35 each insertion. No objectionable advertisements inserted at any price.

Member Standard Farm Papers Association and Audit Bureau of Circulation.

Entered as Second Class Matter at the Post Office at Detroit, Michigan, Under the Act of March 3, 1879

VOLUME CII.

NUMBER FOURTEEN

DETROIT, OCTOBER 5, 1918



## CURRENT COMMENT

### The Bean Situation

EVERY Michigan bean grower who can arrange to do so should attend the bean growers meeting, called at Saginaw for October 10-11. Those who cannot attend should communicate with the county agent in their county, give him all available information regarding the crop, including the acreage, yield and quality, and ask him to represent them at the Saginaw meeting.

The outcome of this meeting is certain to be most important to Michigan bean growers. While it may not, under present conditions, attempt to determine the price at which the crop should sell, it will enable the formation of a close estimate of the extent and quality of the crop and afford an avenue of expression, to the Food Administration as well as to the organized bean dealers of the state, on production costs and other important points.

In view of the trend of past events and present tendencies, it is quite possible, if not probable, that the price of this year's bean crop will be determined by the Food Administration, through the indirect influence of purchases for army use if not by direct control measures. In this event it is conceivable that the percentage of profit which the dealer can take will be fixed.

But this would not mean much if dealers were permitted to fix handling costs on the basis now in vogue. The bean dealers speak loudly in praise of what the standardization of bean grades has done for the bean industry of the state. This is good camouflage for the methods of applying their system to the bean grower, who is docked whatever his sample picks, plus the cost of hand-picking the number of pounds docked, notwithstanding the fact that perhaps fifty per cent or more of the culls are removed at very low cost by mechanical pickers and the grower is paid nothing for the cull beans, which have a very definite value under present conditions. This sys-

tem has always worked to the disadvantage of the grower, but in case a plan is adopted whereby the dealers are given a definite percentage of profit, above the cost of handling, the continuation of this practice would be still more objectionable.

### The Cider Apple Market

THE present Michigan vinegar law, enacted in 1913, provides that no vinegar shall be sold or exposed for sale as apple or cider vinegar which is not the legitimate product of pure apple juice. This law, if adequately enforced, is not only a protection to consumers, insuring them a pure article in the purchase of cider vinegar, but as well a protection to the apple growers of the state by insuring them a market for their cull fruit. It appears, however, that the letter of this law has been violated and its spirit evaded by the sale in this state of what is known as skin and core vinegar, manufactured from the refuse of apple driers, re-inforced in most cases by the addition of acetic acid to bring the product up to the legal strength.

Competition with this product, shipped into the state from eastern points, was not a reassuring prospect to Michigan manufacturers of pure cider vinegar and threatened to greatly curtail, if not destroy the market for Michigan cider apples this fall.

Following an investigation of the alleged violation of the Michigan vinegar law in the manner above noted, which left no doubt regarding the fact that this so-called skin and core vinegar was being shipped into the state and sold as cider vinegar, the Michigan Farmer appealed to the State Food and Drug Commissioner for a rigid enforcement of the law.

The commissioner at once responded to the appeal with the statement that in view of the favorable outlook for the forthcoming apple crop in Michigan, the vinegar law would be enforced vigorously and energetically.

With such an enforcement of the vinegar law there should be no lack of a good market for Michigan cider apples this fall. In any locality where a good market is not available individual farmers can make their own cider and make it into vinegar. The prohibition law permits them to so make vinegar for sale, but where a good market is available for the raw material most farmers will prefer to sell their cider apples.

### The Live Stock Problem

THE difficult situation with which many Michigan farmers are confronted at the present time in the matter of forage and grain for the maintenance of their live stock, particularly in sections where drouth was severe or where the

late June frost injured the corn crop, is brought forcefully to our attention by letters from many farmers seeking advice as to how the problem can best be solved.

Typical of this situation is a letter from a loyal American farmer with two sons in government service and a third in training camp. This man has twenty head of cattle, and faces the prospect of buying hay at exceedingly high prices to maintain them. He feels his inability to purchase sufficient hay to maintain this herd of cattle at present prices and also buy Liberty Bonds, and is facing the alternative of sacrificing his herd or permitting his neighbors to call him a slacker because he is doing all he can to keep his cattle for future production.

While agriculture is undoubtedly our most essential resource for the winning of the war, the maintenance of any branch of agriculture which in an individual case is not on a sound economic basis will not in the end contribute to the resources of the country either in war or in peace. Consequently, while it is every man's duty to produce as much food stuffs as possible in the present emergency, his regular program of production should properly be varied where necessary to fit local economic conditions. While the live stock industry is generally conceded to be an essential factor in successful agriculture, yet as an emergency proposition it may well be made a less important factor than under normal conditions where circumstances do not permit it to be continued on the present basis without serious financial loss.

## Nip the Grab

*If Certain Millers in Michigan are Profiteering in Wheat this Grab Should be Nipped as Soon as Possible; Milo D. Campbell, Michigan Member of the Agricultural Advisory Commission, Advises Farmers to Hold their Wheat Until the Government Can Aid Them.*

I HAVE been astounded within the last few days to learn the price at which farmers in this community are selling their wheat. This morning I learned that the Milling Company in this city is paying but \$2.05 for as fine wheat as ever grew in this county. It is graded as No. 3 Red, however, by the Milling Company.

I learn that at some nearby points they are paying as high as \$2.12 per bushel.

Now, there is a huge swindle somewhere between the farmer and the consuming public that must be hunted out.

The government that fixed the price to the farmer for the 1918 crop now being marketed fixed the same at \$2.26 at Chicago and increased the price farther east until the New York price was fixed at \$2.39½ per bushel.

The law reads that "he (the farmer) shall receive for any wheat produced, in reliance upon this guaranty within the period, not exceeding eighteen months, prescribed in the notice, a price not less than the guaranteed price therefor as fixed pursuant to this section."

Every reliance has been placed upon this guaranty, and there is no excuse or reason why the price should not be paid everywhere as fixed by the government.

The Agricultural Advisory Commission, consisting of twenty-four members, recently spent some days at Washington considering the price that should be fixed for the 1919 crop. There were seventeen members present representing the entire country. The commission was unan-

imous that the price for the 1919 crop should be \$2.46 per bushel. This was a compromise, for it was shown that the cost of production at present is at least twenty-five per cent higher than in 1917 when the 1918 crop of winter wheat was sown. (Two-thirds of all wheat in the country being winter wheat).

The President thought best, however, to fix the price at \$2.26 the same as for the 1918 crop. He did so with the promise that he would later further investigate and raise the price if found just to the farmer.

But here is the immediate necessity for action on the part of the government to see that the minimum price be realized by the farmer for his 1918 crop.

I am going to Washington this week to take the matter up with Food Administration officials.

A monstrous fraud is being covered somewhere, and to the advantage of some profiteering interests, that may find the heel of justice a little unpleasant to bear.

There is no immediate necessity for the farmer to sell his wheat to these gorging profiteers at this time, for the elevators of the country are full.

Let him wait a few days or weeks if he has storage, and see if the government will not help him to realize the price promised for his 1918 crop.

I cannot yet believe that the government is deaf to an appeal for justice or forgetful of its promises.

These things are being done without the knowledge of the government and because there is no one to act for the farmers.

### Delivering the Dairy Message

IN the present emergency, production must be speeded up on American farms. The most effective way of injecting speed and interest into dairying is by analyzing the present situation and contrasting one's methods with those of the leading dairymen of the world.

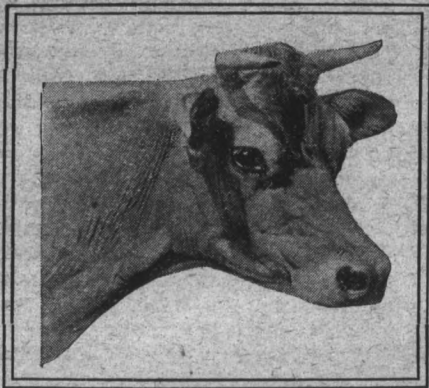
We believe that the best method of delivering the dairy message is through the National Dairy Show, where there is in course of preparation such an exhibition as has never been presented to the people of America. In addition to the features which have characterized former dairy shows, talented men and women selected by the United States government will be in charge of exhibits and demonstrations in dairy work, home economics and infant welfare that so couples up the dairy cow with the great war problems of humanity, as to give her products a national standing among sanitary and health authorities not universally enjoyed at the present time.

Youth and maturity are both involved in the efforts to deliver the dairy message to the people of America, so do not deny the boys and girls the opportunity to visit the National Dairy Show and observe what is going on in the world about them. The quick response of the mind of youth when once attention is secured, is the delight of those who have a message to deliver. Boys and girls do not buy and equip dairy farms, but they do understand, and they do cherish plans that, as men and women, they will soon bring to realization. When it is possible, as at this time, to present the dairy message in its vital relations to agriculture, human health and patriotic service, then it falls upon productive soil. High sounding words in praise of patriotism, will be translated into plain words about better cows, better sires, better feeds, better equipment, better farming, better products and all that is implied in the message of better dairy farming.

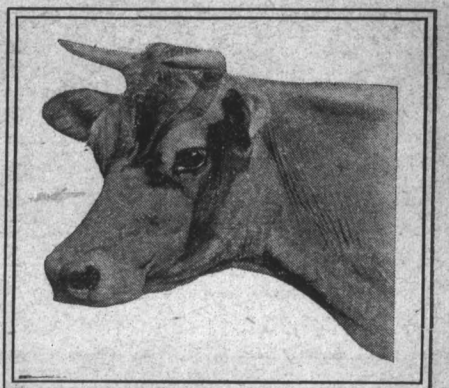
We believe that every progressive dairy farmer in Michigan could profit, both educationally and financially, by arranging for himself and his family to attend the National Dairy Show at Columbus, Ohio, on October 10-19, inclusive.



# Pure Dairy Feeds for Less Money



*The Time is Past When Dairymen Can Depend Upon Hoover to Furnish Them with a Road Map to Get Them Out of the Labyrinth of Feed Prices. They Must Blaze a Trail for Themselves if They Save the Industry from Going on the Rocks.—By C. B. Ford.*



**Y**OU Michigan dairymen who have a lot of faith in Professor Anderson ask him to fix up a ration which, besides being well-balanced, is flexible enough to give the manufacturers a chance to take advantage of fluctuations in the market prices of grains and meals. Then every mother's son insist upon getting feed mixed according to your fixed standard and accept no other brands.

For example, if Prof. Anderson suggests a guaranteed analysis of twenty-four per cent protein, four per cent crude fat, forty-five per cent carbohydrates and not more than ten per cent of crude fiber, the maker of feeds can shift around within the limits shown in the following list which goes into the ration: One hundred to 600 pounds of ground oats; 100 to 500 pounds of ground barley; 100 to 400 pounds of corn-feed meal; 100 to 500

pounds of oilmeal, 100 to 800 pounds of gluten feed, 100 to 600 pounds of wheat bran, 100 to 500 pounds of brewers' dried grains, 100 to 500 pounds of cottonseed meal, 100 to 800 pounds of hominy.

Of course, the price of this standardized feed will vary according to market conditions, but your association members will get minimum prices. You will also be able to get standard by-product feeds, such as bran, middlings, cottonseed meal, gluten and hominy in whole or mixed carlots at wholesale prices.

Establish a central feed office where all formulas can be passed on and arrangements made with reliable manufacturers and local feed dealers who desire to handle these feeds under the rules laid down by your association. Let these manufacturers submit prices each week to their local dealers and your central office. Whenever the price goes up or down fifty cents per ton notify your members. Then you will be able to do just what the chain stores in the city are doing in buying and handling food stuffs. One dairy-

man cannot make his voice heard in talking with feed manufacturers and dealers, but multiply this one dairyman's voice by ten thousand and you will see a different situation in Michigan as regards dairy feeds. It is time that we showed up some of these fellows who, like Big Bill of Berlin, are attempting to boss everybody.

Let your local feed dealers act as association purchasing agents whenever possible. If they refuse to cooperate with you give one of your members the job. Sell to non-members, but charge them enough so they will be glad to become members of your association. Set a fair maximum price to be charged for the feed, at say \$3 per ton above the wholesale price at the time the purchase is made. If a member takes a whole carload, pays cash and removes the feed directly from the car give him a discount of \$2.50 per ton. If he buys less than a carload, pays cash and removes the feed directly from the car give him a \$2.00 cut from the regular price. And if he pays cash and takes his feed from the storehouse within five days

after the arrival of the car, give him \$1.00 a ton off.

The scheme should be to have all feeds shipped in carload lots to cut down freight bills and also to make the best use of freight cars, which are scarce at the present time. The purchasing agent should plan to order extra feed enough to keep the cars full and have enough on hand to supply those who happen to run short between the arrival of carlots. Such an arrangement would not only insure the farmers better prices, but they would get a guaranty that the feed manufacturer is pretty sure to live up to if he knows what is good for his business. Feeds that meet the requirements of Prof. Anderson's formula could be made by different manufacturers under different brands, but all must bear the endorsement of the Michigan Milk Producers' Association.

## Balancing Supply and Demand---By R. G. KIRBY

**I**N planning crops the farmer should study the law of supply and demand as it applies to the agriculture of his community. Even in time of war this law cannot be ignored. For example a city farmer, inspired by patriotism rented land and planted it to turnips. He reasoned that in war time every kind of food would be in great demand. He raised a large crop of turnips and found no demand for them in his community; the market was supplied. The grocers in the city had little demand for turnips. The law of supply and demand was working and the crop was unprofitable.

The farmer can safely base his plans on the established practice of the community. A new idea may be fine but possibly it has been tried and found unsatisfactory. Farmers who conduct their business along established lines will find that they are really catering to supply and demand.

This year, wheat is a crop that a farmer can grow with safety because of the demand. Men who produce wheat know that there is no risk in finding a market. They know that wheat is in demand the world over. The growing of beans, livestock and staple crops is safe because of the demand.

Some farmers find it pays to grow crops for nearby canning factories. The demand is there and will create a market for their crops. In a section without a canning factory the farmer cannot raise a large amount of certain crops without risk because of insufficient demand.

Some inexperienced observers criticize farmers because they follow more or less in the ways of their fathers. Sometimes it is called "in a rut." More often it is common sense farm management. Many good farmers have discovered that the risks of farming are great enough without growing crops which are not in demand.

A dairyman who starts with pure-

*That Democracy Shall Live--Buy Liberty Bonds*



bred stock is playing safe if he selects a breed adapted to his community. He can sell his surplus easily at good prices. More of his neighbors may purchase a bull calf from him. The community association may hold auctions which will bring many buyers from distant states who will pay good prices for animals. If he selects a breed less popular in the community he will have less chance to make money because there will be less demand for his stock. That is why certain Holstein and Guernsey centers are prosperous and build up national reputations. That demand makes the business successful. If a breeder came into such a section and attempted to build up a herd of a different breed his chances of success would be greatly reduced because he ignored the demand for pure-bred stock of the breed already popular in that community.

The poultryman who specializes with a popular breed will stand more chance of success than one who selects a fancy breed, seldom seen within miles of his home. There will be a demand, because the breed is popular. The rare breed is not in demand; consequently sales of breeding stock and hatching eggs will be difficult to obtain.

The popularity of Rosen Rye and Red Rock wheat are examples of this law. Farmers are learning the merits of these varieties and consequently the demand for them is good. Farmers who study demand and plan to furnish the supply, can make their farming more profitable, while those who experiment with crops of unknown value will make little progress.

In fruit growing the demands of the buyers must be carefully considered. Certain varieties of apples are in demand and command good prices. Other varieties are more difficult to market. Mixed orchards do not attract buyers like solid blocks of standard varieties.



# Potato Crop Exceeds Five Year Average

THE farmers of the country have produced a big crop of potatoes this year. The crop does not equal that of last year, which broke all records for the United States, but it is twenty-three million bushels over the five-year average of 1912-1917, according to the best information available at the present date. A good acreage was planted this year, especially in the northern and northeastern states, although the northwest shows a decrease. The growing season has been only fair in many sections, considerable dry weather having damaged the crop in important commercial sections, but in spite of this, it seems that we are going to have enough potatoes to go around.

## Minnesota First.

THERE is a good crop of potatoes in Minnesota this year, according to growers and shippers at most of the big producing points, although the crop is somewhat less than last year. Minnesota is one of the biggest potato producing states in the country and according to the government report for September will have the largest crop of any state in the Union, leading New York slightly, which had the biggest crop last year.

North Branch, Minn.—There will be about 500 cars of potatoes for shipment from here this season, the crop being estimated at seventy per cent of last year and thirty per cent of normal. The early crop is of fine quality.

Big Lake, Minn.—There will be about 200 cars of potatoes here this season, the crop being fully up to normal and about ninety per cent compared with last year. Quality of the stock is good.

Nashville, Minn.—The potato crop here is about ninety per cent of normal but is 120 per cent compared with last year. There will be 250 cars for shipment. The potatoes are in good condition and of good quality.

Harris, Minn.—The potato crop here is about half as large as a year ago, 200 cars being estimated for shipping. It is about sixty per cent normal. The quality of the early varieties is good.

Barnesville, Minn.—The potato crop here is ninety per cent of normal and 100 per cent compared with last year. There will be 200 cars for shipment. The quality is good and potatoes are of average size. We will have about an average crop, smooth but not too large, and fine for seed stock.

## New York Second.

ESTIMATES of the condition of the potato crop in Western New York have been badly upset by the rather heavy frost of September 11, which covered a good part of the state and varied all the way from a trace in some localities, doing little damage, to a "black" freeze in others, killing the potato vines to the ground. It is still too early to say with certainty just how great damage has been done. There is usually a tendency to overestimate frost damage in the early fall but even with inclination to be conservative, there is no denying that the crop in this territory has been cut short thousands of bushels by the frost.

There is much sentiment among the dealers generally to grade potatoes more carefully than last season. Further, the New York Potato Shippers' Conservation Association, of which Francis G. Ferrin, of Rochester, is secretary, is behind a well-organized plan to obtain better shipping facilities. A special committee, including J. L. Schultz, Skaneateles; J. H. Wayne, Cortland; L. J. Loomis, Sr., Victor, has been appointed. This committee will take the matter up direct with the Federal Railroad Administration in Washington, asking for restoration of fast freight service, permission to again use perishable freight cards, and appointment of federal agents to inspect shipments at point of origination similar to the system already tried out in Colorado, the shipper to pay the expense.

Atlanta, N. Y.—The potato crop here

## *This Year's Crop, However, is Considerably Below Last Year's Production. Reports from the Leading Potato Growing States.*

is ninety per cent of normal and twenty per cent compared with last year's yield. There will be 300 cars for shipment. The crop has been hurt by dry weather.

Bliss, N. Y.—There will be about a fifteen per cent decrease in the potato crop here over last year, twenty cars being expected for shipment, which is eighty per cent of the normal output. Stock will be undersized.

Gainesville, N. Y.—The potato crop here will be sixty-five per cent (early ones), and late ones if not frost bitten will be eighty per cent of normal. As compared with last year the crop will not exceed fifty per cent. There will be thirty or forty cars for shipment. The quality is excellent but they are small.

Ionias, N. Y.—There will be about eighty-five cars of potatoes to ship from here this season. The crop is sixty per cent compared with last year and is seventy per cent of normal. Dry weather has cut down the yield.

Salem, N. Y.—The potato crop here is fully equal to last year's with 150 cars expected for shipment, and is about eighty per cent of normal. Quality of the stock is good.

## Wisconsin Third.

WISCONSIN is one of the important potato states. The crop always is a leading one and this year is no exception. There will not be as many potatoes as last year, but this condition is shown in other states as well, and taking into consideration all factors in the lead this year, a fine out-turn is expected. The government

September report places Wisconsin third in the list of potato yielding states this year, only Minnesota and New York being put ahead.

Stevens Point, Wis.—There will be about 500 cars of potatoes for shipment from here this season, the crop being estimated at eighty per cent of last year and ninety per cent of normal. Quality is very good; potatoes are not as large as last year.

Plover, Wis.—The potato crop here is about seventy per cent of normal with seventy cars for shipment. Among the late potatoes will be found stock of good quality and some which has suffered from blight and green hoppers. The early potatoes are about fifty per cent.

Necedah, Wis.—There will be about 400 cars of potatoes for shipment from this town this season. The crop is estimated at ninety per cent or more of normal and about the same as last season. Crop looks good but at this writing rain is needed.

Calvary, Wis.—The potato crop here is about the same as last year, 100 per cent normal, and there will be about five cars to ship. With rain the quality will be good. We did not ship any potatoes to speak of last year—only 2,000 bushels.

## Michigan Fourth.

ACCORDING to reports from growers and shippers, the potato crop at many points in Michigan is smaller this year than last. However, a pretty good crop is expected, taking the state as a whole. According to the September government report, this

state is the fourth in production this year, standing well up with Wisconsin, New York and Minnesota, the only three states which promise a larger crop.

Cadillac, Mich.—The potato fields are in excellent condition and the size of the crop will depend upon the length of the growing season. The stand is perfect and no frosts have hurt the crop so far. Although dry and hot weather has reduced the early crop most of the late crop is being benefited by recent rainfalls. Potatoes will begin to move quite freely in a week or ten days from many of the shipping points in Michigan.

Alpena, Mich.—There will be about 150 cars of potatoes shipped from the county this season, the crop being equal to last year and ninety-five per cent of normal. Quality and condition of potatoes is good. Drought is not serious. Little tip burn, no blight. Yield in some fields is cut down perceptibly by blackleg and wilt.

Houghton, Mich.—The potato crop here is ninety per cent of normal and 110 per cent compared with last year. About fifty cars will be shipped out of here. The quality is excellent and especially free from disease.

Gaylord, Mich.—The potato crop here is about ninety per cent compared with last year and eighty-five per cent of normal. Present estimates are for about 230 cars for shipment. Two more weeks of fair growing weather will finish the crop in fair shape.

Hamilton, Mich.—There will be about ten cars of potatoes to ship from here this season. The crop is not nearly as good as last year and is about fifty-eight per cent normal. The quality of the stock, however, is good.

## Maine Fifth.

Reports from Maine indicate a better crop than last year. This is borne out by the government September report which places the Maine crop at 23,117,000 bushels against 20,250,000 bushels last year and 25,500,000 bushels in 1916. Some of the reports received from growers and shippers in that state follow: Augusta, a normal crop; Bradford, 20 cars; Caribou section, 2,000 cars, better crop; East Newport, smaller, 50 cars; Fort Fairfield, 25 per cent increase; Fort Kent, 600 cars, larger crop; Foxcroft, 75 cars, smaller; Goldenridge, 150 cars, increase 25 per cent; Houlton, better crop; Lincoln, better crop, 60 cars; Ludlow, 100 cars, decrease; Norridge-wock, 75 cars, better crop; Oakland, same, 100 cars; Patten, better yield, acreage less; Presque Isle, 90 per cent of 1917; Ripley, 50 per cent increase; Sangerville, 20 cars, 75 per cent better; Sherman Station 400 cars, 50 per cent better; Waite, 100 cars, better crop; Winthrop, 25 per cent better crop.

## Pennsylvania.

Reports from growers and shippers at various points give the following estimates: Berlin, 25 cars; Cherryvale, 90; Cochranton, 15; Everett, five to six; Franklin Corners, 10; Linesville, 25; Slatington, 100. Reports also are printed from Carlton, Conneautville, Sugar Grove, Penfield, Millers-town, Newsville, East Prospect, and other points. The state is a big consumer of potatoes and its shipping surplus to outside points is cut down on account of the big population.

## Ohio.

The government gives the Ohio potato crop at 10,397,000 bushels on September 1, compared with 16,000,000 bushels last year and 6,300,000 bushels in 1916. Ohio consumes most of her potatoes. The condition percentage is given September 1 at 60 against a ten-year average on the same date of 72. Some of the reports printed elsewhere and furnished by growers and shippers are: Ankeytown, 12 cars to ship; Dola, five to ten; Hollansburg, five; New London, 30; Ravenna, 20. Reports are also printed from Lodi, West Salem, Beverley, New Carlisle, Sandusky, Pemberville and other points.

(Continued on page 319).

## Hold Your First Lines

*Pres. A. M. Smith of the Potato Growers' Association Advises the Growers to Stick Together Until the Present Movement Develops Into a Farmers' Organization of Power and Influence.*

COOPERATIVE associations for handling the farmer's produce are as yet in the experimental stage so far as western Michigan is concerned. That such a method of handling the products of the farmer and fruit grower have been eminently satisfactory in southern Michigan and in other states is a fact well known to students of marketing methods. The oft repeated saying, "farmers will not stick together" is disproved today, by the successful operation of fruit growers' associations, potato growers associations and grain companies composed exclusively of producers in this and other states.

That the new cooperative companies organized in western Michigan and connected with the central selling associations located at Cadillac, and known as the Michigan Potato Exchange, will be most successful, the writer firmly believes, else he would not have urged their formation by both voice and pen.

However, there are some duties and plans to be made ahead of us and many obstacles to be overcome, and I wish to point out some of them.

First, each association should be thoroughly organized and every member it is possible to secure should be obtained. A strong membership insures a heavy volume of business necessary to cover all expenses.

Then a careful estimate of expenses and probable volume of business should be taken on all transactions. It is better to have a surplus of profits than a deficit, for the surplus can be distributed at the end of the year, whereas a deficit discourages and is difficult to explain and adjust.

There should also be strict economy of administration. Under the plan to have the central association do the selling it is not necessary for each local association to employ a high-class salesman, or even a specially qualified man. A good board of directors to advise a manager and keep tab on him is necessary, but be careful of employing too high a salaried manager and assistants.

Watchfulness of the overhead expenses necessary as these can be large or small, according to the wisdom and business ability of the manager.

Then last, but not the least, comes the element of loyalty on the part of members to their association. Members are pledged to sell to their association and the bylaws of the associations require that they do this. But competitors will try to get business and wreck the associations and the only way to stop that kind of work is by strictest regard for the moral obligation to care for one's own association and if necessary by enforcement of by-laws by the board of directors.

Let each member of an association remember that the association is his association and that when he does anything against it he is working against his own business interests as well as against his neighbors.

Personally, I believe the farmers will "stick," and that the present movement will grow into a mighty farmers' organization, the character of which will be determined by the development of business organizations made up of and managed by farmers.

A. M. SMITH,  
President Potato Growers' Assn.



# Save the Old Orchard

*No Farm is Complete without an Apple Orchard. How to Prevent the Ravages of Enemies which are Destroying Apple Orchards.--By W. F. Taylor.*

SCATTERED over a goodly portion of southern Michigan are old orchards varying in numbers of trees, in varieties of fruit and in conditions of vigor. The greater number of these orchards are slowly but surely dying. Their owners are crowded with work, harrassed with care and discouraged with the prospect of further profits from apple trees. In fact, thousands of farmers have concluded to let their orchards die and then to dig them out, burn them up, forget them, and devote the land to other purposes.

The home in which there are no apples throughout a long winter surely lacks something. A very little time wisely expended would save orchards from the scale and the results would simply justify the expenditure of time and money. Lime and sulphur can be used effectively. If the owner of one of these infested orchards will expend seven dollars, he can probably procure a barrel next spring and if he does not need it all he can spare it with his neighbors. It will not be necessary to have a power pump, a good hand pump will answer nicely, but the first thing to do is to prepare the trees for spraying. Nearly all of these old orchards have been neglected so long that pruning must necessarily precede effective spraying. I am sure it will be found impossible to spray thoroughly to the height of more than twenty feet. This means that all the trees higher than twenty feet must be cut back to that point. This also means that a number of large limbs will have to be removed. All cuts should be made near the base of a limb in order that they may heal more readily.

We used to think it necessary to paint all of the larger cuts, but at



A Good Apple Orchard Adds to the Value and Attractiveness of Farm Property.

present there is an honest difference of opinion about this matter and considering the scarcity of labor on the farm, I would much rather omit painting the limbs than to neglect cutting them back. Doubtless the top that remains will be too full of brush to admit of very thorough spraying, but it is probably unwise to prune the trees too severely and were I obliged to cut off many of the higher limbs, I would omit the thinning of the top except where branches were very dense, until the following spring.

Many have failed to control the scale because they have not sprayed thoroughly enough. Scale multiplies very rapidly. If only a few are left alive after the spraying there will be plenty of them by the end of the season. They are liable to be anywhere on the limbs and the only way to make sure work of them is to cover every

bit of the surface of the tree. Again, many have sprayed with too weak a solution. If trees are badly incrustated with scale, seven gallons of good lime sulphur mixture in fifty gallons of spray is not a bit too much. We cannot pass without saying that the only sure way for the beginner to get results is to spray with the wind, spraying one side of the trees first and the other side later when the wind changes. Then, too, he must not be in a hurry. He must think while handling that rod and be sure that the spray penetrates every bunch of limbs and completely covers all of the surface. Warm days in the latter part of March are admirable for this purpose. If the scale are killed the trees will live, but they will still be exposed to apple scab and the fruit will be liable to attack by the codling moth. Scab by and wormy apples are better than

none at all, and if the orchard cannot be given the later sprays which will insure it against these pests, the owner may still have fruit, but it is always desirable to carry out the entire spraying program if it can be done, and in a majority of cases the old adage will apply—where there's a will there's a way.

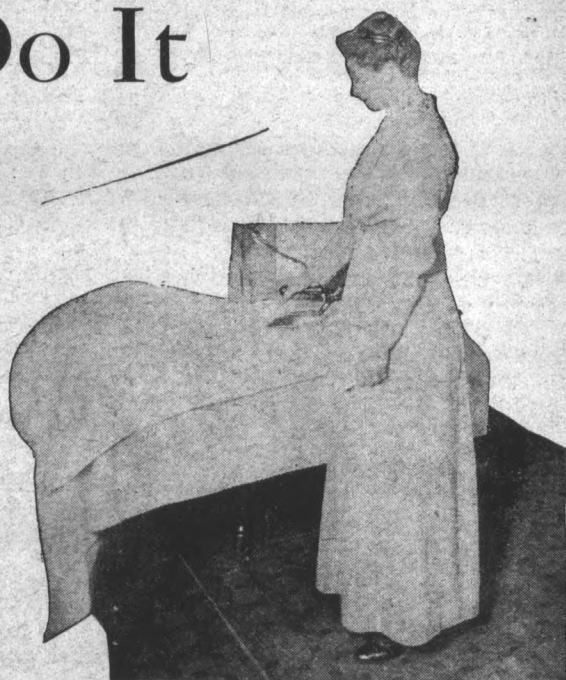
Apple scab sometimes prevents the production of a crop of apples. It is a fungous disease. The spores, which are the seeds, lodge on the stems of the blossom buds and on the buds themselves, and taking root thus early they often prevent the setting of the fruit. Sometimes the scab developing thickly on one side of the apple prevents the growth of that side. Sometimes it but slightly injures the growth and again it merely makes the fruit unsightly. It can be perfectly controlled if spraying is thorough enough. It must be admitted, however, that there are some years in which it is far more difficult to control it than others. The development of all fungus diseases depends largely upon the weather conditions, but back for a moment to the question of the destruction of the tiny apple by the scab. I think it is not too much to say that at least in one year out of five the greater part of the apple crop is destroyed in this way. The only way to prevent it, is to spray the trees just before the blossoms open, that is called the "pink spray." We use a weak solution of lime and sulphur, generally a quart of the concentrated mixture in ten gallons of water. If it is desired to use an insecticide with this mixture, two pounds of arsenate of lead may be added to fifty gallons of spraying material when it is ready for use. If the

(Continued on page 309.)

## Let Electricity Do It

By DEBORAH

*The Burden that Was on this Little Old Man's Heart is Common to Thousands of Rural Folks Here in Michigan. Many Have Thought the Woman's Labor Problem Through and Have Gotten the Same Solution. Our Households Usually Lack the Pairs of Hands that May be Found in an European or Oriental Home and so We Must Solve our Vexed Question in an American Way.*



HE tiptoed into the booth where electric light-power-water plants were being demonstrated at the West Michigan State Fair—a little old man, somewhat bent and wrinkled, not at all 1918 in his sartorial adornments, but with a shrewd look about his kindly, faded blue eyes.

"Are you the boss?" he whispered to the manager. "Then sell me one of these here outfits quick, and don't you ever let my good wife know how much it cost me. I've got her busy over here watching them girls from the Agricultural College make biscuit, and I'm just cutting loose while she's off my trail. You see," he continued in a whisper, "Mother and I have

worked like slaves all our lives and we don't have to do it any more. But she can't seem to see it. I want to spend some money, and live like folks, but mother is afraid that we are going to die in the poorhouse. I've just been dying for a bathtub for years and we could just as well have had it long ago as not, but my good woman would never hear to it. Today I give her the slip and I've picked out my tub and all the fixings for the whole house, even down to the laundry tubs, and they're all paid for. Now I want you to fix me up with lights and water before she gets onto me. But for the love of mercy don't you ever let her know what you ask for these

things. If she comes along asking you just put her off. You'll know her. She has on a black coat and a brown hat." And before the astonished manager could even mention prices, the old man had his checkbook and fountain pen out and was busily filling in the date.

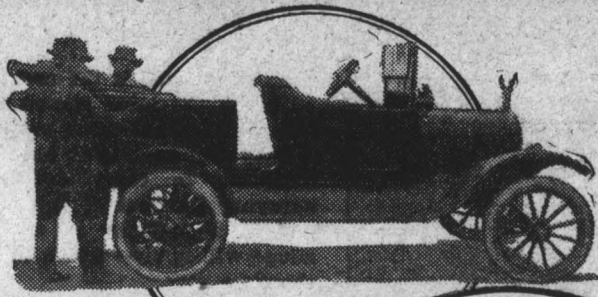
I am not about to write an article praising the merits of this particular dynamo, nor of any other, but rather a brief for electricity and a hearty praise of the man who "wanted to live like folks." There are many more farmers like him, who are kept from buying modern conveniences by over-prudent wives. And probably more wives who are deprived of the untold

help of electricity and running water by over "near" husbands. If either could be made to see, not alone the great increase in efficiency, comfort, strength, help and leisure, but the actual saving in money by the use of electric power more farm homes would be fitted up with it before the winter sets in. If I were asked to choose between running water and furnace heat, or electric power and equipment, I'd not hesitate a second to choose electricity. Father and the boys could carry water and fill woodboxes and build fires, but I can't imagine them ironing or sweeping or doing the family washing. Nor could I do all three

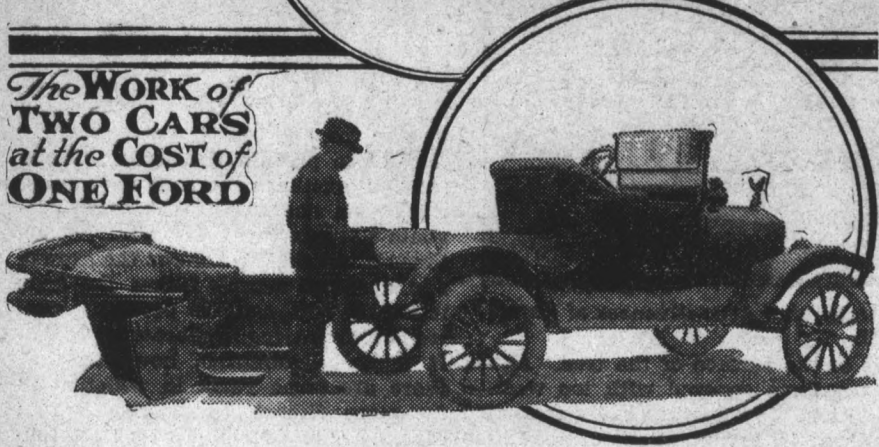
(Continued on page 310.)



# IMPORTANT to FORD OWNERS



**The WORK of  
TWO CARS  
at the COST of  
ONE FORD**



The Ford Motor Company will make no more passenger cars during the war.

Your patriotic duty to get more use out of your Ford is, therefore, more emphatic than ever.

The Heath DUPLEX Folding Delivery Body makes the Ford do the work of both passenger car and truck. It changes the Ford from one to the other in 60 seconds.

The Heath DUPLEX attaches permanently to your old or new Ford touring car.

Once installed, it changes the Ford, without tools, in 60 seconds, into a strong, and serviceable delivery car.

Another 60 seconds changes the Ford back into a passenger car.

Every farmer who can make a "two-in-one" use of his Ford—who now uses it for carrying goods as well as passengers, should see how the Heath DUPLEX does the work of two cars at the cost of one Ford.

The Ford dealer or some other dealer in your nearest town will show you how the Heath DUPLEX adds hundreds of pounds of capacity to your Ford at small expense.

He will show you how it does away with carrying goods in your Ford tonneau.

He will show you how, with the Heath DUPLEX, you no longer need a separate car for trucking.

He will show you how you can easily make a Heath DUPLEX pay for itself in a month's time.

One demonstration will convince you that you cannot afford to go another day without a Heath DUPLEX Folding Delivery Body.

Write for further information and nearest place where you can get a demonstration

**MCCORD MANUFACTURING COMPANY,**  
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Makes a Ford a Truck or Passenger Car in 60 Seconds



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## Solving the Labor Problem

EXPERIENCE in our community this summer has demonstrated the fact that with cooperation on the part of townspeople, the scarcity of labor can be largely offset.

The farmer can plant more crops than he can harvest. Modern machinery helps out in this respect materially. A greater length of time can be taken to plant crops than can be used in harvesting them, consequently, the farmer limits the area of crops planted to his estimate of what can be harvested on time. If assured of cooperation from townspeople at the time of harvesting, he can plant a larger acreage. For instance, a farmer and his family with the assistance of a tractor to extra horsepower can plant a larger acreage of crops than the same help can harvest. He needs extra help in harvesting and threshing. There is no longer extra day labor to be found in Michigan; they have either gone into the army or to work in manufacturing plants. The farmer studies the problem carefully before he decides to increase the area of food crops.

But if he can be assured by the business men of his nearby town that

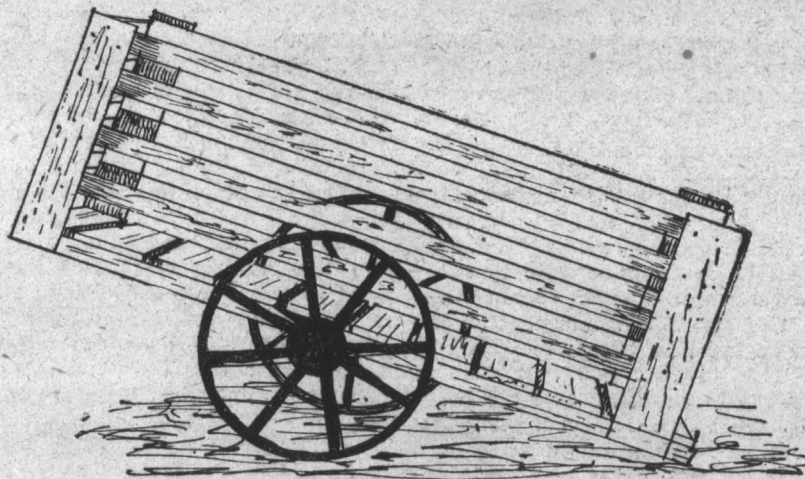
chases that ought to be made at home.

If it wasn't for the sadness and the horror of the casualty lists which are coming back, this war would be one of the greatest things for unifying and bettering the citizenship of these United States that possibly could happen.

### FALL PLOWING TO KILL WIREWORMS.

Wireworms are slender white grubs of a yellowish white color and have very hard bodies. They are the young larva of the click-beetles or snapping beetles, so-called from the fact that upon their backs they will suddenly bend their bodies and with a sharp clicking sound throw themselves for a considerable distance into the air. They are among the most troublesome crop pests and as they live underground it is very difficult to combat them.

Many experimental measures for killing or controlling them have been tried in various parts of the country. There have been many methods recommended for controlling these pests, but



This Stock-Loading Chute is Easily Made and Serviceable.

they will assist him in harvesting these crops, he will plant them. In my own community this year this proposition was successfully carried out. A certain man in the town was given charge of furnishing extra labor to farmers during harvesting and threshing. When a farmer needed any extra help he called this man up and stated the conditions and in numerous instances labor was furnished and was satisfactory. In a number of instances during our pea harvest extra men were furnished by the town, not only to assist at the vining stations but in harvesting the peas. The farmer and his boys, and in many instances, his women folks, put in the crops, but they could not harvest them on time.

There is such a war sentiment today that this idea can be depended upon as long as the war lasts. Townspeople are willing to assist the farmer to get sufficient food. It seems to me that this spirit of the townspeople cannot be commended too highly. It is co-operation which is extremely patriotic because ordinarily we would not expect the laborer or the business man in the town to leave his business to assist the farmer. Ordinarily, it would not be good business because it would be favoring agriculture, but now when this industry is such an important factor he does this extra labor for the good of the cause. The farmer is able to produce more products which will sell for profitable prices at the present time, but the laboring man and the town man are willing to assist because the food is needed for the boys "over there." And I believe that this broad spirit which the business man is showing will bring about a better understanding between the townspeople and the farmer, and be a means of getting together so that hereafter there will be less complaint about the farmer going elsewhere to make pur-

very few of these have met with any success at all. The method that proved to be the most successful was by fall plowing. The wireworms live for three years in the larva stage and when the fall plowing method is applied it only kills the wireworm beetles for the following spring. When they are full grown they change to the soft white pupae stage during the month of July of their second year of growth. This pupae state lasts till about the middle of August and then the insect assumes the adult stage. When the adult stage is reached the insect remains in the ground in this cell till the following April or May. This period of rest is necessary in the life of the beetle, because whenever the ground around them is stirred the beetles perish. By the fall plowing we can kill the beetles and keep them from laying eggs the following season. After the soil is plowed, which should be at least six inches deep, it should be well pulverized by harrowing so that all the cells of the adults will be destroyed. In most cases it will take three years to kill all the wireworms because only the adults are killed each fall, the larvae remaining uninjured.

Newaygo Co. A. M. PORTER.

### EXPERIMENT STATION TO ISSUE QUARTERLY FOR MICHIGAN FARMERS.

The first issue of a publication to be known as "The Experiment Station Quarterly," made its appearance at M. A. C. recently. The new periodical, of which the experiment station is the publisher, will contain reports on the progress of experimental work at M. A. C. This work consists in the study of the many problems with which Michigan producers have to contend and attempt to solve. The bulletin will be mailed without cost to the 40,000 farmers who are on the college's mailing list, and to such other individuals as may request it.

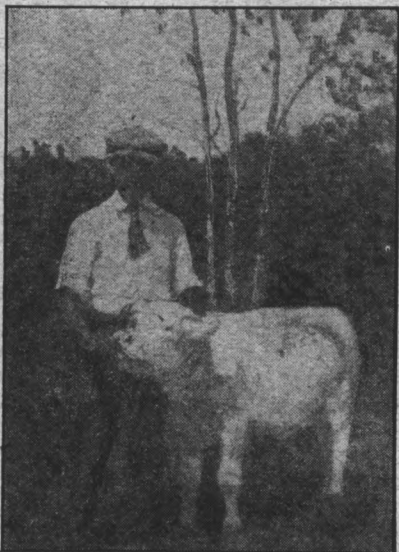


## Feeding Down Cornstalks

**T**HIS problem of turning the live stock in the corn field after husking is an old one, and has been discussed for many years. We find advocates on both sides, but why not consider the subject at this season, for certainly there is good reason to do so. Already the cornstalk disease has claimed its large number of victims. Only last week I received a letter from a man who had lost twenty-five head on a small patch of corn. As he puts it, this would have purchased and built five silos, or four silos and plenty of good equipment in the way of machinery. Thousands of men all through this country are in the same position. They have lost the cattle but lack the silos.

It is not a waste to leave some of these stalks in the field, for truly, there is very little nutriment in the dry, hard stalks. Nine out of ten who turn in the stalk field, leave the cattle there too long. After the few stray ears and nubbins have been gleaned there is little left but indigestible fodder, which the animals will eat if forced to, but which does them little or no good and often is a great detriment.

With dairy cows, we emphatically challenge anyone to show a benefit from this method of feeding. The exposure to the cold winds, the scratch-



A City Lad Making Friends on the Farm.

ing of the udder and teats by the stalks and blades, the lack of nutriment in the forage and the consequent tramping over a large section tend to shrink a cow and put her in a poor condition for a profitable winter milker.

If you must feed down the stalks do it with dry cows, young animals, bulls or stock cattle, and even in this case, do not compel them to stay on these fields too long or make it their only ration.

Many feeders of fattening cattle make a grave mistake by forcing their animals to eat this food, which is an unbalanced ration to begin with, and which is not sufficiently supplied with nutrients to warrant gains. This causes a shrinkage in the fall and before the animals are taken off the stalks the damage is done. They must then feed a month or more to gain back what they have lost and they would have done better had they left the stalks to catch the winter snows.

Tests and experiments have clearly shown that this method of feeding is unwise and unprofitable. Why not use the modern way of making the corn into silage or storing it in shocks, and if you must feed down some stalks use animals which will not be damaged by a shrink.

A. L. HAECKER.

The German military autocracy must disappear from the earth. On this point the whole world and the best elements of the German nation itself are agreed.



## The Farm Labor Army decreases as the National Army increases

In spite of the labor shortage *more* food must be produced—*more* acreage must be put under cultivation. *More* work must be done by *fewer* men.

There is just one solution,—machinery must fill the gaps in the ranks of farm labor.

Tractors must be used—thousands of them—tractors that will actually *do* the things you *want* a tractor to do—tractors that will work on practically *any* kind of ground—in *any* part of the country.

These are exacting demands but Cleveland tractors by the thousands are meeting them effectively.

They are producing food—in larger quantities than ever before—and are *consuming none of it*.

They are plowing  $3\frac{1}{2}$  miles an hour, eight to ten acres a day and under medium soil conditions are pulling two fourteen inch bottoms. This is equal to the work of three men and three good three-horse teams.

And the work is not only done faster but *better* with the Cleveland.

The Cleveland is an all-purpose tractor that does a wider range of work than is possible with other types. It is the tractor that works successfully on the side hill.

It plows, harrows, sows and reaps. It hauls, does grading and road work, cuts ensilage and does the hundred and one odd jobs which are always to be done about the farm.

It is tractor and stationary engine in one.

The Cleveland is built on the same prin-

ciple as the giant battle "tanks." It crawls on its own tracks, laying them down and picking them up as it goes along. It will work practically anywhere—over rough ground, ditches and hummocks, close up to fence corners, and under small trees.

With 600 square inches of traction surface, it goes through sand, gravel, gumbo, mud and even wet clay. It travels over the newly plowed ground without packing the soil.

The Cleveland is only 96 inches long, 52 inches high and 50 inches wide. It can easily be operated by one man and can be housed in less space than is required for a single horse. It weighs less than 3200 pounds.

Yet in spite of its small size the Cleveland develops twelve horsepower at the drawbar and twenty at the pulley.

The Cleveland Tractor was designed by Rollin H. White, the well-known automotive engineer, and is built under his personal supervision. Only the best materials are used throughout. Tracks and gears are protected from dirt and dust, and the track sections are joined by hardened steel pins which have their bearings in hardened steel bushings.

Every farmer can fill up the gaps in the ranks of his farm labor *profitably*—can help the nation meet the food crisis *profitably*—by installing one or more Cleveland Tractors *now*.

Speed up *your* production. Make more money. Write us for complete information and the name of the nearest Cleveland dealer.

**The Cleveland Tractor Co.**

19021 Euclid Avenue

Cleveland, Ohio

*The largest producer of crawler-type tractors in the world*

# Cleveland Tractor

**"The Best Pumps I Ever Saw"**

"I have three pumps of your make and they are the best pumps I ever saw," writes F. M. Polk, Tobinsport, Ind. No wonder! For they are backed by 69 year's pump-making experience. Remember, we guarantee every one of

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to fully perform the work for which it is recommended. Write today for new free book, "Pumps for Every Service." Ask our Service Dept. to help you. Address Dept. 19.

Goulds Fig. 803 Lift and Force Pump for hand pumping

Goulds Fig. 1604 for pumping water and air into air-pressure water systems

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Farm drainage demands durable tile. Our drain tile are made of the best Ohio clay, thoroughly hard burned—everlasting. You don't have to dig 'em up to be replaced every few years. Write for prices. Sold in carload lots. We are also manufacturers of the famous NATCO Silo, NATCO Corn Crib, NATCO Building Tile and NATCO Sewer Pipe. Send for the new edition of our book, "Natco on the Farm".

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Use care in selecting a fair sample—send to us and we will make you a good bid either cleaned or in the dirt. We have cull beans for sale.

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Thousands of Waterloo Boy tractors are drafted into service to speed up farm work—standing the most drastic service tests in field and belt work.

Its three-plow pulling capacity and 25 horsepower at the belt, easy handling and dependability give it the widest range of usefulness on the average farm.

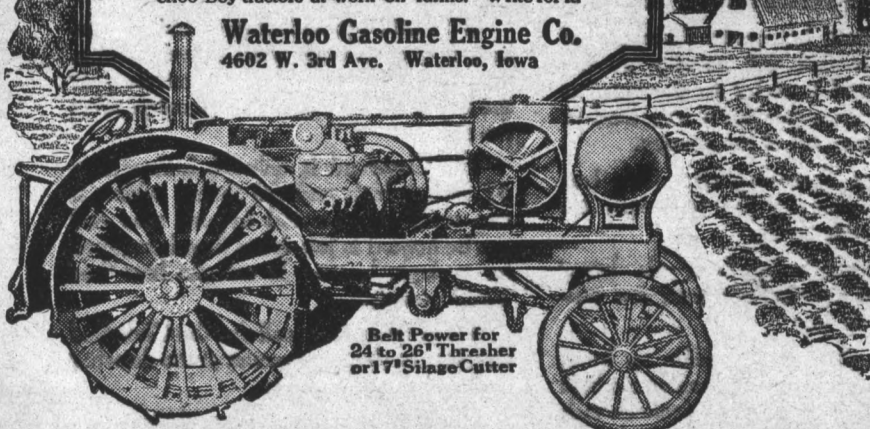
### Stands on the Bedrock of Over 4 Years Proven Success

The Waterloo Boy has long since passed the experimental stage. It has the confidence of the farming world because of exceptional performance in the hands of users.

Powerful, quick-starting motor, perfect kerosene-burning manifold, automatic lubrication, complete and easy accessibility of working parts, are some of the features you will appreciate.

Illustrated catalog, sent free, shows detailed construction and numerous photographic views of Waterloo Boy tractors at work on farms. Write for it.

**Waterloo Gasoline Engine Co.**  
4602 W. 3rd Ave. Waterloo, Iowa



Belt Power for  
24 to 26" Thresher  
or 17" Silage Cutter

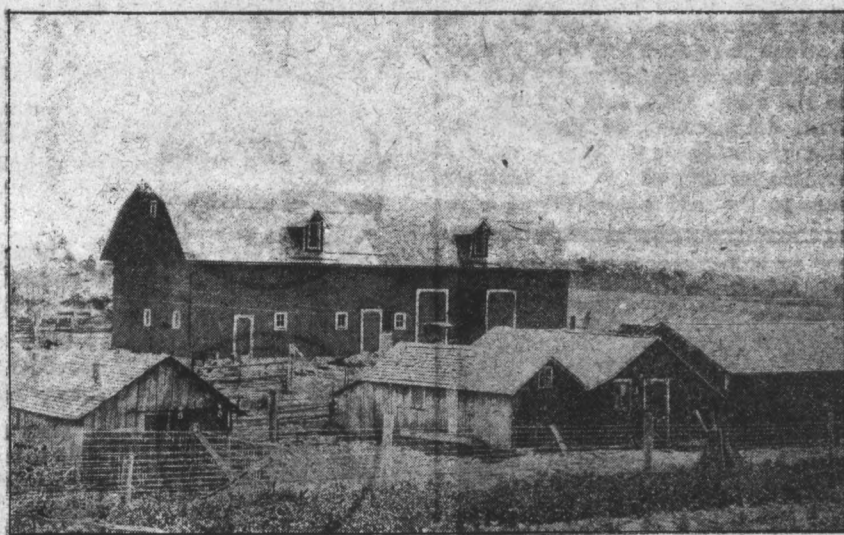
1 Man  
2 Speed  
3 Plow

## Avoiding Calf Ailments

NINE-TENTHS of the common ailments among dairy calves should be prevented by a sensible course of management from the time they are removed from the cows until they are old enough to eat dry grain and hay. Some are so anxious to glean every cent of profit, that they cheat themselves and starve their calves by saving the cream and then compelling the little calves to subsist on skim-milk when they are only a few days old. Some calves do not seem to be injured by such a diet, providing it is fed fresh and warm from the separator, but the calves a few days old have not sufficient strength of digestion to digest it properly, and it passes through the alimentary canal in an undigested condition, and the so-called white scours result. The calf, unable to digest the skim-milk, is simply starving until it is a hopeless proposition. Such a condition could have been avoided by feeding the calf whole milk a few days longer, instead of

poisoned and become victims of gastric fever or dysentery. Some think that sour milk is all the calf needs and by the time the calf is one month old any old kind of milk they may have or get from the creamery vats is fed in any quantity. Then when digestion becomes impaired they crowd rinds of cheese, egg shells and charcoal down the calf's throat. Such kind of treatment may be in line with Darwin's theory of the survival of the fittest, but it seldom results in developing a good dairy cow.

Never compel the calf to nurse some gargety cow that gives feverish and diseased milk unfit for human use. Feed milk from its mother or some other fresh cow until it is, at least, two weeks old, then mix it with one-third skim-milk and gradually reduce the quantity of whole milk until the calf is a month or six weeks of age. Never try to feed a calf cold milk until it is two months old. Always warm the milk to about ninety-eight



Buildings on Charles Strickland's Farm, Barry County.

robbing it of nature's nourishment.

Other feeders find it too much trouble to warm the milk for calves and as a result their stomachs become chilled so that their digestion is greatly impaired, if not ruined. Then the owner dopes the calf until digestion is completely ruined. Others have failed to feed regularly and as a result the calves get extremely hungry and when they are fed eat so greedily and eat

degrees Fahrenheit and never scald it. If the milk is sterilized to destroy disease germs it should be doctored by the use of flaxseed jelly or linseed oil meal. It is better to feed dry grain than to mix the middlings and ground oats with the skim-milk. Some good feeders pour a little oil meal and middlings on top of the milk and the calf drinks it along with the milk more slowly than when the grain is mixed with the milk and settles in the bottom of the pail.

As early as possible calves should be encouraged to eat dry grains and clover hay. At first light rations should be fed and gradually the amount may be increased until at two or three months of age two or three pounds per day may be safely fed. Equal parts of cornmeal, wheat bran and ground oats and half a part of oil meal make an efficient grain ration for the growing calf. When the calves are turned out to pasture, continue the grain ration until they are able to eat and digest sufficient grass to make good growth and maintain good flesh condition. Unless the pastures are unusually good keep up the grain ration until the end of the season. It is the height of folly to attempt to grow and develop good heifers on scant rations of inferior feed stuffs. There is little danger of getting calves too fat so long as proper feed stuffs are used. In fact, a little fat is not at all objectionable. More harm comes from feeding an excess of concentrates and not enough milk, grass and bulky feeds which promote digestion and furnish bone and muscle-building nutrients in the right proportions to maintain the health of the animal. W. M. K.

### The Care of the Heifer

FROM the time the heifers are bred until they drop their first calves is another critical period in the life of dairy heifers, and in most instances they will thrive better if kept away from the older members of the herd. It is better to keep them by themselves for the few months they are with calf on account of the danger from abortion, either through injury by the older cattle or from contagion, as there are very few herds of dairy cattle that are entirely free from this complaint. Contagious abortion is one of the most serious diseases that the breeders of registered dairy cattle have to contend with at the present time.

so much that it tends to upset their digestion until they bloat and perhaps die from the effects. Even though they survive they grow up weaklings and easy prey to other serious ailments.

Some think that any old wooden pail is good enough to feed the calves from. Such pails become breeding places for millions of germ life and ptomaines and the calves are literally

### A Size for Every Engine and Motor

Piston rings prevent escape of gas and power. They must fit exactly or there is compression leakage, excessive carbon, and power loss. The scientific construction of

## McQUAY-NORRIS LEAK-PROOF PISTON RINGS.

assures equal pressure all around the cylinder walls. They are made in all sizes to fit every model and type of engine, automobile, tractor, etc.—every size accurately gauged to fit the particular model of motor.

Your local dealer or garage has—or can get—our data book of piston ring sizes of practically every engine and motor made. This will tell exactly what rings you need. Complete size assortments are carried by more than 300 jobbing and supply houses all over the country from which you can be quickly supplied. Over 2,000 unusual sizes and oversizes—all widths and diameters—are kept constantly on hand at the factory ready for prompt shipment anywhere.

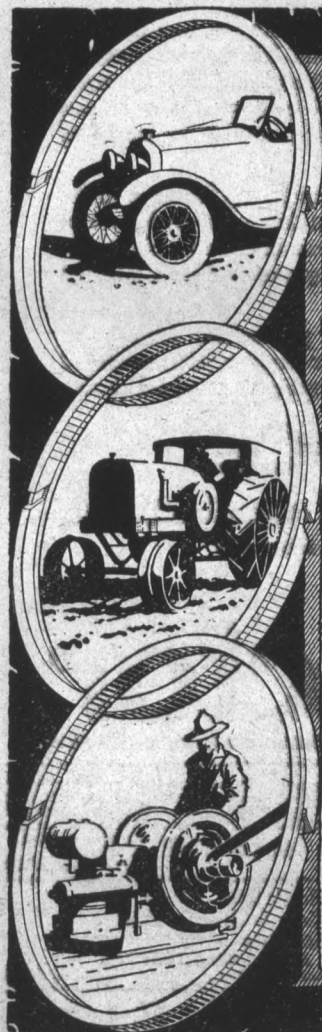
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A special ring for engines that pump oil. Used in top groove only of pistons to control excess oil, with McQuay-Norris Leak-Proof Rings in lower grooves to insure maximum compression and fuel economy.

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"To Have and to Hold Power"—a simple, clear explanation of piston rings, their construction and operation.

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## DRAIN TILE

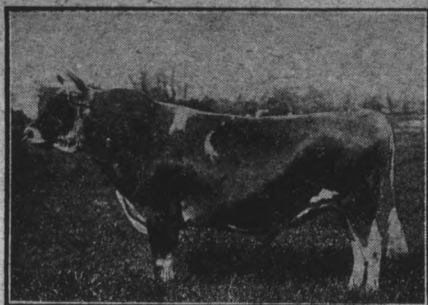
Whether it is a dry or wet season, the tile drained acres produce the best results. It is your patriotic duty to increase your crops. Write today for prices and our booklet explaining tile underdrainage.

### THE CADILLAC CLAY COMPANY

Manufacturers and Distributors—Building Material  
710 Penobscot Bldg., Detroit, Michigan

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## Why Father Got Skinned

THERE'S a farmer in Ohio whose name is Peter Small. Peter Small made a mighty big mistake a few years ago. The mistake cost him over \$10,000. And all he has to show for it is a bump of experience and a lifeless hide.

Peter Small will never make the same mistake again.

Peter Small did not swallow his loss, and selfishly keep his story to himself. He was big enough to tell the dairy world, so that you and I and others would not lose as he had lost.

He took his hide to the National Dairy Show last year, and told the story of his mistake.

In the Peter Small exhibit there were five stalls. Four contained cows placidly chewing their cud. In the fifth there hung the hide of the bull that had sired these cows. He had been slaughtered before Peter Small knew what his daughters could do. That was Peter Small's mistake.

He knows now. He kept a record of his cows after the bull was killed. He found out that they averaged 25,210 pounds of milk, and 977.3 pounds of

TO induce the greatest possible flow of milk in the heifers their calves should be removed from them within three or four days, and they should be carefully trained in the milking habit by a skilled milker, one who understands how to manipulate the udder and stimulate the activity of the cells. With good care, plenty of good nourishing food and a careful milker, the dairy heifer is surrounded by environment conducive to making the most of the feed given her. She is then, and not until then, in a condition to return a profit from her feed.

butter-fat. And he killed the bull that had sired them! He had killed for meat a bull that was worth at least \$10,000. He had found that out too late.

But the National Dairy Show gave it to the thousands of wide-awake farmers, who attended the show at Columbus last year, for nothing.

There were many farmers at the show last year who took the lesson of the \$10,000 hide to heart, and many a good bull was saved to the dairy world. It may be that there will be something equally as valuable for you at the show this year. You won't get it unless you come.

Most men learn best by experience. But the school of experience is a long school and a dear school. So, if you can learn at someone else's expense of time and money, you'll be that much ahead, won't you?

The National Dairy Show this year will be brim full of the thousand-dollar experiences of earnest men in the dairy industry. Why should you go over the same costly ground over which they have plodded in order to arrive at the same result? Why should it be necessary for you to make the same costly mistakes that they have made? Why not profit by their experiences—and attend the National Dairy Show, October 10-19?

# Moline-Universal Makes Wonderful Record at National Tractor Demonstration

*Develops 20 H.P. on the draw bar and we only rate it at 9 H.P. Think of it!*

E. J. GITTINS, CHAIRMAN BACINE, WIS.		H. B. DINNEEN, TREASURER MOLINE, ILL.		DENT PARRETT, SECRETARY CHICAGO, ILL.	
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National Tractor Farming Demonstrations A. E. HILDEBRAND, MANAGER					
Salina, Kansas, July 29, 1918.					
MOLINE FLOW CO. MOLINE, ILL.		DEMONSTRATION GROUND ATTN: S. C. TURKENCOPH.			
Dear Sir:—					
We beg to report the following performance of a Moline Universal tractor 9-18 H.P. Serial No. 19002 Motor No. 10002 under test for draw bar horse power.					
Conditions:—					
Soil: Stubble ground—loose on top firm underneath.					
Load: Plow, two fourteen inch plows.					
Dynamometer: Hyatt Recording.					
Draw Bar Pull: Average for one minute in maximum.					
Time: Recorded by dynamometer.					
Hitch: Horizontal—centered.					
TEST NO.	GEAR	DRAW BAR PER HOUR	SPEED MILES PER HOUR	DRAW BAR HORSE POWER	REMARKS
2A	1	2155#	2.18	12.5	Average
2B	1	2135#	3.52	20.05	plowing maximum
OBSERVERS: G. H. WOOLLEY JR. L. S. NEWMAN J. B. DAVIDSON.					
S. C. TURKENCOPH ENGINEERS IN CHARGE MANAGER OF DEMONSTRATION.					

*Officially Accredited with 26.48 H.P. at the belt. We rate it at 18 H.P.*

IN previous advertising we have stated that the Moline-Universal was conservatively rated at 9-18 h. p. Just how conservative is shown by the astonishing official tests made at the National Tractor Demonstration which showed the Moline-Universal to have an excess of over 11 h. p. on the draw bar and 8 h. p. at the belt.

Certainly these tests show beyond question of doubt the efficiency of the Moline-Universal. For each 169 lbs. of weight the Moline-Universal developed 1 h. p. on the draw bar. Compare this with the ordinary tractor which develops 1 h. p. for each 250 to 300 lbs. weight—and you will clearly realize the greater efficiency and corresponding greater economy of the Moline-Universal.

However, we shall continue to rate the Moline-Universal at 9-18 h. p. A tractor to give satisfactory service and stand up for years under the strain of tractor work must have reserve power, and the greater the reserve the better. Under normal conditions the Moline-Universal has from 50 to 100 per cent reserve power. Think what this means.

Ninety-eight per cent of its entire weight is on the two big drive wheels where every ounce is available for traction.

The Moline-Universal is scientifically constructed and utilizes its weight to best advantage. It has no dead weight.

From the above report you will see that the Moline-Universal developed 20.05 h. p. at 3.52 m. p. h. pulling two plow bottoms 9 to 10 in. deep in exceptionally hard plowing. At 2.18 m. p. h. it developed 12.5 h. p. The difference in speed accounts for the extra draw bar pull. At 3.5 m. p. h. under average conditions the Moline-Universal will plow as much in a day as a 3-plow tractor traveling at 2.25 m. p. h.

### Just the Right Size

If the Moline-Universal were built to pull a 3-bottom plow, it would be too heavy for light work. As the Moline-Universal is now built it has ample capacity for all ordinary plowing needs, and at the same time is equally suited for light operations such as cultivating, haying, harvesting, etc., which require far more work hours than your heavy work.

You are chiefly concerned in getting your work done quicker and better than you ever did before. You have no

fixed power requirements. One day your work may be heavy, the next day light—and the light work is just as important as the heavy. Thus, you must have a tractor which will do both heavy and light work efficiently and economically, and the Moline-Universal fully meets both these requirements. You have plenty of power when you need it and when you don't want it you have no extra expense—as you would have with a heavy tractor for light jobs.

Remember this—here's what the Moline-Universal Tractor will do for you:

- (1) Gives you plenty of power for all your work, both heavy and light.
- (2) It does all farm work including cultivating.
- (3) One man operates both tractor and implement from the seat of the implement in all operations.
- (4) Electric lights enable it to be worked nights to make up for unavoidable delays.
- (5) Because of self-starter, non-robust labor can operate tractor successfully.
- (6) So well made and has so much reserve power that it will give many years of service.

Send for free catalog which gives detailed description of the Moline-Universal Tractor. Address Dept. 42.

## Moline Plow Company, Moline, Illinois



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—By Del Dane, "The Old Stove Master"

This is my year for a smashing price drive. It is war time, and I am sacrificing profits. I can do it because I am a manufacturer, and sell direct to users. I can save you a lot of money, particularly on Kalamazoo

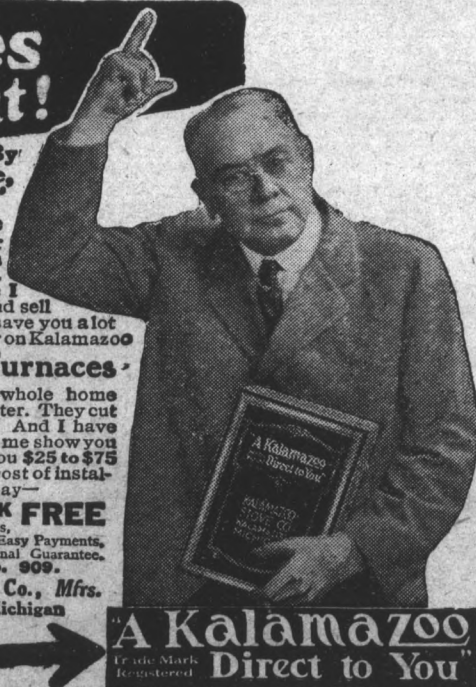
### Pipeless Furnaces

—that heat the whole home through one register. They cut fuel bills in half. And I have cut the price. Let me show you how I can save you \$25 to \$75 on the price and cost of installation. Write today—

### GET MY BOOK FREE

Get my wholesale prices, 30 Days' Trial, Cash or Easy Payments, Unlimited, Unconditional Guarantee. Ask for Catalog No. 909.

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Kalamazoo, Michigan



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Look to the Grinders. They do the work! Bowsher's Cone-Shape grinders are the correct principle in Feed Mill construction. They mean larger grinding surface close to center of shaft; thus More Capacity, Lighter Draft, Longer Life.

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10 sizes; 2 to 25 H. P. Write for free catalogue.

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Help the Nation win the war! Save wheat—our soldier boys and our allies must have it. Use more rye flour, corn meal, graham or whole wheat flour in your baking. You can cut the cost of living and help win the war by grinding your own flour with a

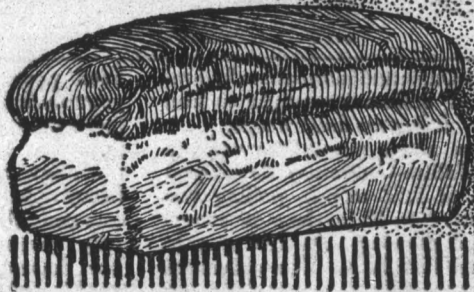
### LETZ FEED MILL

Self-Sharpening Silent-Runner

This mill will grind the finest kind of flour—at one grinding. Screening or bolting is not necessary. You have your own grain or can buy it cheaply. By doing your own grinding you get the finest kind of flour at a big saving. Use a Letz Mill for grinding whole wheat flour—rye—buckwheat—cornmeal—rice—any kind of cereal.

Letz silent-running, self-sharpening plates grind fast and clean—grind any kind of grain, wet, dry or oily. They shear the grain. They make no noise—and grinding grain keeps them sharp. Ask us more about the Letz. Come in and get a free sample of flour ground in the Letz.

Those who now own a Letz Mill can, at small expense, get a special set of plates for grinding flour.



We sell the Letz because it does the business.

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## APPLETON Husker & Shredder

The first successful machine husker made—acknowledged leader for 20 years. Cuts or shreds stalks and leaves into fine feed, while husking the ears—the increased fodder value pays the whole cost of husking.

Think what this saves you.

Perfect husking device does cleanest husking. Minimum power required. Built so strong that models made years ago still give good service. Safe, convenient, labor-saving. This machine will make your corn crop 20% more valuable, and help to increase the Nation's feed supply. Thousands of enthusiastic users. Write today for free book.

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Big Husker book Free

It covers the husker proposition from A to Z. Fully illustrated. Shows 2, 4, 6 and 8 roll sizes for four h.p. and up. Write today.

## UNCLE SAM Wants the Whole Dairy Family

—Cow to Consumer—

Bossy, her father and brothers—The man, woman or child who feeds and milks her—The man, woman or child who makes her milk into butter, cheese, ice cream, condensed milk, milk powder, or any other shape or form, and the man, woman or child who uses her milk in any form, all the folks who make or sell machinery and equipment she makes necessary.

## TO GO TO THE National Dairy Show

Columbus, Ohio  
October 10 to 19

Where he is going to deliver to each one a great war message on the team work he wants to do with the dairy people and how he wants the dairy people and the consumers of their products to work together—This is a call of duty and opportunity—GO.

## A PROFITABLE SIDE LINE

Contract makers for canneries, sugar and pickle factories, insurance men or anyone who does daily business with farmers—here is a proposition you want to get next to. Good profit and annual business, easy seller.

Product long and well established in Michigan. Your farmer friends ought to have it—you can sell it to them.

For particulars regarding this extra money proposition write  
**Box W 51, Michigan Farmer, Detroit, Mich.**

## The President's Proclamation

**A** GAIN the government comes to the people of the country with the request that they lend their money, and lend it upon a more liberal scale than ever before, in order that the great war for the rights of America and the liberation of the world may be prosecuted with ever increasing vigor to a victorious conclusion. And it makes the appeal with the greatest confidence because it knows that every day it is becoming clearer and clearer to thinking men throughout the nation that the winning of the war is an essential investment. The money that is held back now will be of little use or value if the war is not won and the selfish masters of Germany are permitted to dictate what America may and may not do. Men in America, besides, have from the first until now dedicated both their lives and their fortunes to the vindication and maintenance of the great principles and objects for which our government was set up. They will not fail now to show the world for what their wealth was intended. (Signed) WOODROW WILSON.

## Agricultural News

### CARTONS FOR EGGS.

**T**HE question of whether cartons for eggs should be done away with has developed quite an argument in the egg trade all over the country. The proposition was submitted by the Food Administration to the New York Mercantile Exchange and that exchange started a petition among its members last week. The object was to get a line on the opinion of the trade. The middle of this week there were about one hundred signers on the petition and seventy of them favored continuing the use of cartons, while about thirty were against it.

At first thought it seems as though no one would suffer and a good thing would be done to aid in the conservation of paper and pasteboard if the cartons were done away with, but those who are in favor of the cartons have an exceptionally good argument. They say that there are hundreds of shippers and retailers all over the country who have spent time and money to advertise their brands of eggs, which are put up in cartons, and if the cartons are done away with now, their brands will practically go out of existence, because they would not have a package in which to pack the eggs so that that particular mark can retain its identity. They also say that this is a great protection to the public, for the reason that it gets quality for its money.

### DRAFT HORSES AT NATIONAL DAIRY SHOW.

**I**N order to emphasize the need of draft horses in progressive agriculture of today and to make clear its relation to the problem of feeding the nation during the war, an exhibition and show of Percherons has been added to the National Dairy Show which will be held at Columbus, Ohio, October 10-19. The Eastern Percheron Association has been asked to take charge of this feature which will cover three days, beginning October 10. This precedes the show of gaited saddle horses which opens on October 14. It is expected that there will be at least two hundred and fifty head of this one breed of horses represented. Breeders of Ohio, Michigan, Pennsylvania, Illinois and Virginia are participating. There will be twenty-eight classes and money trophies to the extent of \$2,500 has been provided in the way of prizes.

The show is calculated to make an especial appeal to the small breeders as the dealer and importer are barred.

A special feature of the class list is a class for Percheron mares, ten years old and over. One hundred and forty dollars is to be divided among the six winning exhibitors in this competition and it is expected that some of the best old brood mares in the studs of Ohio breeders will be on exhibit. In the weanling and yearling classes

considerable range characterizes the list of awards and the prize money is to be abundantly distributed. The entries for this show close on Thursday, October 3. The show opens Thursday, October 10, at noon. Entries must be made promptly in order to give time for completion of the catalogue. Entries are in charge of D. R. Acklin, Manager of the National Dairy Horse Show, Columbus Savings & Trust Company Building, Columbus, Ohio.

### IMPORTANT MEETING OF HORTICULTURISTS.

**T**HE forty-eighth annual meeting of the Michigan State Horticultural Society is to be held at Detroit, December 10-11-12-13. The officers have been busy for months making plans for this meeting and it is expected to be the largest and most important meeting the society has ever held.

The Michigan apple show is one of the new features, and there will be the biggest display of Michigan apples ever shown in this state. The display will represent apples from practically every fruit-growing township in the state. Many other new features, including canning demonstrations, exhibits by the Bureau of Markets, a sight-seeing trip about Detroit, and inspection of the Eastern Market, will make this a "Win the War" convention.

The program covers four full days with one evening session which will be a rousing patriotic one and should not be missed by anyone. Programs and particulars will be mailed to members of the society. The secretary is George M. Low, Bangor, Mich. Programs and particulars will be mailed to anyone upon application to him.

### SAVE PITS AND SHELLS.

**T**HE War Department at Washington has called upon canners and the public generally to save fruit pits and nut shells to be used in making carbon for gas masks. Pits of peaches, prunes, plums, apricots, cherries, hickory nuts, walnuts and butternuts are wanted, along with some other varieties. They will be collected and shipped by the Red Cross to the gas defense division of the chemical war service of the army. In many cities in Texas barrels are being placed on the public streets for the receiving of its pits and nut shells. East Texas should be a fruitful field for them as usually tons of peach seeds accumulate about the canneries. There are several large nut shellers about Dallas and Fort Worth that could offer a goodly supply of shells.

### WOULDN'T YOU?

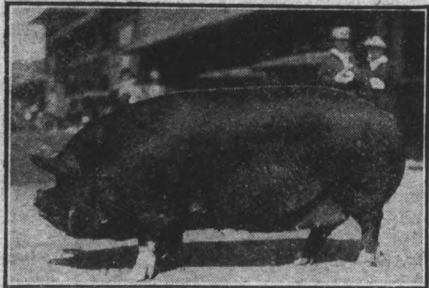
"Prosperity has ruined many a man," declared the moralizer. "Well," rejoined the demoralizer, "if I was going to be ruined at all I'd prefer prosperity to do it."



## Let the Hogs Do It

**S**CARCITY of labor and the new responsibility of feeding the world during our national emergency make it necessary for the American farmer to bring into operation new methods that heretofore were not necessary and possibly not advisable.

A method of this sort has been used to quite an extent among our western farmers and is becoming more and more popular there. The method is that of hogging down corn. There are some excellent reasons for this, namely, the fact that it is the cheapest possible method of harvesting corn as far as labor is concerned. Practically the only labor involved is that of erecting and caring for fences. Experiments have shown that it is the most economical method of harvesting corn as concerns waste. On some experimental plots less volunteer kernels were found on plots harvested by hogs than by those harvested by the man-labor method. These reasons alone



should start a practical farmer in action and the most skeptical to considering. But there are reasons of lesser importance. The fertility of the soil is maintained with practically no labor. The cornstalks are broken up and left to rot without leaching in the barnyard. They are evenly spread and the field is in condition to plow. The manure that would leach away in the dry lot is evenly spread. The corn can be harvested more quickly, a fact which makes fall plowing possible in many instances.

There are, however, some disadvantages, the first of which is that hog-proof fences are necessary. It is sometimes advisable to hog down parts of a field at a time in order to insure careful harvesting on the part of the hogs. This can be done by setting anchor posts at the ends of the row of corn and tying the fence to the stalks. This method of keeping hogs where they belong would not keep them out of a corn field but it will keep them in one part until most of the corn is cleaned up.

An early kind of corn that is sure to get ripe, yet one that will yield well, is best for hogging down. Soy beans are sometimes planted with the corn, which is an excellent practice. The soy beans will not be harmed by drought and will make excellent feed for the hogs, even if the corn is ruined. If soy beans are properly inoculated and supply the nitrogen through the nodules that they are capable of, the yield of corn should not be decreased. The best variety that has been discovered by the writer to date is the Medium Green. It is an early variety and is well suited to the climate of Michigan. It yields quite heavily and it is claimed that it contains a larger percentage of protein than most other varieties. It will pay to make an effort to secure some seed of this variety. Rape is another excellent forage crop that can be sown in the corn to be hogged down previous to the last cultivation. Rape contains quite a percentage of protein and all that can be fed the hogs will help cut down the cost of tankage and other nitrogenous feeds that are so expensive at this time.

The hogs that are to be fed by the hogging down method should be of different sizes. Large hogs break down

(Continued on page 316).



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Each grade one price the nation over

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## Worth More and Costs Less

Don't let milk production costs consume your profits. Don't feed corn or oats as a whole ration to your milk cows. It isn't necessary and it is not economy. Every grain you save is a gain.

International Special Dairy Feed saves grain. It costs less than grain and is worth \$10 to \$15 more per ton. It produces more milk.

### Makes Money

International Special Dairy Feed is guaranteed to increase the milk flow of any cow. It works without waste. The increase is at least one quart daily—more often it is two quarts. That means big money

### Don't Waste Your Corn



SAVE IT!

returns—a profit in addition to that made by saving grain.

### Profitable Any Way

Mixed with grains, International Special Dairy Feed furnishes the protein and other elements necessary to balance the ration.

The molasses in it makes the whole feed a delight for cows. International Special Dairy Feed is excellent for its economy and high milk production.

### Palatable and Nutritious

International Special Dairy Feed is a Scientific blending of

grains, cottonseed meal, feeding molasses and other healthful ingredients.

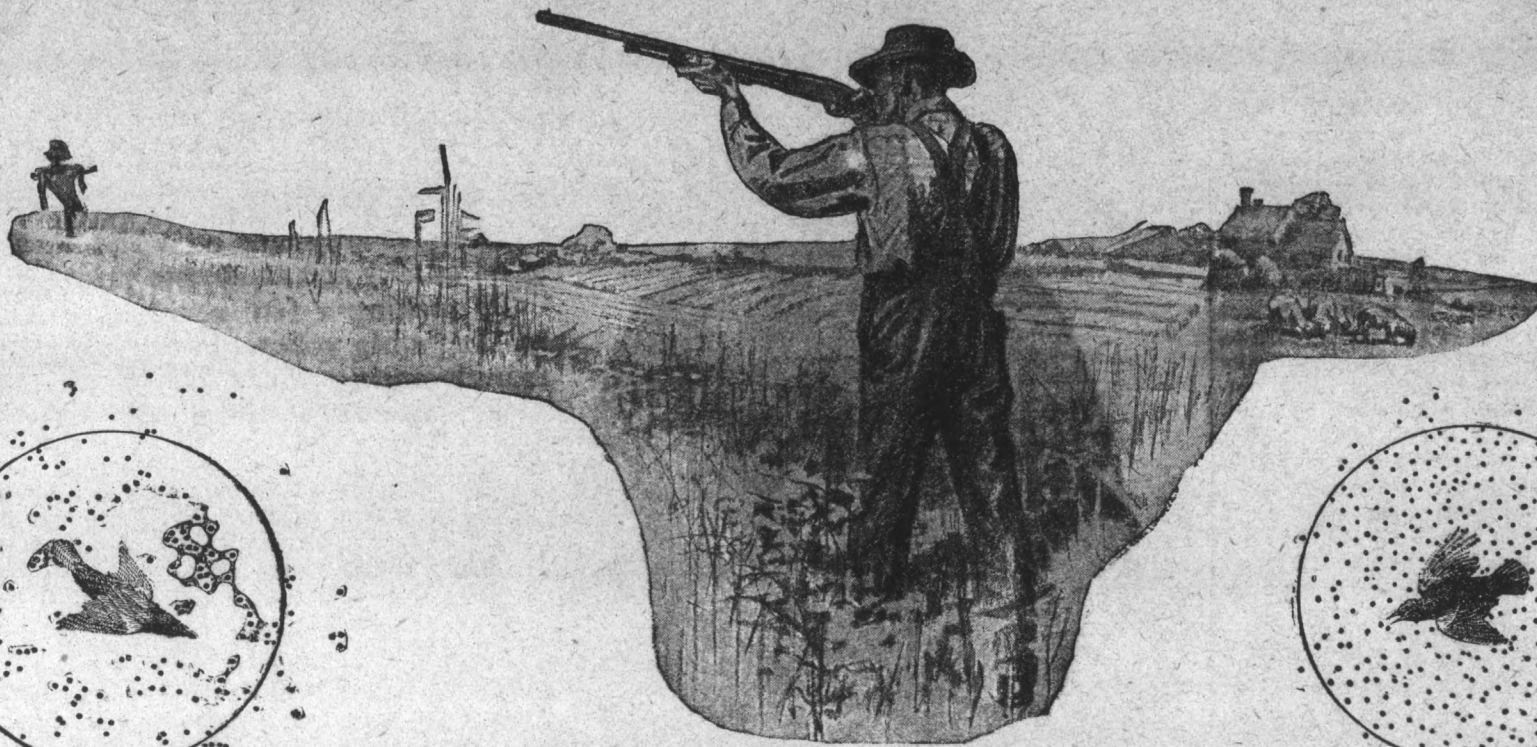
## Feed International Special Dairy Feed

Let your cows earn that extra profit for you. One ton will feed one cow 6 months. The extra milk produced in that period will be worth at least \$10. Place an order today. Don't let your dealer substitute. Write us if he cannot supply International.

**INTERNATIONAL SUGAR FEED CO.**  
Minneapolis, Minn. Mills at Minneapolis and Memphis  
Also manufacturers of International Ready Ration—the perfect 20% protein feed. Needs no mixing.

When writing to advertisers please mention the Michigan Farmer.





A gun that shoots a patchy pattern like the above cannot give reliable service. The birds often get through.

The hard-hitting Winchester pattern is evenly distributed. It brings down every bird within its spread.

## Why the Model 12 is the ideal shotgun for the farm

**W**HEN a farmer buys a shotgun, he buys it for a double purpose; first to clear his farm of crop-destroying, chicken-thieving pests; second to provide an effective weapon for upland game birds, prairie chickens, or ducks—for where is the farmer who does not enjoy a day or two of hunting now and then?

In return for his investment, the shrewd farmer demands, and has every right to demand, a gun that will *bring down the birds every time*. Plugging at a flock of crows, he must be sure of exterminating as many as come within the shot pattern. Taking a wing shot at a plover, he wants to be certain of a pattern that will land at least the three pellets necessary to a "kill" in the body of the fowl.

### The gun for the purpose

Farmers who are versed in the lore of the shotgun know that there is one gun that gives them the results they want—the Winchester Model 12. Where results count, this master weapon meets every requirement.

The Winchester Model 12 is a beautiful gun, light in weight, and simple and sure to operate. Superbly balanced, it points like your own arm. It can always be relied upon to plant a *close, even pattern*, with lots of force behind it, at the range for which its choke adapts it. It works smoothly and surely in whatever position it is held.

There is a gauge and a bore of the Winchester Model 12 to give you just the kind of a pattern you want. Built in 12 gauge, weight 7½ lbs.; and in 16 and 20 gauge, weight about 6 lbs. For those who prefer a hammer action gun, the Winchester Model 97 is the usual choice. Built in similar lines to the Model 12, but with hammer action.

### An axiom of gun making

Men who know guns realize that the accuracy and durability of a gun depend primarily upon the barrel. To them the quality of the barrel measures the quality of the gun. With Winchester the barrel *is* the gun. For years this has been an axiom of gun building in the Win-

chester shops. Through the most unremitting attention to boring, finishing and testing, Winchester has developed a single standard of barrel quality which prevails in the highest and lowest priced Winchester models.

### How the barrel is bored

The barrel of the Winchester Model 12 is bored to micrometer measurements for the pattern it is meant to make. The degree of choke exactly offsets the tendency of the shot to spread. Until its pattern proves up to the Winchester standard, no gun can leave the factory. The nickel steel construction preserves the original accuracy forever.

The Bennett Process, used exclusively by Winchester, gives the Winchester barrel a distinctive blue finish that, with proper care, will last a lifetime.

### What means

Look for this mark on the barrel of a Winchester gun. It means that the gun has been subjected to the *Winchester Definitive Proof* test. It stamps the gun with Winchester's guarantee of quality, which has 50 years of the best gun-making reputation behind it.

Every gun that bears the name Winchester, and that is marked with the *Definitive Proof* stamp, has been fired many times for smooth action and accuracy. It has also been fired with excess loads as a test of strength. At every stage of Winchester manufacture, machine production is supplemented by human craftsmanship. *Every Winchester gun is perfected by the test and adjustment process.*

It is this care in manufacturing that has produced, in the Model 12 and Model 97, guns of unsurpassed game-getting qualities—guns that have won the name of "The Perfect Repeaters" among wild fowl hunters.

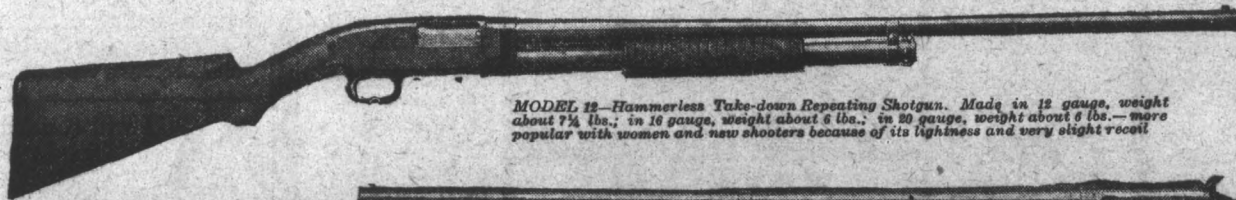
### Write for details of Winchester shotguns and shells

Detailed specifications of the Model 12 and Model 97, and also our new booklet on shells will be sent on request.

WINCHESTER REPEATING ARMS CO.

Dept. M-21

New Haven, Conn., U. S. A.



MODEL 12—Hammerless Take-down Repeating Shotgun. Made in 12 gauge, weight about 7½ lbs.; in 16 gauge, weight about 6 lbs.; in 20 gauge, weight about 5 lbs.—more popular with women and new shooters because of its lightness and very slight recoil.



MODEL 97, HAMMER SHOTGUN—Take-down Repeating Shotgun. Made in 12 gauge, weight about 7½ lbs.; in 16 gauge, weight about 7½ lbs. The favorite with shooters who prefer a slide forearm repeating shotgun with a hammer.

# WINCHESTER

World Standard Guns and Ammunition



# The New Rural School

*We Visit It for the October Community Day*

**I**MAGINE if you can, a cool, crisp and clear day in mid October, the countryside a blaze of color and the leaves making a thin blanket over the roadside. The jays are impudently chattering in the half-bare hickory trees as you go with me to a Saturday community meeting in one of Michigan's rural schools.

As you approach the school, you see a goodly crowd of youngsters and older folk, even though the day be an ideal one for fall work.

The interior of the school house, as you step in, makes you wonder if this is not the setting for Herbert Quick's "Brown Mouse." One side of the room has a row of tables filled with selected seed corn, potatoes, beans and grains, together with garden truck raised by the adults of the community. The tables at the back contain the vegetables, potatoes and corn that the youngsters have raised and selected for this exhibit. In one corner of the room is a table with a Babcock milk tester and equipment ready for use, while on the board is a carefully worked out monthly feed and milk record that shows which cows are earning their keep. A half dozen different kinds of seed corn drying arrangements are scattered about one end of the room, together with a seed corn testing box and several rag doll testers. Evidently there is to be no guesswork about the seed corn planted in this neighborhood. You have just time to begin to take in the remainder of the room, when the teacher, a slip of a girl from the County Normal, announces a song by the school. After the echoes have died



The Model Rural School at the State Fair.

away, a victrola is started and a dozen youngsters go through a simple folk dance that would do justice to any city playground.

In this county many boys' and girls' clubs are organized and at work and the leader in charge of the county, a graduate of the State Agricultural College, gives a short talk on the work that is being done by these clubs and the service they are now rendering to their government. Following this, three boys of the school demonstrate how to select and store seed corn. Nor are the girls left out of this demonstration work, for two of them demonstrate how to pare potatoes economically, after which the potato skins are weighed and the girl who pared the same amount of tubers in the shortest time with least waste, is de-

clared the winner of the contest.

The County School Commissioner follows with a splendid talk on "The School as a Social Center," in rural communities. You are beginning to wonder as to the purpose of the oil stove in the corner, when the teacher announces that the pupils have purchased this stove for the purpose of serving hot school lunches and will serve a demonstration lunch after the next talk. This is an interesting announcement and the applause in which you join, is long and loud. The State Leader for the Girls' Garment-making clubs gives a short talk on Girls' Club Work, and with the assistance of three girls from the school demonstrates how to draft a pattern.

Lunch is served just as you are beginning to wonder if this is really a

country school or a fantasy of an over-worked imagination, caused by reading too much about the new rural school. After the lunch, a recess is declared and the announcement is made that the State Leader of Boys' Clubs will assist the boys and girls, young and old, in the playing of some group games. "Head and tail tag," "overhead relay," "handicap relay," "circle dodgeball," "jump the rope relay," and other good group games are played with much enthusiasm until a call from the teacher announces that the afternoon program is ready. A good old-fashioned community song feast is next indulged in, after which the County Agricultural Agent talks of newer ideas in rural education and convinces you that the rural school is, if gauged by this one, not a dead institution at all but one that is meeting its needs fundamentally today. As the applause subsides, the victrola is again started and the boys and girls illustrate the Shoemaker's Dance. Three boys then demonstrate the use of the Babcock tester and one reads a paper on testing and its value to the farmer engaged in dairying. One of the canning clubs of a neighboring town has been busy meanwhile at the oil stove and after a brief introduction of the "One Period Cold-pack Method" of canning, they proceed to demonstrate this: Canning cauliflower, peaches, apples and tomatoes; much to the interest of the women assembled. After all questions have been carefully answered concerning this method of preserving food stuffs, the

(Continued on page 312).

## WORLD EVENTS IN PICTURES



Canadian Tank Crew Examining a Recently Captured Anti-tank Rifle.



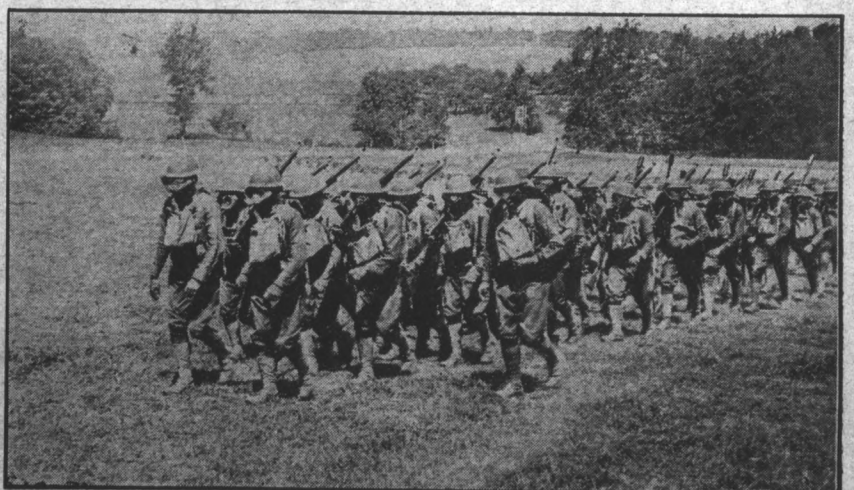
English Woodnymphs Preparing to Destroy Beauty of the Forests.



American Wounded Arriving at Field Hospital in France.



President Poincaré, of France, Visits Chateau Thierry, and Hears the Story of the Valor of American Soldiers in Capturing that City.



American Soldiers Protected with Gas Masks, Advancing in Wake of Germans Retreating from the Region of Chateau Thierry.





## It Stirs Every American Heart

Who was not thrilled to read of the American soldier who supported a wounded comrade, and fought his way with the little detachment back through the Boches to the American lines?

That is only one deed of heroism among the many happening every day and looked on as a matter of course by the boys fighting for us over there. It shows the stuff that's in them. They are our own sons and brothers. Is the same stuff in us over here?

*From now on there can be only one standard for those of us who fight behind the lines—by saving and lending*

We have the opportunity at home to show our patriotism by other deeds of valor. We can fight and we **MUST** fight. And we must **WIN**, no matter how heavy our burdens may be.

*Our former habits* are the Huns we've got to battle with. We can't go on living as we used to. We can't go on spending our money for things we like. We must set up new standards—war standards—and stick to them—loyally.

## We must buy bonds to our utmost

*This Space is Contributed to Winning the War by*

**The Solvay Process Company,**

*Detroit, Michigan*

### A Special Clubbing Bargain No. 10.

Michigan Farmer, 1 yr., wk. .... \$1.00  
Youth's Companion, wk. .... 2.00  
McCall's Magazine, mo. .... .75  
Poultry Success, mo. .... .50

Regular price ..... \$4.25

**OUR PRICE ONLY \$3.25**

**FIBER BROOMS** outwear 5 corn brooms. Guaranteed one year. \$1.25 postpaid. Circulars free. Agents wanted. **KEYSTONE FIBER BROOM COMPANY,** 618 Duquesne Way, Pittsburg, Pa.

### FOR SALE

Good Call Beans for hog feed, \$40.00 per ton, our truck bags extra. Ask for sample. **BAD AXE GRAIN COMPANY,** Bad Axe, Mich.

**Wanted:** Lady or gentleman at once to place a few orders for our paint in each neighborhood preliminary to securing a dealer. Liberal discount to consumer; liberal pay to you. **THE X-CEL-ALL COMPANY,** Alma, Michigan

**You can be quickly cured, if you**  
**STAMMER**

Send 10 cents coin or stamps for 70 page book on Stammering and Stuttering. "Its Cause and Cure." It tells how I cured myself after stammering and stuttering 30 years. **BENJAMIN N. ROGUE,** 1109 N. Illinois St., Indianapolis, Ind.

**FOR SALE** A 20x32 Owens bean and Pea huller been used about 3 weeks, condition A1, \$450; one side delivery rake for beans and Hay \$20 one 2 tub oiler press \$30, 2 H. P. Gasoline engine mounted at a bargain. **J. M. McFARREN,** Rapid City, Mich

## News of the Week

Wednesday, September 25.

**WAR** news continues favorable to the Allies. In Bulgaria French and Serbians capture Prilep to the north of Monastir. British troops are moving northward on both sides of the river Jordan in Palestine. On the western front British and French troops take Selency, L'Pine de Dallon and the village of Dallon near St. Quentin, and also capture 500 prisoners and many machine guns.—Treasury Department decides the amount of the Fourth Liberty Loan issue to be \$6,000,000.—The government at Washington is adopting measures to enforce stability of wages during the war.

Thursday, September 26.

**BULGAR** armies are divided by the thrust of Allied forces along the Vardar river. Rout of King Ferdinand's troops covers 130 mile line.—General Allenby continues to prosecute his vigorous campaign against the Turks.—Americans launch attack on towns in the region of Metz, following which orders are reported issued from Berlin for civilian population of the great fortress to prepare for quick evacuation.—French and British crowd still closer to St. Quentin.—Michigan democrats in session at Detroit complete their state ticket as follows: Governor, John W. Bailey; United States Senator, Henry Ford; Lieut.-Governor, E. L. Gardiner; Secretary of State, Garrit Masselink; Treasurer, R. S. Powell; Attorney-General, James H. Baker; Auditor, General C. K. Jake-way.

Friday, September 27.

**THE** new offensive by American and French troops between Verdun and Rheims results in a seven-mile advance over a twenty-mile front, the capture of 5,000 prisoners and the taking of much war booty. Haig attacks in the direction of Cambrai and goes forward three miles on a thirteen-mile front, crossing the Hindenburg line and occupying seven miles of the enemy's famous defensive work. Bulgarian troops are so demoralized that Premier Malinoff asks an armistice with the entente.—Chili seizes four and possibly five, interned German merchant steamers.—Loyalist group consisting of five members reorganizes a provisional government in Russia.—Republicans of Michigan in convention at Grand Rapids, complete their state ticket as follows: Governor, Albert E. Sleeper; Lieut.-Governor, L. E. Dickinson; Secretary of State, C. C. Vaughan; Attorney-General, Alex. J. Grosbeck; Auditor-General, O. B. Fuller; State Treasurer, S. O. Odell; U. S. Senator, T. H. Newberry.

Saturday, September 28.

**THE** Belgian army with British co-operating, begin attack in Flanders near the North Sea. British and American troops continue operations before Cambrai and to the southward. Ten thousand prisoners and 200 guns are taken. These troops are within three miles of their objective.—Serbians capture Veles on the Balkan front and push toward Uskub.—The British troops are within thirteen miles of Stroumitza. The Bulgarian parliament endorses Premier Malinoff's proposal for an armistice.—War labor policies board moves to control prices on everyday necessities of life by governmental limitation of profits.

Sunday, September 29.

**ALLIED** fleet attacks U-bases as Belgians win Passchendale ridge and several towns on a twenty-mile front.—British close on Cambrai and take 15,000 prisoners. Franco-Americans smash beyond the Hindenburg line and take over the last natural barriers to the foe's defense.—Austrians take over a section of the Macedonian line to assist the Bulgarians.—United States doctors report the discovery of a serum to combat the epidemic of Spanish influenza.

Monday, September 30.

**BULGARIA** signs a truce on terms laid down by the Allies. It is expected that Allied troops will soon occupy Sofia, the capitol of Bulgaria.—British forces are reported to be in Cambrai.—Belgians capture Dixmude. Germans are yielding up Chemin des Dames ridge. Americans are fighting thirteen miles north of Verdun.—The Turks are virtually driven from Palestine and Persia.—In fifty-two combats Americans bring down thirty-three enemy planes without the loss of a single American pilot.—It is reported that Chancellor Hertling of Germany, has been forced to retire.

Tuesday, October 1.

Military events portend great things  
(Continued on page 319).



## A FLYING FIGHTER

by L.T. EMROBERTS, R.F.C.

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(Continued from last week)

I also met Carl Beattie in the course of this spell of inactivity. I had served with him in the ranks. He told me that he was waiting for some other friends of ours, and presently they showed up. One of them was Scottie Allen and the other Ballis. The former, poor chap, had lost his right arm. He had gotten into a fight with two Huns one day and had been hit seven times. The worst of it was that they had gotten him while he was still an observer; for that reason Scottie had never known what it was to fly a machine himself. We had all served together in a Canadian unit.

And we talked of the old times when we were in the Mechanical Transport Section in France and breaking our necks to get into the Royal Flying Corps. We laughed over our efforts to learn wireless telegraphy. We had made ourselves wireless keys and buzzers and had taken the batteries of the lorries to furnish the necessary electricity. We had also managed to get a copy of the Morse code, as used in France, and after we had mastered the alphabet we used to amuse ourselves sending wireless dispatches to one another. That kind of thing has its value. When I joined the Flying Corps I was actually able to send fifteen words and receive about ten per minute. We also reminded one another of the days when we used to stop our lorries near an aerodrome on the main road to the lines. None of us ever passed that spot without stopping long enough to see some flyer go up or land. We thought of all the silly questions we had asked and of the funny replies that had been given to us.

During this dull season somebody decided that we ought to take a course in aircraft construction at one of the largest plants in England. It was quite an interesting experience. Much of the work was done by women, to release men who were fit for military service in France. I was much surprised at the quality and quantity of the work done by the women. In addition to stretching the fabric on the planes, they were helping in the building of frames, and they also put on the preparation which is used to shrink the fabric after it is sewed on. Some of them assisted in making propellers, while others varnished them.

The women of England have proven in fact that they can do anything that a man can do, and it is my opinion that if they were given a fair chance they would make just as good fighters. They are employed everywhere. Some of the ammunition works employ as many as seven thousand of them. They are nowadays also employed in France as motor drivers and clerks, and are quite capable of doing such heavy work as driving lorries. In machine shops I saw the women handle lathes and other machines. On the farms they do the plowing, and I doubt very much if England could continue the war without its woman labor. When we arrived at the factory there was a shortage in materials and for that reason we could not do very much, aside from looking over machines that were ready. Some of my time I devoted to the study of cloud formations and wind currents.

### CHAPTER XXI. In the Clouds.

THE problem of flying in clouds had always interested me greatly. There is no accurate instrument that will tell the flyer what course he is holding, and often this results in the man finding himself in dangerous positions while flying in

thick weather. I have been in clouds so dense that I could not see the wing tips of my machine. Under such circumstances it is impossible for a man to establish what his position is in relation to the horizon. He is likely to come out of the clouds in almost any position. In fact, the squadron commander, who examined me as to my mechanical ability when I joined the service, came out of a cloud on his back at a height of six or seven thousand feet, to find that he had dropped his observer out. He landed as fast as he could and started to search for the poor fellow, but the man had been killed outright and half buried in the fall.

The oddest cloud formations may be met at times. Once I was up above the main stratum, which was about three thousand feet thick, and was broken by holes here and there. I had climbed through one of these holes to the top of the cloud, but when finally I came clear the hole had closed up.

All I could see was a large white cloud that showed no breaks of any sort. There were large peaks on this cloud, and with my back towards the sun I started to fly towards one of them. As I came close to it, I saw on its very side the outlines of another airplane. I had seen no other flyers near me and I wondered where this one had come from so suddenly. Before long I noticed that the machine was coming towards me. I tried to avoid it, but found that the machine changed its position accordingly. I was sure that there would be a smash-up. I tried to get out of the way of the machine by a sharp turn, but that idiot of a pilot executed the same manoeuvre. Then I climbed to get over him and the other machine did the same. A collision seemed inevitable. I closed my eyes and waited for the crash.

But I waited in vain. I had judged the distance between the two machines accurately, and after I was convinced that I had passed the other one I opened my eyes again—just as my plane was poking its nose into the cloud peak against whose sides its outlines had been cast by the sun.

As I rushed through the mist I was not yet sure that this had really been the case, so when I had emerged on the farther side I banked and described a circle around the peak to find the other machine. But there was no doubt that the machine I had seen had been the shadow of my own. I recalled then that the contour of the other machine had been framed in an iridescence showing all the colors of the rainbow. It occurred to me that it would be well to do it all over again, and I did. I reached the same position as before and went once more through the sensation of a crash in the air.

On another occasion I saw a peak that had a large archway in it. I made up my mind to fly through it. The peaks seemed quite close but I kept on flying without reaching the portal. What I had taken for a distance of only a few hundred yards proved ultimately to be ten miles. But I got to the archway in the end, and as I rushed through it the air currents made by the propeller caused the entire structure to collapse. In fact, I drew a great deal of it after me, the vapors following my machine like the tail of a kite.

Other peaks I tried to hurdle, but generally I would be deceived in the distance. I would imagine that I had gone over the peak only to find that this was not the case and I would find

(Continued on page 306).



**CARBIDE GAS** lights this farmer's home (and barns) and cooks his meals—safely, quickly, economically.

It is rendering this double service in over 250,000 country homes today. The farmer was the first to discover the value and use of Union Carbide, eighteen years ago.

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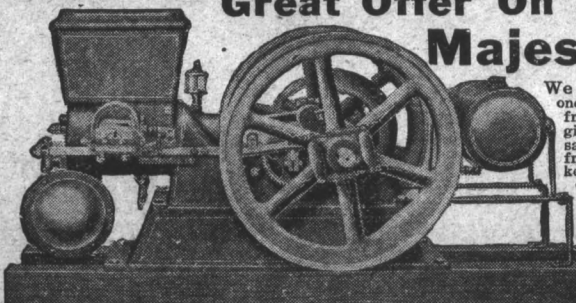
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## Pay Nothing Down —Nothing Until 60 Days

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for its rated horse power. Runs on gasoline or kerosene. Water-cooled by open jacket hopper-cooled system. Perfect lubrication. All the advantages of the Majestic easily proved by the free trial. No obligation on you for asking this. We ship any size engine at our risk. The decision is in your hands.

**THE HARTMAN CO.,** 4043 La Salle Street  
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### Tix-Ton-Mix

Keeps away Worms  
Germs and Ticks

with salt the year around keeps flock healthy and free from stomach worms and ticks. A \$5.00 box makes \$60.00 worth of medicated salt—saves you big money—A \$1.00 trial box of "TIX-TON MIX" by parcel post will medicate a barrel of salt.

Write for club offer—booklet on "Nature and Care of Sheep"  
**PARSONS TIX-TON CO.,** Grand Ledge, Mich.



# SHERWIN



*Sherwin-Williams  
select their flaxseed from  
all that is grown in  
the fields of the great Northwest*

**W**E put this trade-mark on everything we make. It is a mark of confidence—your confidence in us and in our products. It indicates many things and one of the things it means is this: In all the materials we use, as in all the methods we employ, no pains are spared in making the product you buy dependable.

We could not make a dependable product from materials of doubtful worth. That is why we go to the source and produce those materials upon which quality depends. This trade-mark, therefore, goes back beyond the product itself; it means that the essential materials from which it is made are also

## **SHERWIN-WILLIAMS PRODUCTS**

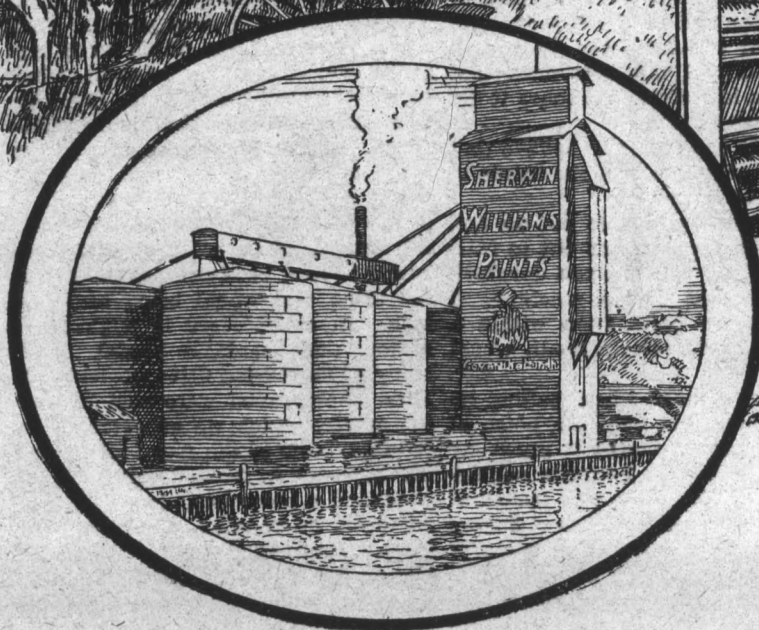
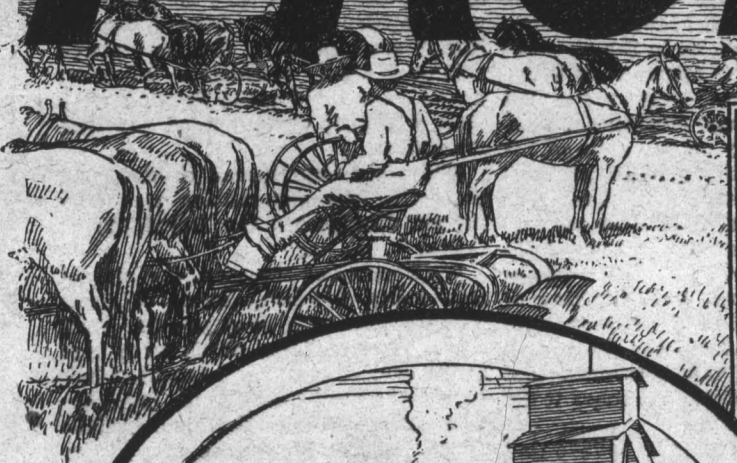
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**DYESTUFFS, COLORS, PIGMENTS, CHEMICALS, INSECTICIDES,**

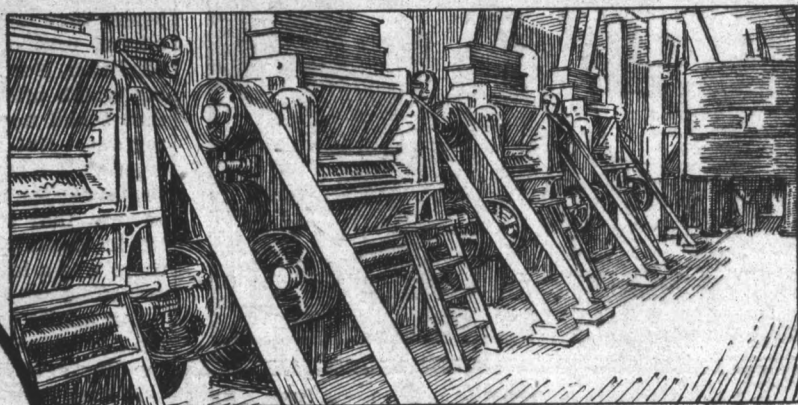
**DISINFECTANTS, WOOD PRESERVATIVES**



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A few of the many tanks in which we store our Flaxseed



Pressing our Linseed Oil from Flaxseed at the Cleveland Plant

## We control our sources of supply

ONE of the factors that has helped make The Sherwin-Williams Company the dominating industry in its field is the steps it takes to quality.

Manufacturers depending upon outside sources for raw materials are handicapped by shortages, varying quality and price fluctuations.

We control our sources of supply. We produce

our essential raw materials. One of these is linseed oil. We contract for the growing flaxseed, supervise its cultivation, ship it to our storage elevators, press the seed and refine the oil in our own plants.

Whatever the conditions, we are sure of our supply—always of the Sherwin-Williams standard—and you are assured of highest quality in the paint, varnish or other finishes that require linseed oil.

Linseed oil is but an instance, just as our chemical plants, our zinc and lead mines and our color works are instances of the extent to which we go in making each Sherwin-Williams product the best for your purpose.

## THE SHERWIN-WILLIAMS CO.

Main correspondence office, Cleveland, Ohio

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Barn, Roof, Etc.)  
Family Paint  
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Screen Enamel  
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Scar-Not Varnish for Interiors  
Rexpar Varnish for Exteriors  
Auto Top Dressing  
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## Would You Wear a Pair o' Kilties?

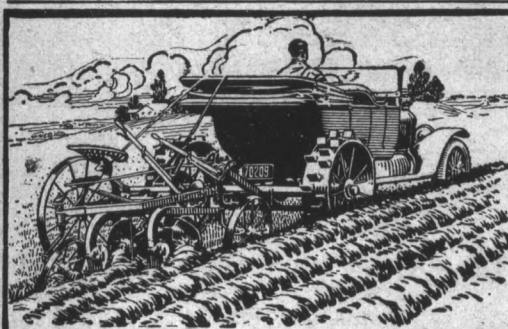
Until our farmers discard trousers for kilts—and that will never happen—he'll stick to

## President Suspenders for comfort

Yes, and not only for comfort, but for efficiency and long wear. They'll never let his active body even guess he's got them on; no pull or hitch and no waist-line squeeze. And they are "bulls" for wear.

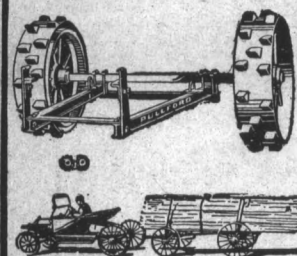
If you want a better suspender—for real comfort, good looks and unusual service—ask your dealer for the "High Grade" President, the highest possible standard of suspender excellence at a happy-medium price. Look for the President label. Insist on Presidents. Dealers everywhere sell them. Every pair is guaranteed satisfactory or money back.

President Suspender Company  
SHIRLEY, MASS.



## Plow and Pull With Your FORD Or Most Other Cars Pullford \$155 F. O. B. Quincy, Ill.

**MAKES** a practical tractor out of a Ford or most any other car. Easily attached to or removed from the car in thirty minutes. No holes to drill, no springs to remove. Practical, Durable, Reliable.



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Pulls plows, harrows, drills, mowers, binders, hay loaders, road graders, wagons, trucks, etc. Steel wheels with roller bearings and tires 10 inches wide, two pairs of hardened Vanadium steel pinions, one for plowing and one for hauling speed. A tractor with the reliability and durability of the Ford car. Prompt shipment. Write for catalog.

It was the Pullford attached to Ford cars pulling two 12-inch plows running on Kerosene, equipped with new fan device, that made a most successful demonstration at Fremont, Nebraska.

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## A FLYING FIGHTER.

(Continued from page 302).

myself crashing through it. In other cases it would be still ahead of me, but once in a while I would come down to my former level close enough to the peak to dive through it.

Most of the pilots have a great deal of fun in the clouds, but they also find them very troublesome. Rain clouds are generally quite black underneath, and show all sorts of projections which are visible from the ground. Within the clouds themselves wind currents of varying velocity race back and forth. The bumps on the clouds are generally caused by the uneven density of the mists, and stand in direct relation to the wind currents beneath and within the clouds. The airplane going through a cloud of that sort may drop from two to three hundred feet at a time, without the pilot, who sees nothing but his machine and the vapor around him, noticing it. Clouds of that sort have been the cause of a good many bad spills.

I have often been asked by friends how one feels when up in the air some five miles. That is not so easy to explain, for on almost every trip a man experiences different emotions. It depends very largely on the state of his nerves and on his general physical condition. But I may say that the feeling which oftenest came over me was that I had no business in those lofty regions. Not having lived the life of a saint, I could not help thinking of the hereafter and of the supernatural powers that are supposed to govern it; incidentally I felt convinced that there was a hereafter. At times it did not affect me at all.

But finally one comes to believe that his life is entirely within the hands of the Supreme Power.

If that Power willed to put an end to my life on earth, it had but to fracture one of my planes or to demolish some other part of the machine. I would crash to earth then within a few minutes and certain death would be my lot.

There were times when, sailing up in the eternal blue with the noise of the motor the only sound to reach my ears—and even that becomes negligible after a while through constant hearing—I would experience a degree of lonesomeness that is impossible to clearly describe. Below me might pulsate a tremendous field of clouds, all gray and white, and around and above me nothing but the blue. On the earth it might be raining, but up there the sun was shining.

Under such circumstances one's life unrolled as though it were a moving picture. I used to review my past and find great satisfaction in the thought that I had never stolen anything nor killed a man in civil life. I took it for granted that if an angel should step out from a cloud and tell me I had no right up there, he would know that much about me. But at the same time I resolved to obey his command immediately if he should order me to the earth.

Sometimes I would shut the engine off for the purpose of gliding down. I would then feel the absolute silence all the more, until the stays and wires of my machine began to sing and screech from the pressure while in a nose dive. With the wires strumming and the plane making the sound of a drum whenever the machine changed its position the veriest fraction of an inch, new thoughts came to me. They brought me back to the reality of things—the care of the machine. One never knew when a part of the contrivance, which had stood the strain of the last dive, might snap. In that case it would be all over.

Pilots and observers are a rather queer lot while on the ground. The language they use is not always of the best, and often they do things which are not exactly right, although as a whole they are of the best.

But up in the air it is different. In the course of time the flyer becomes very superstitious. He comes to believe in the queerest things. For instance, it is absolutely impossible to induce an aviator to be the third one to light his cigarette from the same match. Two or four will do so, but I've never known a man to have the courage to be the third. Some of them carry their superstition so far that they will not be the third man even if there are four.

They used to tell a little story of a squadron in France three of whose pilots were standing on the aerodrome one day waiting to go up on patrol. The three of them wanted to smoke, but had only one match between them. Two of them lighted their cigarettes on that match. It so happened that the third was not so very superstitious, or else he wanted to smoke very badly. He requested the privilege of lighting up. The others did not like that, for, according to the general belief, it is the third man who will be overtaken by disaster. In this case the man was very popular and his friends did not like to see him do it. But he insisted and they finally consented. He went up on patrol and while fighting off a Hun was shot down behind the German lines.

The story was spread around, and thereafter the superstition was duly heeded throughout the Royal Flying Corps.

With many of the men, the mascot was really a fetish. Some of these fetishes were of a most peculiar character. The animals, which were kept in the camps, were looked upon as harbingers of good luck for the organization. But each man had his own little fetish. It was known as the pocket-piece or mascot. In some cases it might be a dice or a playing-card. A man who had often drawn an ace to a full house, flush or a straight, was bound to look upon aces in the end as the thing that would bring him good luck. In other cases it might be a locket, then again a medal, while many of us carried little woolen dolls. Even photographs were said to have the quality which we expected of our fetishes. One of the men looked upon his pipe as a fetish, while another cherished a piece of Chinese jade, upon which he counted. Another had a knife. Many of the men wore bracelets on one wrist. In fact, nine-tenths of the pilots in the Corps possessed some queer sort of personal charm or fetish.

Some of the men carried these things only in their flying clothes, but others grew so superstitious that they would transfer them into a pocket of their clothing; they refused to be without their pocket-piece at any time.

I remember walking down the Strand with a friend of mine one day. We came to a ladder upon which stood a window cleaner; inadvertently I walked under it. That friend called me every name he could think of for walking under the ladder. And yet he was the last person in whom I should have thought to discover any superstition. He was an old miner and a wild man besides. Later we returned to the aerodrome and I went up for a flight. I had tried my machine and looked it over carefully before leaving the ground. It was all right then.

Before going up my friend had warned me to be very careful, and I remember that in the act of gliding to earth I made up my mind to tell him that he was just a little too finicky about signs and omens. But on landing I broke my under-carriage and the machine was smashed up considerably before it came to a stop. I changed my mind after that, and carefully avoided walking under more ladders.

But that is not all. Some of us acquired the habit of finding omens in the queer contours of the clouds and the many fantastic shapes these mist formations will assume. Of course, that was going rather far but some of these



flying boys become very superstitious.

The effect of nerve tension on a flyer who has lost his nerve may become permanent as far as flying is concerned. I have known men who would grow sick at the mere sight of a machine, and for this reason cease to be of any value whatever. Perhaps in the end they would come back to their job, and one would imagine that the man ought to be as good as ever. But that is not so. The thing that brings them back to the aerodrome is often a sense of duty. But the value of the man has departed; the flyer who loses his nerve once is lost.

It is my opinion that men so affected have brooded too long over the fact that in the end the flyer is bound to be brought down.

There is a saying among flyers:

"If you stick to it long enough you are bound to get it."

In the latter part of September, 1917, I had to go to a hospital, being afflicted with bronchial asthma. Everything possible was done to restore me, but I could feel that little good had come of the treatment I had been under. I was sent before a board of medical examiners, who recommended that I should be sent home.

I had been in Europe for thirty-two months, and of this time I had spent twenty-two months in France, and the remainder in England, engaged in testing and ferrying work. And not a few weeks of that time had been spent in the hospital. Though I had been in the service for thirty-eight months, I was not tired of it, and if my health had permitted it I would have gladly continued.

Upon my arrival in Canada I was examined again and found to be permanently disabled, having contracted bronchial asthma, due to the climatic conditions of France and England, and the result of my old wounds. The board ruled that I was unfit for further service in His Majesty's armies.

While in the service I learned that a man never knows what he can do until he has to do it. I look upon my participation in the European war as the greatest honor that can be bestowed upon a man.

The army is one of the greatest teachers of all time. Its lessons may be costly, but they are of great value.

I cannot praise too highly the work done by the nurses and doctors in the Allied service in France and England, and to me they will always be the Army of Mercy. They are saviours of humanity. THE END.

The management of this paper is now in correspondence with a publishing house, relative to the serial rights of a new novel for our Magazine Section. We have used much care and spared no expense in selecting the very best story obtainable for the entertainment of our readers during the coming long winter evenings. An announcement of the title of this new novel and the author's name will appear in an early issue of the Michigan Farmer and we feel sure they will be of intense interest to our subscribers. Next week, October 12, we will publish an interesting travel story, "A Visit to an Afghan Bek," Dr. Ernst A. Bessey.

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USED IS MOST  
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(ANSWER)



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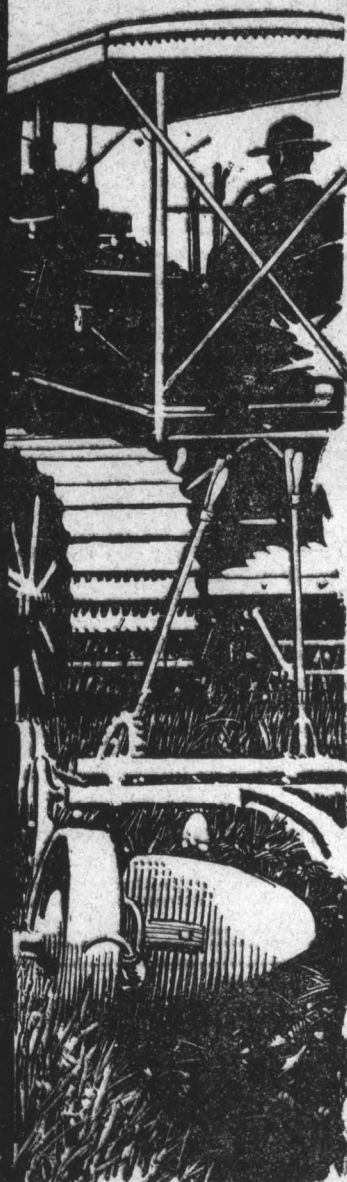
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Sideboards	Everything in
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Every piece of woodwork you buy should carry this mark—CURTIS

# Building Up the Bee Industry

(Continued from first page).

ily accede to this request, yet a large proportion of the honey being made this year will appear on the market in the extracted form. It takes eight or ten pounds of honey to make a pound of wax. When comb honey is sold, all the wax is wasted. If the bees are run for extracted honey, on the contrary, there is practically no waste of wax, as the combs are put back into the hive to be filled again, while the caps are melted up and sold to manufacturers of wax foundation. As the government experts have pointed out to bee-keepers in meetings held all over the country, a much larger

center of the hive where the bees cluster.

What shall be done in case the amount of stores falls short? Theoretically, there is an easy answer to this question. It is simply to feed the bees with a sugar syrup or a fondant. Practically the difficulty of getting sugar makes the answer a more difficult one. Last winter the government allotted a certain amount of sugar to the makers of bee-keeping supplies to be used in producing a fondant. Certainly it will be the height of folly to let the bees go into the winter without having sufficient stores to carry



No Occupation is More Interesting than Bee-keeping.

amount of honey is made available for general use when it is extracted.

Many amateur bee-keepers are extracting this year for the first time, having always run their bees for comb honey before. They have learned that the bees work more quickly in extracting supers than in supers arranged for comb honey. If they desire a little comb honey for the table, it is a simple matter to cut it out of an extracting frame.

In order that extracting may be done by people who have only a few hives and do not feel like buying an extracting machine, government representatives have made arrangements whereby extractors can be rented or borrowed from apiarists who own them. Cards have been sent broadcast asking the owners of bees if they will allow their machines to be used either at their own homes or at the homes of others. A very large number of favorable replies have been received.

Strong colonies with young queens can be depended upon to go through any winter out-of-doors if they have sufficient stores and are properly protected. There should be thirty pounds of honey in every ten-frame hive. That means that six frames should be pretty well filled. It is better to examine the frames than to weigh the hives, because old hives are certain to be heavier than those which have been used only a season or two, as more wax will have been stuck onto them. It is best to have all the honey in the

them through. Amateur bee-keepers who need sugar for feeding their bees can obtain it by applying to the county food administrator, unless some change in this ruling is made later.

Feeding sugar syrup is giving way in some sections to the use of bee candy or fondant. A good formula for home-made candy is as follows: Twelve pounds of granulated sugar, one and a half pounds of liquid glucose, one and a quarter quarts of water, (five cupfuls), a quarter of a teaspoonful of cream of tartar added when the temperature has reached about 230 degrees Fahrenheit; boil to 238 degrees. When the sugar has begun to dissolve, the spoon or paddle should be removed and the candy not stirred while cooking. Cool to 125 degrees and stir vigorously until the candy looks like boiled starch or paste. A tin or paper pie plate is the best receptacle for the candy, and when the sugar is hardened it can be inverted over the frames in the hives. This candy is economically used and can be kept a long time. Moreover there is no danger of inducing robbing when feeding it. If a colony reasonably well supplied with honey goes into the winter with two plates of candy inverted over the frames it will not lack for stores and should remain strong enough to start work early in spring.

Do not use brown sugar for feeding bees, but you can use soft sugar if you can get it. The system of feed-

(Continued on page 315).

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THE BLISSFIELD TANNERY, W. G. White Co., Inc., Blissfield, Mich.

Please mention the Michigan Farmer when you are writing to advertisers and you will do us a favor



## Save the Orchard

(Continued from page 293.)

application is sufficiently thorough, the scab will generally be controlled and the fruit will set. However, if very cool weather should ensue, and prevent the blossoming for a week or ten days, it would be well to make a second application, though this is not generally necessary.

Do not spray when the trees are in blossom; it is strange that we have to say that, and really, when we come to think about it the whole program has been gone over and over in print year after year, until it would seem useless to write it again, but we farmers are busy with other matters. We do not charge our minds with things that we can forget and the writer is no exception to numbers of people who have to be reminded of "things forgot."

Now let us consider briefly the codling moth. The little fellows who find happy homes in from sixty to one hundred per cent of all the apples in neglected orchards. The mother lays her eggs at the blossoming time or a little later, and the tiny larva soon hatch out and find their way to the calix cups of the little apples. Is it not strange that instinct is present in animals so minute as these to impel them to do the thing essential to the preservation of life? Once safe inside the calix cup, the little worm makes itself at home and begins eating its way into the center of the apple. If we are on the ground with a spray mixture like the one used when the buds are in the pink with two pounds of arsenate of lead to each fifty gallons, if we have sprayed so thoroughly as to fill all the calix cups with the poison, the little worms will die, but they do not all hatch out at once and generous rains wash the poison out of the cups so that the later worms are not killed. It is therefore necessary to spray again in from ten days to two weeks, even then there always possibilities of a few worms escaping with the most thorough spraying. These make it possible for other moths to come out later in the season so that another generation of worms may be anticipated and a thorough spraying about the last of July or the very first of August is usually necessary if the best of success is to be obtained. It is well to add a little more of arsenate of lead to the mixture for the last application, as in this case the little worms eat into the sides of the apples and the only chance to destroy them is to cover the surface of the apple with a mixture sufficiently poisonous to kill them while eating through the skin. There has been some question about the comparative value of lime and sulphur mixture and the old Bordeaux mixture in the control of apple scab. At the present high price of copper, Bordeaux mixture is very expensive. The farmer producing apples mainly for home use would not seriously consider it at the present price of copper sulphate and considering the many examples of perfect fruit obtained by the use of lime and sulphur, it would seem to the writer that it would hardly pay the commercial fruit grower to return to the old practice. Then, too, the use of Bordeaux mixture often occasioned much damage in the russetting of the skin of certain varieties of apples.

### CAVITIES IN APPLE TREES.

I have an old orchard that has been badly neglected. Some large limbs have been sawed off, and nothing put over the places. This fall some squirrel started to gnaw holes in those places and have eaten into the heart of the trees. Will you please advise me how to fix those places? Also, some of the trees seem to have a rotten heart.

E. B.

Clean out cavities, spray thoroughly with lime-sulphur mixture, and fill with a rich mixture of concrete.

## How "SCALECIDE" Was "Discovered"

### As the Remedy for Canker and Collar Blight

"Let me cut down that tree, it's not worth saving," said our superintendent in looking at an eighteen-year-old apple tree in a newly acquired orchard. "It is cankered two-thirds around the trunk and from the ground well up to the crotch," he continued.

"No," we responded, "we'll give it another chance. Next spring we will cut out the canker, disinfect and paint it. There are about four hundred other trees that need the same treatment."

But "next spring" we were busy planting a young orchard, and did not have the labor or time to cut out the canker, disinfect and paint the infected parts. It was summer when we got ready to treat collar blight and canker in a wholesale way. And then to our astonishment every canker and collar blight spot was healing up and new cambium forming around the diseased parts.

### One dormant or scale spray with "SCALECIDE" that spring had already done the work

That was the discovery of "SCALECIDE" as the remedy for canker and collar blight. The illustrations to the right are from photographs taken four years later of the exact tree our superintendent wanted to cut down. There it stands today, a specimen of health and productivity, yielding six to eight barrels of high grade apples as its normal crop.

Have you any valuable trees going as that tree was going? Don't bother cutting out and painting. Use "SCALECIDE" as a dormant or scale spray, wetting thoroughly the cankered spots. Tyson Brothers, Flora Dale, Pa., have used "SCALECIDE" for fourteen years. They claim to lose less than one tree out of a thousand from collar blight and root rot in their 325 acres of orchards, yet the Pennsylvania Experiment Station states that two apple trees out of every hundred in Pennsylvania die annually from collar blight alone. Thousands of apple growers save money, save time and **save their trees** by using "SCALECIDE" as the complete dormant spray.

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## B. G. PRATT COMPANY

Manufacturing Chemists

50 Church St. New York City



In the circle above is shown the tree four years after our superintendent wanted to cut it down. To the left you will see the trunk, free of disease, with new cambium rapidly growing over. This tree was saved and made profitable by the use of "SCALECIDE."

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We have used the mixer during past year for putting in cement foundations for a complete set of farm buildings, including also, and liked very much. - **DANA WISGERT, Jamestown, N. D.**

Last year I bought a cement mixer from you with which I am well satisfied. It did not take long for it to pay for itself and I surely can recommend it to anyone needing a big mixer at a small price. - **Wm. F. AMES, Macomb, Ill.**

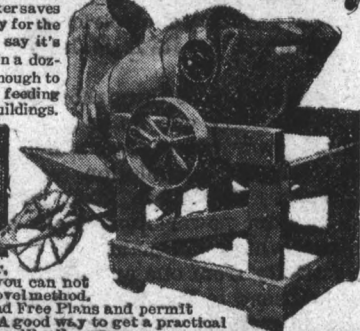
I am more than busy with my Sheldon Concrete Mixer. Have more work than I can do. I get \$10 a day when I work out. - **JAMES L. WATSON, Wellsville, N. Y.**

The machine works fine. Have already got the job of mixing concrete for the bridge in this town. - **JOHN ROSS, Sparta, Wis., Jan. 1918.**

Last spring we purchased of you a set of castings to make a concrete mixer. It was constructed per the plans furnished and it surely worked great. - **D. M. BURNETT, Export, Ill.**

**FREE PLANS**

Make your own concrete mixer. You can do it at a cost so low you can not afford to mix concrete by the shovel method. Along with our iron parts we send Free Plans and permit for making your own machine. A good way to get a practical mixer at a small expense. Or, we will sell you the complete machine, ready built. **Make Big Money at Concreting** If you buy a Sheldon Mixer for your own use, you can make many times its cost in a season by renting it to your neighbors. Or, if you want to go out with the mixer on contracts, you can easily earn \$5 to \$20 a day. Our customers are doing it right now. The jobs go to the man with a Sheldon Mixer every time. **Write For Our New FREE Catalog** Shows our full line of mixers which are sold direct to you on strong guarantee. Shows step by step plans. No other like it. Patented. Two styles, hand and power. Mixes 2 1/2 cubic feet a minute. One man can operate it, but it will keep 2, 3, 4, 5 or 6 men busy. Continuous chain drive. Filling dump. Easily and quickly moved. All parts guaranteed. Does work equal to \$400 mixers. Be sure to get the catalog. Write today. **SHELDON MANUFACTURING COMPANY, Box 770, Nehawkin, Neb.**



### My New Special Offer

I want to tell you about my co-operative plan by which you can get my time-tried, thoroughly proven Sheldon Batch Concrete Mixer at little or no cost to you. I want ten men in every county to accept my special co-operative offer right now. Are you going to be one of the ten? Write and say: "Send me special offer."

The Sheldon will pay for itself on first small job. Makes the backbone out of concrete. Makes possible those many small improvements that add so much to the value of your land.

## 9 CORDS IN 10 HOURS



**BY ONE MAN. IT'S KING OF THE WOODS.** Saves money and backache. Send for FREE catalog No. 84 showing low price and latest improvements. First order gets agency. **Selling Sawing Machine Co., 161 West Harrison St., Chicago, Ill.**

**Wanted:** To place a few advertising orders in the trial orders to the consumer and liberal payment to you. No selling experience necessary. Clean, legitimate, easy and quick way of making fifty to one hundred dollars Christmas money. Write at once for representation in your neighborhood. **The X-CEL-ALL COMPANY, Alma, Michigan.**

**I WANT** to hire single man to work in early or young wishing to work and attend school. Must understand farm work. Position is permanent and living is good. **JOHN TALBOT, South Bend, Ind.**

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**140 Acres \$3500 Including 13 Cows, Other Stock,**

Bull, horse, poultry, mowing machine, horse rake, grain drill, plows, cultivator, harrow, wagons, long list tools, 40 cords fitted stove wood, 50 bu. potatoes, 125 bu. oats, 50 bu. apples, 30 tons hay, etc. Heavy clover and general crops thrive on this farm, on good road, mail, telephone, 2 1/2 miles town, high school, churches, creamery, 75 acres machine-worked loam tillage, 60 acres spring watered pasture, plenty wood, timber, fruit. 8-room house, running water, big basement barn, another 52-ft. barn with 42-ft. ell, poultry house, etc. To settle quickly everything goes for \$3500, only \$1500 cash needed. Details page 34 Strout's New Fall Farm Catalogue of this and other bargains, many with stock, tools, crops for comfortable living; copy free. **E. A. STROUT FARM AGENCY, Dept. 101, 814 Ford Bldg., Detroit, Mich.**

## Southern Lands

in Baldwin County, Ala., for general farming, the whole year, trucking, fruit, live stock, at from \$10 to \$25 per acre. Write me what you want. Finest climate in U.S. Send \$1.50 for subscription to Baldwin Times, official organ of county to get in touch with conditions.

**ABNER J. SMITH, Bay Minette, Ala.**

**CHOICE** Florida Lots and farm locations at Oldsmar, Florida, by Mr. R. E. Olds, famous automobile manufacturer, 15 miles west of Tampa, on Tampa Bay, Dixie Highway, Seaboard Railway. Delightful climate, tropical scenery, low prices, easy terms. Free booklet. **REOLDS FARMS CO., Oldsmar, Florida.**

**Beautiful** modern home, steam heat, 3 lots, expensive strawberry fruit and shade, block from CENTRAL MICHIGAN NORMAL COLLEGE. Will sell or trade for small farm, or stock general merchandise. **Cooper, Gover & Francis, Mt. Pleasant, Mich.**

**CENTRAL MICHIGAN FARMS**  
Best for general farming. Real bargains; easy terms; write for free list. **Benham & Baldwin, Hastings, Mich.**

**For Sale** Rainy Lake settlement-land, Presque Isle County, Mich. better, \$10 to \$15 per acre, easy terms. **JOHN G. KRAUTH, Millersburg, Mich.**

Mention the Michigan Farmer when writing Advertisers



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**Burns  
Cheap  
Fuel**

**H**ERE'S a wood heater built air-tight, so that it easily holds fire over night. Heats up quickly in the morning with a little fresh wood. The extra tight-fitting construction insures an unusual saving of fuel.

## ECLIPSE

wood heaters last for years. Pure cast-iron is used for the base, top and main front—the body being of the best grade heavy steel. Ask your dealer to show you these heaters and send for our FREE book.

**THE ECLIPSE STOVE CO.  
MANSFIELD, OHIO**

## More Light Than 20 Oil Lanterns

**AT LAST**—the light of lights! A lantern that lights with common matches just like the old style oil lantern, but makes and burns its own gas from common gasoline, giving a brilliant, steady, white light of 300 candle power.

### Most Brilliant Light Made

Brighter than the brightest electric bulb. More light than 20 oil lanterns. Cheapest and best light made. Costs less than one-third of a cent per hour. Safer than the safest oil lantern. The



**Coleman  
Quick-Life**

No wicks to trim—No globes to wash. No dirt or grease, no glare or flicker. Absolutely safe. Fuel can't spill—no danger if tipped over. Guaranteed Five Years—will last a lifetime. If your dealer can't supply, address our nearest office for Catalog No. 29.

**The Coleman Lamp Co.  
Wichita, St. Paul, Toledo,  
Dallas, Chicago**

## HOOSIER STOVES & RANGES FREE

To try in your home 30 days free no matter where you live. Show your friends, send it back at our expense if you do not want to keep it. Million members of families enjoying the



comforts and pleasures of "Hoosier" Stoves & Ranges, perfect bakers and heaters, beautifully finished, smooth latest design, guaranteed for years.

Write for our big free book showing photographs, describing large assortment of sizes and designs of Steel and Cast Ranges, Cooks, Sifts and Hard Coal Heaters, to select from, explaining our free trial. Send postal today.

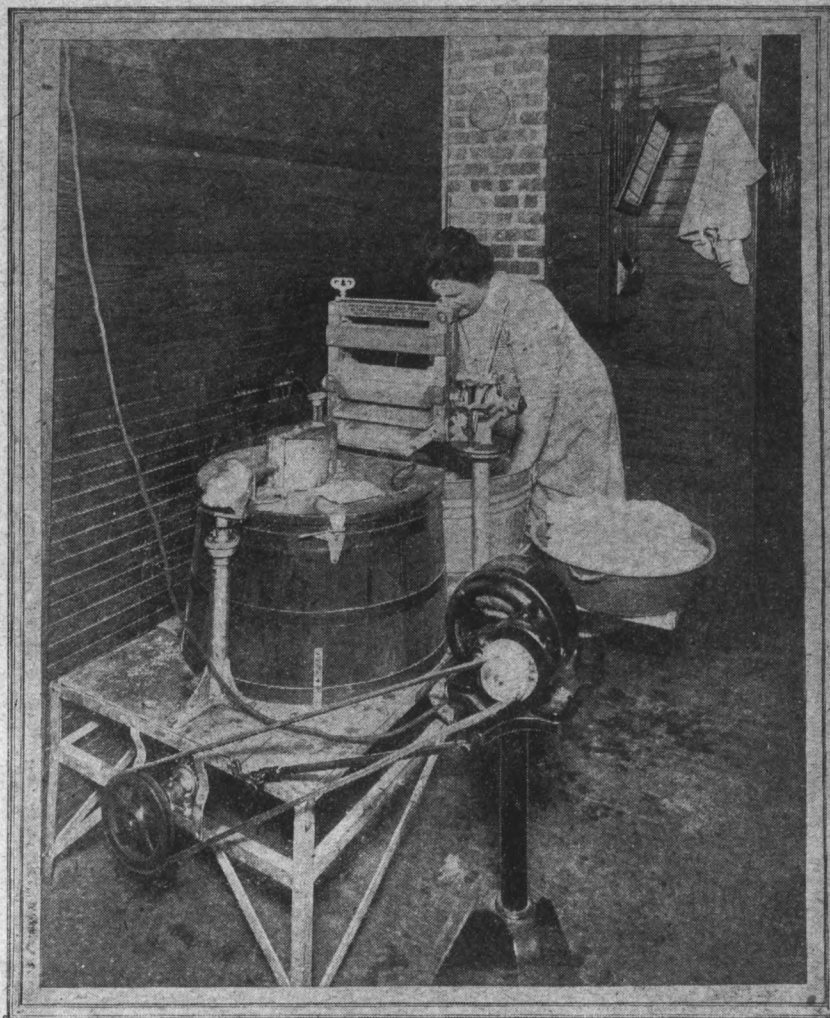
**HOOSIER STOVE CO.  
131 State St., Marion, Ind.**

## Honey Wanted

Comb and extracted honey wanted in quantities of 500 pounds and upwards. State quantity and source. **M. H. HUNT & SON, Box 525, Lansing, Mich.**

When Writing to Advertisers, Please say "I Saw Your Ad. in The Michigan Farmer".

# Let Electricity Do It



Robbing Wash Day of its Terrors.

(Continued from page 293.)

without the aid of an electric vacuum cleaner, an electric iron and an electric washing machine and wringer. I may be wrong, but to my mind electricity is going to solve the labor problem of the future. Certainly with the burdens that are being laid upon women by the war, and especially farm women, there must be some help provided. And what more efficient, powerful, easier of control and cheaper than electricity? It is clean, noiseless and safe, and the machinery is so simple of operation that even ten-year-old children may be very quickly taught to use it. The idea of danger lies only in lack of understanding. The current is confined to the wires—it can't jump out and strike you any more than a street car can jump off the track and run over you. If you respect the car and stay off its right-of-way when it is due you are in no danger. So with electricity. If you are injured by it, it is largely your own fault.

In many places throughout the country electricity can be bought directly from power companies, which makes the cost of installation very much cheaper. For those farm homes remote from power lines there are dynamos which will manufacture enough electricity from one and a half gallons of kerosene to light a house and barn, run a washing machine and iron and work a pump for one week. Can you buy light and labor cheaper? Can you hire a woman to do a two-weeks' washing for the small sum your electricity would cost to run the machine for four hours, based on the cost of one and a half gallons of kerosene?

The initial cost of putting in the dynamo and batteries, with wiring, perhaps will look large to some. But compared with the labor-saving machinery bought for the men, is it so much? The dynamo and batteries complete costs \$350 up, depending on the amount of power you want, the more expensive ones, of course, furnishing more electricity. Wiring your house and barn will run from \$35 to \$80, the amount of wiring needed and labor conditions in your neighborhood

setting the cost. Chandeliers and household appliance will cost as much as you want to pay. Your taste and pocketbook will mark the limit.

With the light and power plant you will perhaps want a pump electrically operated. This will automatically keep the tanks full and water at the required pressure night and day. A device stops and starts the pump without attention from anyone. When the pressure falls too low, the pump is started and works until the correct pressure is restored, when it stops automatically.

With electricity and running water in the farm home, think of the load which is lifted from the woman's shoulders. No kerosene lamps to clean

and fill, no pails of water to carry in when the men forget them, as they usually do, no back-breaking wash days, no sweltering August ironing days when the wood-stove must be kept going to heat the old-fashioned sad-irons (aren't they well named?) Lights that spring out at the touch of a button, water which runs when you turn a faucet, a machine which does all your rubbing and wringing, and an iron which gets hotter the longer you use it instead of getting cold and having to be carried back to the blazing stove. And when, in addition, you can turn your cream separator, do your churning and run your sewing machine with the same power, what more can you ask in the way of help?

What the government thinks of the necessity of these conveniences for farm women is shown quite clearly. It has granted at least one firm manufacturing farm power and lighting plants permission to operate as an essential industry and has given them a priority number so that they may get material to turn out their pumps and dynamos.

The question of initial cost may give you pause, and it is only right that you should consider it carefully. But weighed up against the gain in efficiency and health and strength for the worker the cost loses significance.

As a matter of fact most of the electric appliances actually pay their own cost in a short time if you have to hire help. Based on the prevailing cost wage of laundresses, \$2.00 a day, a washing machine pays for itself in a year, the cheaper ones in less than that. And best of all, the machine is always on time on washing day and always there. While the laundress comes if no one else offers her more money, and arrives and leaves when she pleases.

"We pass this way but once."

The author of those words prefaced them to an appeal to do our bit towards lightening and brightening the lot of others on our short pilgrimage here below. But I insert them as a plea to you to make yourself as comfortable as possible while you are passing along. Life is hard enough, even when eased and cushioned with modern conveniences and comforts. But when devoid of even the commonest blessings of American inventiveness it isn't life—it's just "scrubbing along."

## Watch for the "Children's Year Special"

**M**AKE way for the Children's Year Special. It's coming!

On October 1, the "Children's Year Special" interurban car will be sent out by the Child Welfare Department of the Woman's Committee, Council of National Defense, on a six-weeks' trip which will touch every community traversed by the interurban lines of Michigan. Aboard it will be given demonstrations of weighing and measuring children of pre-school age.

The Michigan Railway Company, the Detroit United Electric and the Grand Rapids, Grand Haven & Muskegon Company have donated the use of their cars and the services of their crews for the entire six weeks' trip. The trip touches Detroit on the east, and crosses nearly the entire southern part of the state. On the north it reaches Port Huron and Bay City, and on the west Muskegon and Holland. The car will start from Kalamazoo, the state headquarters of the Woman's Defense Committee.

The car will be divided into three compartments. In one there will be a

complete exhibit of material for children's wear. In another there will be a waiting-room in which the mothers and their children may await their turn for the weighing and measuring, and the third compartment will be completely fitted for weighing and measuring children of pre-school age. The entire car will be well heated.

Miss Hannah Ackerman, of Dowagiac, a Red Cross nurse, has been engaged for the six weeks, and will be in charge of the weighing and measuring demonstration which will be given at each stop.

Indicative of the illuminating results of the weighing and measuring of infants and children are the findings of the campaign recently conducted in Dowagiac. In that city it was found that more than half of the babies examined had some physical defect requiring attention. This proportion holds in practically all of the localities where the weighing and measuring campaign is being carried on.

Germany must become a modern democratic state if peace is to reign in the world.



## Syrup from Fruits

**A**PPLE syrup made from apple juice contains about sixty per cent of sugar. A gallon of apple syrup made from seven gallons of apple juice has approximately the sweetening value of three to four pounds of cane sugar. Write your agricultural experiment station or state directors of home economics for full directions for making fruit syrups.

Syrup from apples, pears and grapes can be used in cooking and on the table to replace sugar to a great extent. Try it with baked apples or pears. A little cinnamon adds to the flavor. This syrup is suitable for use on hot cakes and in making gingerbread. With ginger and butter it makes a savory hot sauce for puddings. When the family demands sweets the inventive housekeeper will discover many other uses for her fruit syrups.

**Cider Jelly.**—Sweet cider jelly can be made without sugar. Boil apple syrup until the jelling point is reached. This jelly makes an excellent relish with meat.

**Fruit butters** can be made without sugar. Add one quart of apple syrup or grape syrup to one quart of fruit pulp. Boil down to a thick buttery consistency and seal hot. This is a tart butter and an excellent relish. If a sweeter butter is wanted add sugar, sorghum or molasses when these are available, reheat and seal. If there is no fruit syrup on hand proceed as follows in making fruit butter: Cook peeled and pitted fruit in enough fruit juice to prevent scorching; press through a sieve; to each quart of this pulp add three quarts of apple or grape juice and to each four quarts of the mixture add two teaspoons of ground cinnamon and one of ground cloves and proceed as above.

**Fruit Preserved in Fruit Juice.**—Any fruits may be preserved in grape juice, but apples, pears and sweet plums are particularly good. Boil six quarts of grape juice in an open preserving kettle, until it is reduced to four quarts. Have the fruit washed and pared, and, if apples or pears, quartered and cored. Put the prepared fruit into a preserving kettle and cover generously with the boiled grape juice. Boil gently until the fruit is clear and tender, then put into sterilized jars.

For preserving in cider, prepare apples and pears in the same way, cover with boiled cider (boiled until reduced one-half) and cook slowly until clear and tender.

### SAVING FROSTED TOMATOES.

Last year a three-day rain preceded the first frost. The ground was so wet in my garden that I could not get out on it without sinking to the shoe tops. Then came a killing frost. Bright and early I started for my garden, gathered the ripe tomatoes before the sun should strike them, and plunged them into boiling water, then dashed the cold water over them. There were enough to fill four one-quart cans. These were carefully marked, and when opened in the winter were as sweet and tasty as any of the canning. —Mrs. J. A. DeG.

### MAKE CREAM CHEESE AT HOME.

Nufchatel and cream cheese, two of the group known as soft cheese, now made almost exclusively in factories with extensive equipment, can be made in the home.

The United States Department of Agriculture has worked out a method for their manufacture which is simple and does not require elaborate equipment. This method, together with many recipes for using soft cheese, are described in *Farmers' Bulletin No. 960*, recently published by the Department. The plan offers an excellent opportunity, the bulletin says, for the disposal of surplus milk on the farm, and enables farm housewives to make a fresh, wholesome, attractive food at home.

## Taking Off the Lid

by the U. S. Food Administration does not mean one may buy pure wheat flour and waste any part of it.

It does mean the Food Administration appreciated the splendid loyalty of the American Housewife in living up to the wheat flour regulations during the past eight months, and shows an abiding faith in her.

You may now buy either pure wheat flour and substitutes, or flour already mixed called **VICTORY FLOUR**, whichever you prefer, and buy in sufficient quantity to provide for normal requirements.

If you buy pure wheat flour ask for

## Lily White

"The Flour the Best Cooks Use"

Every bushel of wheat used in the manufacture of **LILY WHITE FLOUR** is cleaned three times, scoured twice and actually washed, steamed and tempered before going on to the rolls for the first break.

That is one reason why **LILY WHITE FLOUR** is so good, and why it has given and is giving such splendid satisfaction.

You can conserve wheat flour by using **LILY WHITE** because every atom of it is good flour, and spoiled bakings will not occur.

**LILY WHITE FLOUR** is sold on the guarantee that if it does not give satisfaction the purchase price will be returned. **YOUR DEALER** is instructed accordingly.

## VALLEY CITY MILLING COMPANY

Grand Rapids, Mich.

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### Big Savings for Michigan Farmers

This is your chance to buy best quality Roofing of leading makes, Asphalt Shingles, Building Papers, Roofing Cement, Paints, Wall-board, etc., at prices that hold the record for economy. We are Michigan representatives of manufacturers of the best Roofing and Repairing materials of all kinds. War has stopped big building operations, and our entire warehouse stocks are now offered direct to farm consumers at contractors and manufacturers wholesale prices. But you must act quickly, for these bargain stocks are limited. *Eight more we can guarantee shipment direct from Detroit at big saving in freight. Tell us your needs. Avoid disappointment. Write for Free Samples and prices today.*

**WHITE STAR REFINING COMPANY** Detroit, Mich.  
Dept. M. F. Every Avenue and G. T. R. R.  
Manufacturers of Extra-Quality Motor Oil



## IRONCLAD KHAKI

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Uncle Sam's Boys and Girls both wear garments of

## IRONCLAD KHAKI

the patriotic economy cloth. It's fast color—can't fade and wears like leather. Be sure the Ironclad "army" label and Guarantee Bond are in every khaki work shirt, pants, overalls and coveralls you buy.

Garments sold by dealers—everywhere

Write for free samples of Ironclad Khaki Cloth and Miss Ironclad Khaki Cloth to

**FRANKLIN MANUFACTURING CO.**  
Manufacturers of Cloth Only  
111 Market Place, Baltimore, Md.

### MICHIGAN FARMER PATTERNS.

Any of the patterns illustrated may be secured by sending order to Pattern Department, Michigan Farmer, Detroit, enclosing the amount set opposite the patterns wanted.



**No. 2566—Boys' Blouse Suit.** Cut in five sizes, 6, 8, 10, 12 and 14 years. Size 12 requires two yards for the trousers, of 36-inch material. Price 10 cents.

**No. 2567—Girls' Dress.** Cut in four sizes, 10, 12, 14 and 16 years. Size 12 will require three yards of 36-inch material for the foundation. The overblouse will require 2 1/4 yards; 10c.



**No. 2416—Child's Set of Short Clothes.** Cut in five sizes, six months, one year, 2, 3 and 4 years. The dress will require two yards of 36-inch material. The petticoat 1 1/2 yards of 27 or 36-inch material. The drawers 1 1/4 yards of 27 or 36-inch material, for a three-year size. Price 10 cents.

**No. 2437—Girls' Dress.** Cut in five sizes, 6, 8, 10, 12 and 14 years. Size eight requires 3 1/4 yards of 44-inch material. Price 10 cents.



**No. 2204—Girls' Dress.** Cut in five sizes, 4, 6, 8, 10 and 12 years. Size eight will require 3 1/4 yards of 44-inch material. Price 10 cents.

**No. 2573—Girls' Dress.** Cut in four sizes, 4, 6, 8 and 10 years. Size eight requires 3 1/4 yards of 36-inch material. Price 10 cents.



# The Life of the Bee

By GRACE F. ELLIS

FOR a good many years I have kept one or more swarms of bees in my laboratory. I commenced bee-keeping mainly as a factor in the teaching of zoology to high school students, and I have continued it both for the sake of using the bees in my teaching, and for the pleasure of the bees and the honey they produce. One year a strong swarm yielded more than one hundred pounds; that, of course, is much more than one can expect. The average yield from a swarm

deposit of eggs. She gradually works up to this capacity and gradually ceases. The queen is the mother of all the bees in the colony. She is not in any sense a ruler, as the term implies, although the presence of the queen is necessary to the continuance of the hive.

The workers determine the conduct of the colony. It is a democracy where government is by mutual consent. The queen, like the workers, has a sting but she employs it only against rival queens.

Drones normally hatch from drone cells which are slightly larger than the worker cells. The drone is a gentleman of leisure. He eats what he wants from the honey cells and takes food from the mouths of the nursing workers. On clear, warm days one sees the drones flying from the hive, especially between eleven and three o'clock. It is at this time that the virgin queens usually fly in the air to mate. The drones pursue the queen and the swiftest and strongest mates with her, usually high in the air, both fall to the ground, the drone dies, and the queen seeks the hive which she will not leave again except to lead a swarm.

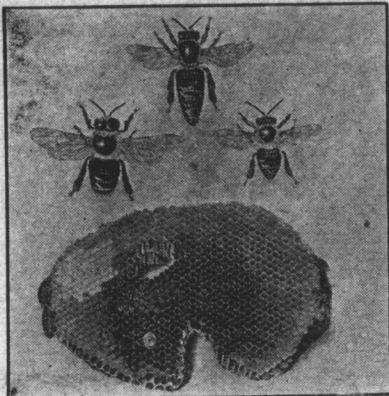
In late August when the honey is getting scarcer and there is no longer need for the drones to fertilize the new queens, the workers force the drones to leave the hive and remain outside where they soon perish of cold and starvation. The drones resist and buzz about but the workers are determined and as the drones cannot sting they are at the mercy of the workers.

The workers compose the mass of the bees in a colony. There may be from a few hundred to as many as eighty thousand workers in a swarm. They defend the hive, clean and ventilate it; rear the young bees, gather the honey and pollen, the water and the propolis, (with which the cracks are sealed), secrete the wax, build the comb, and control the activities of the hive.

Bees pass through a metamorphosis of four stages. The first three of these stages are spent in the comb. In all of these stages the young are known as the "brood." The brood includes the egg, larva and pupa. The egg is a tiny white mass fastened to the bottom of the cell by its smaller

torn by flight. The young bees act as nurses to the larvae. It is two weeks before they do any outside work although they may take occasional flights around the hive. Beside feeding the larvae, they pack and seal the honey, secrete wax, build comb, clean the hive, and later on they guard and ventilate the hive. As soon as an egg hatches into a larva it is fed on chyle secreted by glands in the mouths of the nurse bees. The larvae are fed on this until they are fully grown and about to spin their cocoons.

When the worker bees are sixteen days old they graduate and become foragers for honey and pollen. They are then field bees for the rest of their lives unless the colony loses its nurse bees in some way. When the honey flow is rapid the old bees die from exhaustion after not more than twenty-six days in the field. When there is no honey to gather the bees live much longer. The larger number



Worker, Queen, and Drone Bees, and Comb Containing Brood.

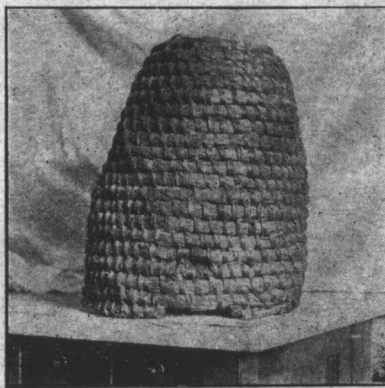
in a city school has been from twenty-five to thirty pounds.

In experimenting with the bees I have used several forms of hives; the large observation hives with a number of frames, the single frame observation hive, an old box hive, and perhaps most interesting of all, one of the old-fashioned straw hives from Holland. In this the bees made over twenty pounds of honey in one season. They built their comb as they would have done in a tree, fitting it so cleverly to the shape of the hive that there was no waste space, and only enough room for the bees to pass back and forth in the winding galleries.

A swarm of bees consists of several thousands of workers, a few hundred drones and one queen. The queen is a fully developed female capable of laying eggs which produce either drones or workers. The eggs of worker bees are deposited by the queen in the worker cells of the comb and are always fertilized eggs. The drone eggs are unfertilized—that is, they receive no male element and are therefore fatherless bees. They are usually laid in drone cells, which are a little larger than the worker cells. Normal queens lay many more worker eggs than drone eggs, and the queen is probably able to control the fertilization of the egg, and determine the sex.

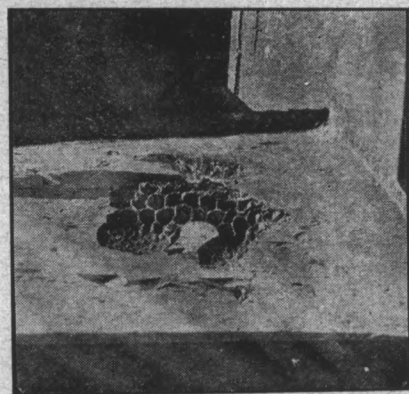
Queens are reared from worker eggs by a special process of feeding and changing the shape of the cell which is greatly enlarged. The special feeding begins with the hatching of the egg which occurs in from three to four days after it is laid. It develops the reproductive organs of the insect which, without this would have formed a worker bee. A queen bee is fully developed in sixteen days after the egg is laid. She appears from a long cell usually at the side or base of the frame. The queen is longer, has a narrower abdomen, and if pure Italian is very light in color. She goes about the hive with little attention from the bees until she is from twelve to twenty-four hours old. Then, if the day is bright, she takes her "wedding-flight." When she is ready to go she will make one or two short flights about the hive, apparently to get the location. After that she flies out into the open to mate with a drone in the air.

An average queen may lay, in the height of the season, more than three thousand eggs in twenty-four hours but this is done only for a short time and with unrestricted cell room for the



An Old Holland Bee Hive.

end. The larva is a white, worm-like body, at first very tiny as it hatches from the egg, and curled up in the bottom of the cell. As it grows it lies on its back with its head toward the mouth of the cell. When it has been fed by the workers till it is full grown, it spins a little silk within the cell and is sealed in by the workers. Inside the closed cell it undergoes a great change in appearance, develops legs and wings, and grows into the form of the adult. When it is fully developed the bee gnaws away the capping and crawls out on the comb. Young bees can be recognized by their silvery color, they are downy and seem weak. Old bees lose most of their hairs and look glossy, and their wings may be



Queen Cells.

of the bees in the hive at the beginning of the winter will live until the young bees hatch out in the spring. The average life of the worker bees in the busy season is six weeks. When a hive is opened in the spring the bees which could not survive will be found on the bottom, in the summer they drop exhausted in the fields. The length of life of the drone is uncertain. It would probably be several months if he did not mate with a queen or were not driven out by the workers.

Queens have been known to live for five years, but are at their best during their first and second seasons. They may do well a third season. Bees prepare to supersede a queen by building queen cells in each of which the old queen lays an egg. The young queen mates and begins egg laying soon after the death of the old queen. Sometimes both old and young queens are laying eggs at the same time. This will not last long for the old queen soon dies. Superseding is apt to occur soon after the main honey flow, in midsummer or early fall.

## THE NEW RURAL SCHOOL.

(Continued from page 301).

Assistant State Leader for Boys' Clubs tells briefly of the work these clubs are doing throughout the state and explains in detail the working of the handicraft club. This club is a farm carpentry club for making of home and farm conveniences. He then demonstrates how to make a simple auto jack. In the meantime, the products exhibited have all been judged and after this the judges explain to the boys how to select for fairs and exhibits, explaining what to look for in this selection. The premium ribbons are then awarded and the meeting is adjourned.

## CLUB NOTES

The war has called Floyd Smith, club leader for Kalamazoo county, and Kelsey Smith, assistant club leader for Ingham county. Miss Ruth Cooley succeeds Mr. Smith at Kalamazoo.

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**WHITING-ADAMS BRUSHES**  
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Every garage must have an outfit of brushes to use, and such as sell accessories should have an assortment of brushes to supply demands. There is a WHITING-ADAMS brush made for every automobile purpose. Cleaning, scrubbing, polishing, dusting, painting, staining, varnishing, and all uses for which brushes are required. Over 10,000 kinds and sizes made. Send for Illustrated Literature. Dept. A.

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Brush Manufacturers for Over 100 Years  
Whiting-Adams Brushes Awarded Gold Medal and Official  
Blue Ribbon, Highest Award at Panama-Pacific Exp'n, 1915

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It is like throwing dollars away to waste cream these days. It is worse than waste—it is a crime. Yet good, rich cream is being fed to the pigs owing to inferior separation. Sweden has perfected the most economical, fastest and greatest labor-saving cream separator ever made. This is world-famed

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OVER ONE MILLION IN USE  
Guaranteed for a Lifetime  
You, too, can save all your cream with the Viking. It will pay you to investigate. Look up the Viking dealer the next time you are in town. See the Viking in action.

Get These Two Free Books  
They are packed full of profit-making ideas, methods, systems for the dairy farmer. Write for them right now.

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**Only \$2 DOWN**  
**ONE YEAR**  
**TO PAY**

**\$38** Buys the New Butterfly Junior No. 24. Light running, easy cleaning, close skimming, durable. Guaranteed a lifetime against defects in material and workmanship. Made also in four larger sizes up to No. 8 shown here.

**30 DAYS' FREE TRIAL** Earns its own cost and more by what it saves in cream. Postal brings Free catalog-finder and "direct-from-factory" offer. Buy from the manufacturer and save money.

**ALBAUGH-DOVER CO., 2165 Marshall Blvd., CHICAGO**

**INSYDE TYRES Inner Armors**

for Auto Tyres. Double mileage, prevent blowouts and punctures. Easily applied in any tire. Used over and over in several tires. Thousands sold. Details free. Agents wanted.

**American Accessories Co., Dept. 712 Cincinnati, O.**

**ROSEN RYE**, a new variety originated by has been heavily outyielding almost all other varieties of winter rye. \$2.50 per bu. new 16 oz. bags 70c.

**YOUNG-RANDOLPH SEED CO., Owosso, Mich.**



## "By the Way"

The man who has spent his money to make others happy need never have regrets over dying poor.

ACCORDING TO HIS FOLLY.



"That handsome woman over there is the widow of one of the Jagg brothers."

"Which brother is she the widow of?" asked his friend.

"The dead one."

A FARMERETTE'S EXPERIENCE.

"Where I stayed last summer a green hired man tried to kiss me. He said he had never kissed a girl in his life, and—"

"What did you tell him?"

"I told him that I was no agricultural experiment station."

GUILTY.

"Now, sir, you say that my client disappeared in the darkness after knocking you down. What time of night was this?" questioned the defendant's attorney.

"I can't say exactly. Your client had my watch," returned the complainant.

HE GOT IT.

In an examination in history a grammar school class was asked: "What did Patrick Henry do?"

One little fellow answered: "Patrick Henry said, 'give me liberty or give me death,' and he got both."

CHEAP BABIES.

The clergyman was reading the announcements. Among them was a notice to the effect that all mothers who wished to have their babies christened should bring them to the church on the following Sunday.

As he finished, the clerk, who was very deaf, arose and added: "Those who have none can obtain them in the vestry after the service. Leather binding, fifty cents each; cloth binding, twenty-five cents each."

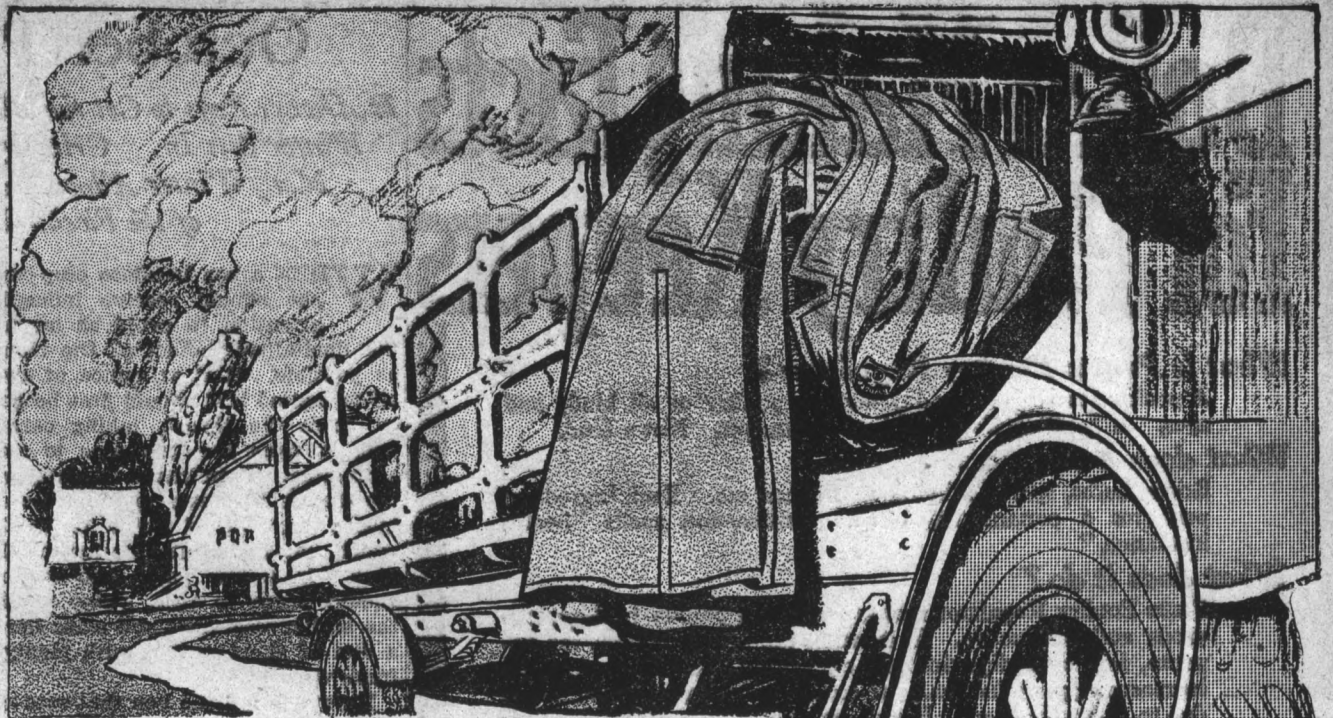
He thought the minister had announced the new hymn books and had not stated the price.

OPINIONS.

Man cherishes an opinion when it is his own and treats it with entire indifference when it belongs to another. Because it is truly his opinion he regards it as his true opinion and therefore believes it is a true opinion. In other words, he is simple enough to reason that, because it is his own, he owns an absolutely correct opinion; and he cherishes it with a respect and devotion which he is entirely unwilling to accord to the opinions of others.

Although many do not realize it, opinions head the list of man's choicest possessions. Many a man has mortgaged his home, sold his automobile, pawned his watch, or divorced his wife, and all the while tenaciously clung to some insignificant opinion.

Inordinate fondling of an opinion exalts it, in the possessor's mind, to the rank of a principle.



## A Weatherproof Coat

In every Raynster there is a Raynster Label. That label assures you something more than just a raincoat. It is the sign of the best in weatherproof clothing of all kinds. It is the proof of full value for money received.

Buy a Raynster today and be sure the label is in it. Raynsters are good insurance of health and clothing for every member of your family.

There are Raynsters in all styles of weatherproof clothing. The heavy rubber surfaced kind for outdoor work; cloth coats suitable for dress or work, these are good overcoats as well as good raincoats; heavy ulsters that are warm and shower-proof, splendid for driving in cold or rainy weather. Raynsters are made for every member of the family and are priced according to materials and workmanship necessary to produce each particular kind—the label guarantees value for price—always look for it. Don't buy just any old raincoat when your dealer can get you a Raynster.

Write for a Style Book showing many Raynster models.

### United States Rubber Company

Clothing Division, New York and Boston

# Raynster

Reg. U. S. Pat. Off.



Trade Mark  
Reg. U. S. Pat. Off.

Look for this Label in your Raynster



## THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

### Gombault's Caustic Balsam

IT HAS NO EQUAL

For — It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils, Corns and Bunions. CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

REMOVES THE SORENESS—STRENGTHENS MUSCLES  
Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than \$120.00 paid in doctor's bills."  
OTTO A. BEYER.  
Price \$1.50 per bottle. Sold by druggists, or sent by express prepaid. Write for Booklet E.  
THE LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

A Perfectly Safe and Reliable Remedy for  
Sore Throat  
Chest Cold  
Backache  
Neuralgia  
Sprains  
Lumbago  
Diphtheria  
Sore Lungs  
Rheumatism  
and all Stiff Joints

## CHICKENS SICK

Scap, Colds, Canker, Bowel complaint, Limberneck, Sorehead, etc., the best remedy is always GERMOZONE. At most dealers or for prospectus with 5 book poultry library free. GEO. H. LEE CO., Dept. 426, Omaha, Neb.

We Want More Fresh  
Henneries

Est. 1891  
**EGGS**  
Write Us For Prices  
F. J. Schaffer & Co.  
Eastern Market, Detroit, Mich.

## Why Hens Won't Lay

P. J. Kelly, the Minnesota Poultry Expert, 84 Kelly Bldg., Minneapolis, Minn., has published a book, "The Tale of a Lazy Hen." It tells why the hens won't lay and how to make them lay every day. Mr. Kelly will mail the book free to any one who will write him.

POULTRY

## HOMESTEAD FARMS

A Federation of Interests

S. C. White Leghorns—150 laying hens ready for immediate delivery; these hens are of good size and strong layers; Pens 6, 12, and 24.  
Pullets—100 S. C. Brown Leghorns; few S. C. White Leghorns; R. C. Rhode Island Reds; White Rocks.  
Cockerels—White Rocks, Buff Rocks, Barred Rocks; S. C. Black Minorcas; R. C. Rhode Island Reds; S. C. and R. C. White Leghorns, Brown and Buff Leghorns. We have a limited number of particularly high class milky Barred Rock and Black Minorca cockerels; 2 reading S. C. Black Minorca Cock Birds.  
Turkeys, Geese, Ducks—White Holland Turkeys, large thrifty highly bred pure white birds; Bourbon Red Turkeys; Gray Toulouse Geese; White Pekin Ducks. Please write for description and prices.  
Bloomingdale Farms, Bloomingdale, Mich.

Barred Rocks—EGGS FROM STRAIN with records to 250 eggs a year; \$2 per 15. Delivered by parcel post, prepaid. Circular free. FRED ASTLING, Constantine, Mich.

BUFF LEGHORNS. 50 Choice hens and a few cockerels selling for \$1.50 each, this is half price. Dr. WILLIAM SMITH, Petersburg, Mich.

## BARRON ENGLISH 240 EGG STRAIN

White Leghorns most profitable poultry known. Large sized 5 lb. females with long deep bodies and large red combs in every way typical egg-bred Leghorns. Make big profits with our Barron heavy laying strain. Order breeding stock NOW. Pens mated for you for best results. 12 yearling hens and one chl. for \$30. 24 hens two chls. at \$40. Special price on quantity of 100 or more birds. \$100 or over orders Liberty Bonds taken for cash face value. 500 choice selected breeding chls. at \$1.50 each. Write us your wants or order direct from Adv. Devries Leghorn Farms, Box 222, Zeeland, Mich.

## Ferris White Leghorns

A real heavy laying strain, trapped 17 years, records from 200 to 264 eggs. Get our special summer prices on yearling hens, breeding males, eggs for hatching, 8-week-old pullets and day old chicks. We ship C. O. D. and all about our farm and methods; results you can get by breeding this strain. Send for your copy now—it is free.  
GEORGE B. FERRIS 984 Union, Grand Rapids, Mich.

## BREEDING COCKERELS

Bred-to-lay S. C. White Leghorn and Barred Rocks. Would advise ordering early. Price reasonable. Write us your wants. Sonnybrook Poultry Farms, Hillsdale, Mich.

Fowlers Buff Rocks Booking orders now at a \$2 for 15; \$4 for 30; \$5.50 for 50; \$8.00 for 100.  
R. B. FOWLER, Hartford, Mich.

Pine Crest White Orpington greatest egg producers—hens and young stock, buy now for next winter. Mrs. WILLIS HOUGH, Pine Crest, Royal Oak, Mich.

## Rhode Island Reds

Both combs. No stock for sale until December. INTERLAKES FARM, Box 39, Lawrence, Mich.

Rose Comb Br. Leghorn cockerels \$1.00 each, from best lines in America. White Pekin Ducks \$2.00 each. Mrs. CLAUDIA BETTS, Hillsdale, Mich.

SILVER Golden and White Wyandottes, good breeding stock after Oct. 1st, fine lot of cockerels \$3 to \$5 each. O. W. Browning, R. 2, Portland, Mich.

White Wyandotte eggs for hatching also baby-chick out of choice stock; send for a 1918 circular. DAVID RAY, 709 Norris St., Ypsilanti, Michigan.



# Dollar-Making Facts For Poultry Keepers

## What is Pratt's Poultry Regulator?

A positive tonic and conditioner for poultry of all kinds and ages. A health-builder and health-preserver. Not a food.

## What does it contain?

Roots, herbs, spices, mineral substances, etc. Each ingredient performs a certain duty. The combination spells "health insurance."

## What does it do?

Pratt's Poultry Regulator makes and keeps poultry healthy, vigorous and productive. It shortens the molt, sharpens the appetite, improves digestion and circulation, hastens growth and increases egg-production. It saves feed by preventing waste due to poor digestion. It prevents disease by keeping the birds in condition to resist the common ailments.

## Has it been fully tested?

Yes! In general use for nearly fifty years. The original poultry conditioner. Imitated, but unequalled.

## Does it give general satisfaction?

Positively! Satisfaction guaranteed or money refunded. Test it at our risk. Increased egg-production will prove that "Pratt's makes hens lay."

## How is it best used?

Daily in small quantities. For adults, a tablespoonful daily for 10 birds. Younger stock in proportion. Mix with dry or moist mash.

## What does it cost?

Nothing, because it pays big profits. One cent a month per hen is the investment required.

## Where can I get it?

From 60,000 Pratt dealers. There is one near you. Direct from the manufacturer, prepaid, if your dealer can't supply you.

## How can I learn more about it?

Ask the Pratt Food Co., Philadelphia, for valuable FREE BOOKS on poultry keeping. Write today!

PRATT FOOD COMPANY  
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Manufacturers of Pratt's Powdered Lice Killer, Roup Remedy, Disinfectant, etc. Also Pratt's Animal Regulator and Veterinary Remedies

**Pratt's**

## October Poultry Notes

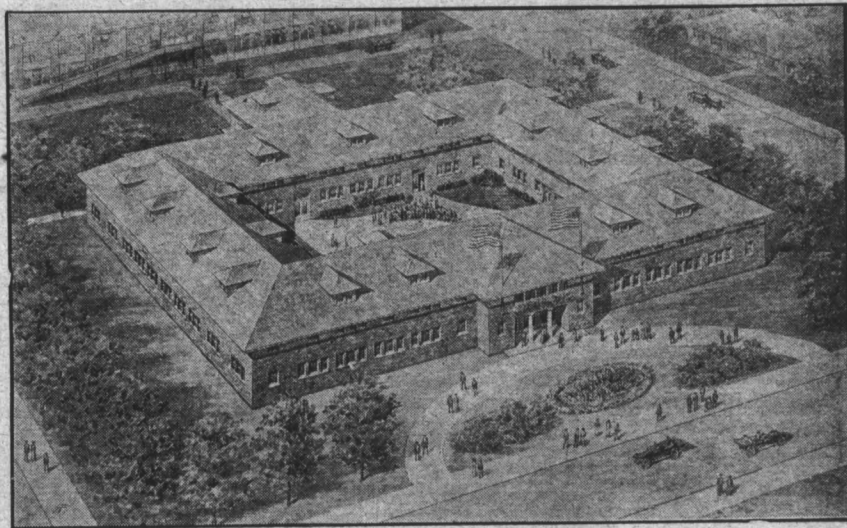
*It Always Pays to Get the Flock Settled Down to Business Before Winter Sets In. Grit, Oyster Shell and Charcoal Prevent Many Winter Ailments and Promote the General Thrift of the Flock.—By George K. Riley.*

WHEN a hen becomes crop bound she should receive immediate attention to avoid as much of the devitalizing effect of the trouble as possible. Half an ounce of sweet oil or melted lard should first be poured down the throat, taking care to keep it from the wind-pipe to avoid strangling. Then knead the crop with the fingers to break up the mass and loosen any bit of straw or feather which may be responsible for the clogging. In a few hours the material should begin to pass away. Isolate the bird several days and place her on a diet of short rations with plenty of fresh water.

It pays to kill the hen that eats eggs unless she is valuable as a breeder and there are very few hens that are

been in winter quarters for several months without grit in hoppers. They had cleaned up all gritty substances from the floor and were becoming decidedly worried for a lack of "teeth." We found an old broken vinegar jug in the scrap pile and pounded it up. In less than two minutes the flock had eaten the jug and they picked it up more eagerly than they would have eaten the finest quality of corn or wheat. The hen's instinct is all right even if her brain appears to be somewhat lacking.

In saving over cockerels for use with the farm flock it pays to keep a few extra birds to make up for any illness that may occur or accident that may happen. If five males will be needed in the spring it is good judg-



New Poultry Building at Michigan State Fair Grounds.

valuable enough to pay for risking the egg-eating habit in the flock. Hens will imitate each other and when one hen eats an egg it does not take long for some of the others to learn. However, do not condemn a hen that eats an egg which is accidentally dropped on the floor and broken. It does not mean that she is the kind of hen that would break eggs in the nest and eat them. Almost any hen will eat an egg that is broken on the ground.

The hens should receive oyster shells throughout the year to insure strong hard shells on the eggs, but if the supply has been neglected during the summer it is doubly necessary in the fall when the birds are more confined to the laying houses.

Charcoal helps to keep the flock in healthful condition at all seasons of the year. During the summer and fall much of the charcoal can be supplied to the birds by burning stumps, the prunings from an orchard or scrap of various kinds, but when the birds are in the laying houses they should have a supply of clean dry charcoal always available. The charcoal absorbs acids and gases and helps to keep the bird in condition when heavy feeding might bring on indigestion. Some poultrymen place the stove ashes in the poultry hoppers after they are cool and free from live coals and from these ashes the birds seem to get plenty of bits of charcoal to keep them in good condition.

In the gizzard of the fowl the feed is prepared by a grinding process for further digestion. If grit is absent the gizzard cannot function properly. Many farm flocks do not receive a sufficient supply of grit. They cannot use their food to the best advantage and the health of the flock and the egg production will drop. Hens crave grit and it should be constantly supplied them. I remember seeing a flock which had

ment to save seven or eight and the five that come through the winter in the best condition can be retained for the breeding pens. It costs money to feed the extra males but not as much as it costs to purchase more birds in the spring if they are needed. Sometimes a cockerel that appears like a fine vigorous bird in the fall will not look as good as expected in the spring and then it is encouraging to have a substitute without paying five, ten or fifteen dollars or more for such a bird. Farmers will undoubtedly find that good breeding cockerels will be very scarce next spring and it will pay to study the requirements of the home flock this fall.

### Sunflowers for Poultry.

The large Russian sunflower is one of our best plants for furnishing shade in the poultry yard. Last year I planted my sunflower seed about an inch deep in the poultry yard and they were very slow in appearing and as they came out the young birds immediately devoured them. It seems that in nature's method of propagating sunflowers the seeds are simply shaken upon the ground where they receive only a light covering of soil, just enough to place the seed out of sight. In two weeks they make an excellent growth and it is then easy to transplant them to the poultry yard where they will rapidly develop and form dense shade during the summer and fall as well as scatter an abundance of seed on the ground. In many cases it is advisable to save the seed in the fall and store it in bins for mixing with the winter ration of scratch feed.

Fowls that are dependent upon an exact ration or a system of feeding, are either constitutionally weak, or require a ration adapted to their weakness, or there are wrong conditions which something in their ration counteracts.

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I'll furnish you with a style of Ready Roofing in rolls or shingles suitable for any building at a price that will surprise you, if you order quick before prices advance. The reason I save you money is because I sell this roofing on the same Direct-From-Factory-Freight-Paid plan that has enabled me to build up the biggest direct-by-mail fence business in America. No in-between profits to pay. My prices low—quality high.

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For Sale. New Moline Universal Tractor, model O, with plows and full equipment, will sell right, cash or part stock, owner having to leave farm. E. P. JOHNSTON, R. 1, Milan, Mich.



## Notes of the Poultry Yard

Selling at wholesale and buying at retail is one of the sure methods of reducing poultry profits. Some poultrymen purchase feed at the city feed store and wholesale their eggs to the groceryman. Others buy as much of their feed as possible from farmers in the fall and sell their eggs to consumers who can afford top notch prices for high-class goods. The second class of producers usually find that poultry can be made to return a profit.

A poultry authority recently stated that buttermilk was worth five cents per quart to him in producing eggs. He was purchasing it at a price of twenty cents for ten gallons. Many farm poultry owners would make more from eggs if they were able to obtain a reliable supply of buttermilk at a fair price.

It is said that the success in specialized farming depends more upon the selling ability than the producing ability. The egg business probably falls in that classification. An extra five or ten cents per dozen paid for eggs because they are of fine quality may mean success when the commonly received market price would barely pay expenses.

The poultry farmer who specializes in egg production and succeeds seems to realize that there is an unlimited demand for his product. Nearly all practical breeders with large flocks refuse to conceal many trade secrets.

### On Every Farm-- 100 Hens

THERE should be one hundred hens on every farm in Michigan. And we should obtain one hundred eggs from every hen. With approximately 200,000 farms, that would mean 20,000,000 hens and 2,000,000,000 eggs per year.

One hundred hens on every farm is not a particularly big contract. There is hardly a farm in the state but could support that number of hens practically on its waste materials and without materially added cost. One hundred hens to a farm is considerably less than the average number of hens to a farm in many of the better poultry-producing sections of the country. It is an average that could easily be maintained in the sections of the country where the average per farm is now lower.

One hundred eggs from every hen, while far below what could be obtained with proper encouragement of fowls, is considerably more than the average egg production the country over.

Many of them seem willing to tell the prices they receive for eggs, the names of their customers and practically all of their discoveries which aid them in the business. It must be that the demand for high-class eggs is unsupplied or practical breeders would have more trade secrets. Possibly there are no secrets to the poultry business. It requires a peculiar combination of patience, perseverance and study and the best of them never learn it all.

Guineas are almost impossible to confine in poultry yards and sometimes they will fly into the garden and ruin lettuce or other tender green crops. Their advantages are largely in the fact that they make lots of noise and frequently keep hawks and crows away from the premises, and furthermore they are fine table fowls and a pleasing delicacy for the farm table.

Geese can be raised at a small expense on farms possessing plenty of

pasture land. They are in great demand during the holiday season and should bring extra good prices in a year when turkeys are scarce and all kinds of fowls are in demand.

### BUILDING UP THE BEE INDUSTRY.

(Continued from page 308).  
ing devised by Mr. Samuel Simmins, a British bee-keeper, has been adopted to some extent in this country. A division board feeder is filled with soft sugar, no water being added. The bees use the sugar as they need it, but do not store it in combs.

The common plan is to feed a sugar syrup, that is granulated sugar and water, half-and-half, until the days become cool. Then two-thirds sugar and

### MICHIGAN RABBIT BREEDERS' ASSOCIATION.

The Second Annual Show of this organization will be held at Grand Rapids, Michigan, on December 18-21, 1918.—Mrs. B. Kalenbroden, Secretary.

one-third water may be used, the mixture being given hot. The earlier the feeding can be done, the better, but be sure that the bees have accumulated sufficient stores before the winter season comes on.

The average farmer as well as most fruit growers winter their bees in the open. This can be done safely if ten-frame hives are used. Eight-frame hives are too small unless the double-walled kind is used. Much depends upon the location. Bees are bound to suffer, no matter how well packed, if the hives are exposed to high winds. The best place for them is the southerly side of a wall or a building, unless there is a grove of trees to break the wind.

A good way to insulate a ten-frame hive against the cold is to substitute dummy frames filled with chaff for the two outside frames, thus confining the bees to eight frames and keeping them away from the walls. Then the hive may be wrapped in building paper tied in place with cord, or a light board frame may be built around it and the space between the hive and the frame filled with leaves, straw, planer shavings, or pine needles. Of course, the opening must not be covered. Amateurs often make this opening too small. The bees need fresh air. Cold is not so detrimental as dampness. Openings three-eighths of an inch high are best. They may be contracted lengthwise as seems desirable, preferably to five or six inches.

Probably the most important point about protecting bees for winter is to have them well covered. In actual practice there is no better way than to put on a super, over the bottom of which a square of burlap has been tacked. This burlap should be loose, so that there will be room for two or more plates of candy underneath it. After being put on the hive, the super should be filled with some absorbent material. Planer shavings are about the best, but pine needles, leaves or hay may be used. A tight cover, preferably a telescope cover, should be over the top. Much moisture is thrown off by the bees, and if it can escape the hive will be much drier than when a tight board covering is placed on the hive body.

Bees can endure a great amount of dry cold if the cluster is large, but the colder the hive gets the more stores they will consume.

Massachusetts. E. I. FARRINGTON.

Editor's Note.—On page 308 will be found an interesting story, "The Life of the Bee," by Grace F. Ellis, a new contributor to the Michigan Farmer.

## It's Puncture-Proof!



### Dayton Airless Tire Construction

Instead of a delicate inner-tube, Dayton Airless Tires are supported by piers of live, elastic rubber placed about an inch apart inside the casing.

When a stone or chuck-hole is struck, these piers squeeze down and absorb the shock, without jolting the mechanism of the car.

Then these piers return to their natural shape, without the bounce common to the pneumatic.

The Dayton Airless Tread, which is twice as thick as a pneumatic tread, guarantees extra long mileage.

Dayton Airless Tires are absolutely proof against punctures and blow-outs. They have no inner-tubes.

During the past five years, 50,000 owners of light pleasure and delivery cars have demonstrated that these tires ride as smoothly as pneumatics and absolutely will not injure the car, also that they are the most economical on the market.



on your car will permit you to drive over nails, broken glass and frozen roads without ever having to stop for tire trouble. You will get to your destination every time—on time.

**Most Mileage—Most Economical!**  
Nothing can happen to Dayton Airless Tires but wear. They wear down until nothing is left but shreds.

**A Lower Price**  
Our new modern and efficient factory, and our standardization on but two sizes—30x3 and 30x3½—enables us to greatly reduce the price of these wonderful tires. This new price makes Dayton Airless Tires the most economical that can be bought. Write today for free booklet and New Low Price List. There is an excellent opportunity to make money by becoming our exclusive dealer in your county.

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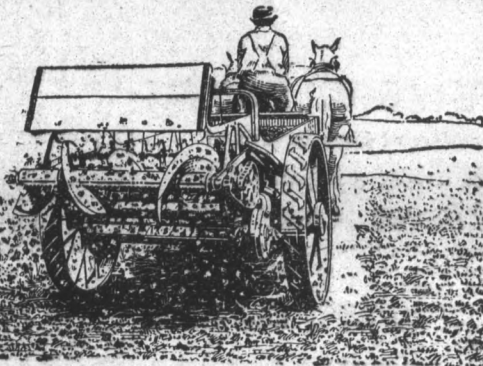
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### Low Corn King, Cloverleaf, or 20th Century Manure Spreader.

Begin right after harvest. With one of these machines, and no additional power or help, you can increase immediate yields, and put your soil in better condition for future crops. They are low, light draft, narrow box machines, each made in three handy sizes—small, medium and large. The entire load is spread in 3 to 5 minutes, in an even coat that extends well beyond the rear wheel tracks. See the machine at the local dealer's place of business—or write us.

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Wildwood Farms, Orion, Michigan  
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**Cloverly Angus** Good quality bulls of serviceable age and younger. Inspection invited. Geo. Hathaway and Son, Ovid, Mich.

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**Registered** Guernseys—that last heifer was sold in first issue, went to Ohio. Another just as good, will freshen this fall—\$300. Right in every way. J. M. WILLIAMS, No. Adams, Mich.

## FOR SALE

Guernsey Females of all ages. Choice breeding. St. AUSTELL FARMS, R. 3, Jackson, Mich.

**A Good Note** accepted in payment of finely bred registered Holstein bull calves. Quality of the best, and at prices within reach of all. Write, GEO. D. OLARKE, Vassar, Mich.

## I Always Have Holsteins To Sell

If wanting Registered cattle write me your wants before placing your order elsewhere.

L. E. CONNELL, Fayette, Ohio

## HOMESTEAD FARMS

### A Federation of Interests

**Holsteins:** From a herd of 50 Holsteins headed by the Bull King Zerna Alcartra Pontiac, son of King Segis Pontiac Alcartra, the \$50,000 Bull, we offer a number of bred cows and heifers, younger heifers and calves, and young bulls.

One particularly high class young bull now ready for service. If you want Holsteins of any class, will you please write to us for descriptions and photographs? Every animal guaranteed. BLOOMINGDALE FARMS, Bloomington, Mich.

## CLUNY STOCK FARM

**100--REGISTERED HOLSTEINS--100** When you need a herd sire remember that we have one of the best herds in Michigan, kept under strict sanitary conditions. Every individual over 6 mos. old regularly tuberculin tested. We have size, quality, and production records backed by the best strains of breeding. Write us your wants.

R. BRUCE McPHERSON, Howell, Mich.

**OAK Leaf Farm.** Herd sire Lenawee Pontiac Calamity King offer Registered Holstein bull calves from A. R. O. cows and the above sire whose dam holds the milk and butter record in the state of Ind. 7 days milk 796.3, butter 22.61—315 days milk 23782.3, butter 926.75. E. H. GEARHART & SON, R. 4, Marcellus, Mich.

**Parham's** Pedigree Stock Farm offers Reg. Holstein cattle, Chester White Swine, extra bargains in calves and fall pigs. Bulls half price. R. B. PARHAM, Bronson, Mich.

## Jack Bill Winn--Wood Herd Registered Holsteins

Sire in Service  
**Flint Maplecrest Boy**

Who is bred for real production his sire Maplecrest Korndyke Hengerveld is one of the best bred long distance bulls in the world. He or his dam are brother or sister to six cows with records above 1,200 lbs. of butter in one year and ten more above 1,000 lbs. in a year. Flint Maplecrest Boy's Dam is Gluck Vassar Bell 30.57 lbs. of butter in 7 days, 121 lbs. in 30 days. Butter fat test 5.27. Is there a reason why Flint Maplecrest Boy is not one of Michigan's greatest young sires. None of his females are for sale until after we test them. But we have 10 of his bull calves from 2 to 9 months old, with A. R. O. dams which we now offer for sale at prices any dairy farmer can afford to pay. Just tell us the kind of a bull you want.

**JOHN H. WINN, Inc.**  
Lock Box 249, Roscommon, Mich.

## Opportunity for Sheep Breeders

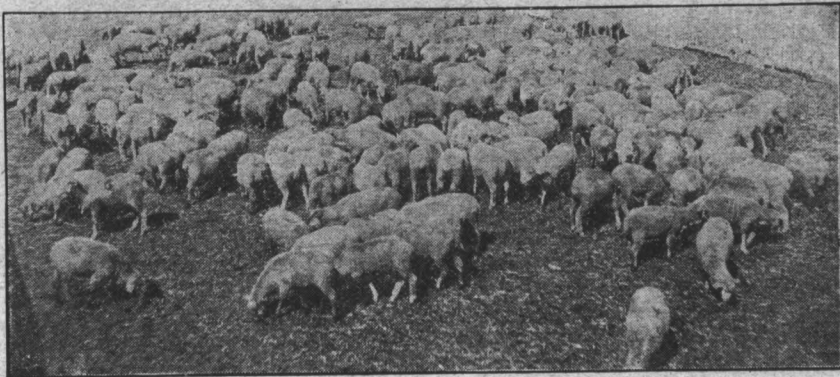
IN recent visits to the meat market in the nearby city I have noted the orders of the customers. On the three last trips not a buyer has ordered mutton or lamb in any form. Beef, veal and pork have seemed popular with sirloin steak, pork chops and sausage as the leaders. From this observation and others I have concluded that the majority of people in our community have not been frequent buyers of mutton. People form habits in the ordering of meat and it seems that the majority like beef and pork the best.

At this time beef and pork are needed for the army probably more than mutton. This seems to be a period when habits, through necessity and education, are changing. Why is it not a good time for the organized sheep breeders to make an effort to

increase the use of mutton by the housewives of this country. The war will not last forever and sheep breeding is a permanent industry. A general increase in the use of mutton will be of benefit to the sheep breeders for many years.

It is frequently stated that the breeding of sheep would be a part of every farmer's business if it were not for dogs. This is not entirely true as many farmers only ceased the production of sheep when they found that they could make more profit by using their land for corn and wheat and other crops. A general knowledge of the value of mutton and lamb in the ration of the laboring man would increase the demand and stimulate production. This would be greatly to the advantage of both the producer and the consumer.

R. G. KIRBY.



This Carload of Sheep, Exhibited at the Michigan State Fair, was Shipped from the Northwest to Cheboygan County, Michigan, by the Interstate Live Stock Company.

## BETTER RAMS FOR MICHIGAN.

An appeal to owners of sheep in Michigan to improve their flocks by employing a higher class of sires, is being made this season by the Michigan Agricultural College.

"Secure a ram at once if you have not already done so, for they are likely to be scarce and hard to find late in the season."

"There are several good breeds adapted to Michigan," declares Verne A. Freeman, extension man in sheep husbandry. "The black-faced, medium-wool breeds, such as the Hampshire, Oxford and Shropshire, are the most popular for small farm flocks. For larger flocks fine wools, such as the Rambouillets and Merinos are best, if the ewe lambs are to be saved for breeders, because of their hardiness, heavy shearing ability and long lives."

"But to produce the best mutton lambs, and when we plan to market all the lambs in the fall, it is best to use a good mutton ram on large flocks as well. By all means use a pure-bred ram of the breed you are starting with—in other words, avoid the fault of continually changing breeds. Select a sire that is active and vigorous, straight and strong in legs and body, and with a full and even development of all parts. He should also have a dense even fleece of fair length and fineness for the breed."

## LET THE HOGS DO IT.

(Continued from page 299).

the stalks and after taking a bit or two of the ear go on to the next stalk. If some smaller pigs do not eat up the corn that the large hogs leave it is liable to sour and mold. If there are not enough large hogs to break over the stalks the smaller ones will soon be squealing along the fence. If nothing but small pigs can be fed a few rows can be rolled down at a time so they can eat it. Large hogs can be made to clean the corn up by fencing them in smaller plots. It is much more satisfactory and efficient, however, to use hogs of different sizes in hogging down corn.

Fresh water is an important item in

hogging down corn. The pigs should have access to it at all times. Some supplemental feed, such as tankage, oilmeal, skim-milk, or wheat middlings should be fed, if one wishes to make the quickest and cheapest gains. Dry feeds can be self-fed to advantage.

While hogging down corn is a great labor-saving method, the pigs should not be turned into a corn field and not thought of again. One should be careful to see that all the pigs are getting all they want to eat and not leaving corn lay on the ground long enough to ferment. The pigs should also be inspected to see that the lice are not getting a good share of the gains. Posts wrapped with old fertilizer sacks and saturated with crude oil will help the pigs fight the lice. The utmost care should be taken to start the pigs in the corn field gradually. A pig over-fed on corn that is none too ripe is quite apt to lose interest in a corn field. A sick pig is much more liable to take cholera than a healthy one. His vitality is weakened as well as his natural resistance to disease. If one pig in a herd falls victim to cholera, the cholera virus gains so much strength that they can easily overpower the natural resistance of the other pigs.

It would seem that a method so efficient as this deserves a trial on most farms next summer. It will save the labor of handling the corn. It will save the labor of feeding the pigs and maintaining the fertility of the soil. It will save all the corn produced by putting it on the back of a hog in form of fat. It isn't too late yet to breed one or two extra sows so as to have some extra spring pigs. By using these extra pigs in the hogging down method more corn can be raised and more pork produced regardless of the scarcity of labor. Let the pigs help you to do your bit in this new responsibility of feeding the world.

Monroe Co. C. H. GREEN.

On many breeding farms the rations for yearling animals are of approximately twenty pounds of corn silage, ten pounds of mixed hay and two or three pounds of grain feed made up of one part each of wheat bran, cornmeal, ground oats and half a part of oilmeal.



Oct 24 1918 - Thursday - Oct 24 1918

Howell Sales Co. of Livingston County

## 5th ANNUAL SALE

At Sale Pavilion, Howell, Mich.

## 90 head of Registered Holsteins 90

Mostly fresh cows or cows soon to freshen, a few good heifers and calves, 3 good bulls. We will sell: A 27.64 lb. Jr. four yr. old; A 26.78 lb. three year old and her two year old daughter sired by Beauty Walker Pietertje Prince. A 24.78 lb. daughter of Vale Elzevere De Kol 2nd; A 24.90 lb. Grand daughter of Johanna Korndyke De Kol. Others with good records.

Reference Sires: A son of a 45 lb. cow and sired by a 32 lb. son of Rag Apple Korndyke 8th, a son of King of the Blacks and Whites and a 28 lb. cow. A son of King of the Pontiacs and a 31 lb. cow; A son of King Segis Champion Mabel; A son of a 32 lb. cow; A son of 29 lb. Granddaughter of Pontiac Korndyke. All cattle are consigned by Livingston county breeders and are tuberculin tested either by federal veterinary or state approved vet.

Auctioneers: Mack, Perry.

Send For Catalog

JAY B. TOOLEY, Secy.

## The Pontiac Herd

"Where the Champions come from"

Offer Bull Calves sired by sons of Pontiac Korndyke, Hengerveld DeKol, Pontiac Dutchland, or Admiral Walker Pietertje.

Do you want a Pontiac in your herd?

Pontiac State Hospital, Pontiac, Mich.

## "Top-Notch" HOLSTEINS

The young bulls we have for sale are backed up by many generations of large producers. Buy one of these bulls, and give your herd a "push". Full descriptions, prices, etc. on request.

McPherson Farms Co., Howell, Mich.

Larger production means greater profits. Official A. R. O. records prove Pure Bred Holstein Cattle produce more milk and butter day in and day out than any other breed.

Their known money-making qualities merit your investigation. The Holstein-Friesian Association of America, Box 164, Brattleboro, Vt.

\$50 Liberty Bond gets 1 mo. old gdson of Maplecrest Korn. Heng-dams are granddaughters of Pontiac Maid 30.21 lb. Heifers same age breeding \$150 terms. Herd free tuber. M. L. McLaughlin, Bedford, Mich.

## The Traverse Herd

This is the chance you have been looking for. We will sell a few, good A. R. O. cows. One with 27 18 in 7 and 110.35 in 30 days. Three others above 24 lbs. Come and see them or write for descriptions and prices but hurry for they will go quickly. Also a few bull calves for sale, the kind you will be proud to own. Pedigree and prices on application. State age desired. TRAVERSE CITY STATE HOSPITAL, Traverse City, Michigan.

## Want Yearly Records?

Our new sire has four sisters whose semi-official records are 677, 732, 913 and 946 pounds of butter in one year respectively at 2 to 3 years of age. His dam is a daughter of Friend Hengerveld De Kol Butter Boy, four of whose daughters have records over 1000 pounds and she is also a granddaughter of Pontiac Angie Korndyke, with six daughters above 1000 pounds of butter in one year.

Peaceland Stock Farm, Three Rivers, Mich. C. L. Brody, Owner. Fort Huron, Mich. Charles Peters, Herdsman

## DO YOU WANT

A Holstein Bull calf ready for service with exceptional breeding? Write HILLCREST FARM, Kalamazoo, Mich.

FOR SALE 3 Pure Bred Holstein Cows. Will freshen within a few days, price to sell. A. C. FROST, Lennon, Mich.

HOLSTEINS of quality. Bull calves from dams with records high as 31 lbs. in 7 days. Also collie puppies. E. A. HARDY, Rochester, Mich.

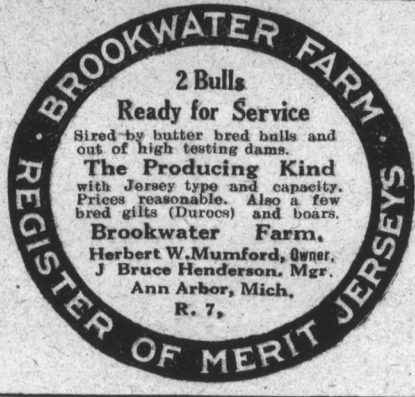
For Sale Cheap 2 Holstein bull calves, born Jan. 28 and Mar. 22, both from 23.42 lb. sire. One from 23.50 lb. 4 years old dam, also a few females. A. F. LOOMIS, Owosso, Mich.

REG. Holstein: Bull calf born Dec. 25, 1917, a splendid individual, straight, deep bodied 1/4 white, 7 nearest dams have A. R. O. records, that average butter 7 days 22.21 lbs. milk 47 lbs. W. B. Reader, Howell, Mich.

Registered Holsteins. To make room for cows or bred heifers to freshen soon. OLARE W. WILSON, B. 4, Mason, Mich.

## JERSEY BULLS

Ready for service FOR SALE WATERMAN & WATERMAN, Ann Arbor, Mich.



Maple Lane R. of M. Jersey Herd. Bulls, bull calves and heifer calves sired by one of the best grandsons of Pogue 98th of Hood Farm and out of R. of M. dams. IRVIN FOX, Allegan, Mich.

For Sale Registered Jersey Cattle of both sex. Smith & Parker, R. 4, Howell, Mich.

THE Wildwood Jersey Farm offers for sale choice bull calves for fall service from R. of M. daughters of Majesty's Wonder by Majesty's Oxford Fox. Herd tuberculin tested. When looking for a sire to head your herd, get a Majesty. Alvin Baldwin, Capac, Mich.

Hillside Farm Jerseys, offer 3 yearling bulls, backed by tested dams, and sired by a double grandson of Royal Majesty, first prize & junior champion at Mich. State Fair, good individuals. C. & O. Deake, Ypsilanti, Mich.

Meridale Interested Owl No. 11311 heads my herd, bull calves from this great sire and out of R. of M. dams for sale. O. B. WEHNER, Allegan, Mich.

Lillie Farmstead Jersey Cattle. Several heifers bred to freshen next fall. Also a few heifer and bull calves of choice breeding. Colon O. Lillie, Coopersville, Mich.

For Sale Registered Jersey Bull, three years old. "Hugos Streamland Boy" Sire, Hugos Best Dam, Judy Girl. Test eight, Cheap for quick sale. Streamland, Phone, Ganges 7-12, R. 1, Fennville, Mich.

## HEREFORDS

3 Extra nice yearling heifers, 3 extra nice heifer calves old enough to wean, 4 extra nice bulls from 8 to 12 mos old not related to heifers. Prince Donald, Farmer and Perfection Fairfax breeding. If interested come and see them.

ALLEN BROS., Paw Paw, Mich.

Herefords Polled and Horned blood lines embrace Fairfax. Polled Perfection and Prime Lad 9th breeding. Prices reasonable. COLE & GARDNER, Hudson, Mich.

## BIDWELL SHORTHORNS

Registered bulls, cows and heifers—Good Scotch and Scotch-Topped for sale. In prime condition. Modern sanitary equipment. Farm 10 minutes from N. Y. O. depot. 1 hour from Toledo, Ohio. Automobile meets all trains. Write

BIDWELL STOCK FARM, Box B, Tecumseh, Mich.

## Richland Farm Shorthorns

Sires in Service: Fair Acres Goods and IMP. Lorne-Michigans Grand Champion Bull. Attend the Shorthorn Sale at Lansing Oct. 9th. We invite you to inspect the cows and heifers we have listed in this sale.

C. H. PRESCOTT & SON, Herds at Prescott, Mich. Office at Tawas City, Mich.

## Francisco Farm Shorthorns

We maintain one of Michigan's good herds of Scotch and Scotch-Topped cattle. They are well bred, properly handled and price reasonable. Come and see; we like to show them.

P. P. POPE, Mt. Pleasant, Mich.

The Kent Co. Shorthorn Breeders Association are offering some choice animals at reasonable prices. Write your wants. L. H. LEONARD, Sec., Caledonia, Mich.

## SHORTHORNS

Cows, heifers & young bulls for sale at farmers prices; herd catalog mailed free. Horrleton Farms, Hart, Mich.

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

Shorthorn Seven Scotch and Scotch Topped bulls for sale. Price reasonable. W. B. McQUILLAN, R. 7, Howell, Mich.

Shorthorn Bulls ready for service of the choicest breeding. Write me you want. A. A. PATTULLO, R. 4, Deckerville, Mich.

For Sale Shorthorns of Quality Scotch and Scotch Topped descendants of Archers Hope, Avondale, Maxwilton Sulton and White Hall Sulton by the Oscola Co. Shorthorn Breeders Ass. JOHN SCHMIDT, Sec. Reed City, Mich.

Six Registered Shorthorn bulls for sale. Prices right. E. R. HAWLEY & SONS, R. 3, Stockbridge, Mich.

## GUERNSEY BULLS

Eighteen months old and younger. Grandsons of Golden Noble II; free from disease. Guaranteed in every particular and at farmers' prices. J. L. SNYDER, East Lansing, Mich.

Wanted Cattle 10 to 40 well bred Feeders 600 to 1000 lbs. E. C. WOODARD, Elsie, Mich.

## HOGS

Durocs. Choice spring pigs out of selected sows and sired by our best herd boars. They are of the big type, strong boned, smooth and of excellent quality and include some of the most popular blood lines such as Orion Cherry King, Top Col. Defender, Brookwater etc. Prices reasonable. The Jennings Farms, Bailey, Mich.

## DUROC BOARS

Big long, tall, growthy boars. The kind that will add size and growth to your herd. Biggest March farrowed pigs in country. Weigh 200 lbs. not fat. NEWTON BARNHART, St. Johns, Mich.

Duroc Jersey Spring boars for sale. Good breeding and large bone. Prices and descriptions on request. J. D. CRANE & SON, Plainwell, Mich.

Duroc Jersey spring boars sired by Orion Cherry King Cal. Write for prices and description. W. C. TAYLOR, Milan, Mich.

DUROCS April and May pigs of both sexes sired by a Defender bred boar. For prices etc., write WELLS PARISH & SONS, Allendale, Mich.

## DUROC JERSEYS

R. D. HEYDENBERG, Wayland, Mich.

Choice Duroc Jersey Gilts For Sale. CAREY U. EDMONDS, Hastings, Mich.

Duroc Jerseys for sale. spring & fall pigs of both sex also Shorthorn bulls milking strain. CHAS. BRAY, Okemos, Mich.

Duroc Jerseys Big heavy boned spring boars, winners at State and County Fairs. Place order early. F. J. DRODT, R. 1, Monroe, Mich.

Durocs March pigs of both sexes, sired by Defender Col. bred boar. ELM WOOD FARM, Shelbyville, Mich.

For Sale Registered Duroc Jersey Pigs 2 1/2 months old either sex \$15 each, 15 months old boar \$25. Feed Shortage makes this low price. JOSE LAKE RANCH, South Branch, Mich.

Crandell's Big Type O. I. C's Champion herd everywhere shown in 1917. Herd headed by five champion boars. Our sows won Senior, Junior and Grand Champion prizes at Illinois, Missouri, Ohio and Michigan 1917. Special prices on all spring pigs. Get our catalog it is free. Crandell's Prize Hogs, Cass City, Mich.

**Raise Chester Whites**

**Like This**

the original big producers

I HAVE started thousands of breeders on the road to success. I can help you. I want to place one hog from my great herd in every community where I am not already represented by these fine early developers—ready for market at six months old. Write for my plan—More Money from Hogs. S. S. BENJAMIN, R. F. D. 10, Portland, Michigan

Chesters May boars. Sept pigs in pairs or trios not akin from mature stock of the best blood lines obtainable. F. W. ALEXANDER, Vassar, Mich.

LAST fall gilts all sold, have a good lot of last spring litters from 3 sires good growthy stock. Farm 1/2 mile west of depot. Citizens Phone 12. OTTO B. SCHULZE, Nashville, Mich.

BRED GILTS and SERVICEABLE BOARS J. CARL JEWETT, Mason, Mich.

O. I. C.'s a few choice Apr. and May pigs either sex and 4 reg. Holstein heifers. CLOVER LEAF STOCK FARM, Monroe, Mich.

## O. I. C. &amp; Chester White Swine

Strictly Big Type with QUALITY. Have a few spring pigs either sex for sale. They are of the right stamp, good enough to be shipped O. O. D. NEWMAN'S STOCK FARM, R. 1, Marlette, Mich.

O. I. C. spring pigs for sale. I ship O. O. D. and guarantee to please. F. C. BURGESS, R. 3, Mason, Mich.

L. S. P. C. all sold out, except the largest gilt raised last year, bred for June farrow. H. O. SWARTZ, Shoolcraft, Mich.

Big type P. C. Big boned fellows from Iowa greatest herds, special prices on spring boars and choice bred gilts. E. J. MATHEWSON, Burr Oak, Mich.

Big Type Poland Chinas. Spring pigs for sale. Healthy and growthy. From large litters. Prices right. L. W. Barnes and Son, Byron, Mich.

LARGE Type P. C. Just 5 choice summer gilts bred for July and August farrow. Come and see them. W. J. HAGELSHAW, Augusta, Mich.

Big Type P. C. Spring Boars for sale, also Hampshire Ram lambs. A. A. WOOD & SON, Saline, Mich.

## Large Type P. C.

Bred gilts and boars all sold nothing to offer at present. W. E. LIVINGSTON, Parma, Mich.

Large type P. C. fall gilts up to 365 lbs. ready to ship bred for Aug. and Sept. farrow. Fall sale Nov. 29. Wm. J. CLARKE, R. 7, Mason, Mich.

## FOR 25 YEARS

This establishment has been head quarters for Big Type Poland Chinas. We have a nice lot of boars and sows of strictly big type breeding at very low price. Let me know what you want. Bell phone. JNO. C. BUTLER, Portland, Mich.

OLD FASHIONED Spotted Poland-Gilts and Fall Gilts bred or unbred. Reasonable. J. M. WILLIAMS, No. Adams, Mich.

Big type P. C. Boar one yearling. Large and fine every way 2 fall yearling 10 Apr. boars. Write for prices. Satisfaction guaranteed. R. W. MILLS, Saline, Mich.

Big type P. C. Boars all ages the kind that make good, meet me at the fairs. E. R. LEONARD, St. Louis, Mich.

## Yorkshire Gilts

(Pigs that are Pigs) For fall or Winter Breeding. Address OAKCROFT, R. 7, Pontiac, Mich.

Registered Hampshire spring boars now ready at a bargain. Bred gilts in Dec. JOHN W. SNYDER, R. 4, St. Johns, Mich.

## SHEEP

## Hampshire

Shropshire and Oxford, either sex, send for circular and prices. KOPE KON FARMS, Kinderhook, Mich.

Hampshires am offering for sale 10 yearling Rams also 5 ram lambs. F. A. SIMMONS, Rockford, Mich.

Some Good Breeding Ewes and registered RAMS for sale. Barnard Sheep Ranch, R. 5, Clare, Mich.

Registered Shropshire yearling ewes and Registered Shropshire yearling rams. Representatives of this flock have given satisfaction in many states since 1880. Priced to sell. C. Lemen, Dexter, Mich.

Brookside Farm offers Shropshires of quality, 10 ewes 40 rams. DAN BOOHER, R. 4, Evart, Mich.

For Sale 120 grade Shropshire Ewes, 1 to 3 years old also one car load of yearling steers and one car load of 2 year old steers. J. B. GARDNER, Cadillac, Mich.

Registered Shropshire yearling and ram lambs with best of breeding and size. Prices \$40 to \$60 also a few bred ewes at \$50. H. F. MOUSER, R. 6, Ithaca, Mich.

Shropshire Am offering 8 yearling rams now. Also 12 yearling ewes for December delivery. C. J. THOMPSON, Rockford, Mich.

Shropshire yearlings and ram lambs, one Kope Kon 2 yr. old ram. All wool-mutton type. G. P. ANDREWS, Dansville, Mich.

Shropshires 15 yearling rams 30 ram lambs 25 ewes 30 ewe lambs. Priced right. B. D. KELLY & SON, Ypsilanti, Mich.

FOR SALE Shropshire Ram lambs 10 bred ewes and 10 Ewe lambs. ARMSTRONG BROS., R. 3, Fowlerville, Mich.

## OXFORD RAMS

1 2 year old, 3 yearlings and 6 lambs. All reg. EARL C. MCARTY, Bad Axe, Mich.

Reg. Oxford ram lambs; come by auto and take the choice at \$30 and \$35 fine stock. 2 S. 3 W. St. Johns. J. R. HICKS, St. Johns, Mich.

Choice Oxford Yearling Rams For Sale. H. B. PETERS, Carland, Mich.

OXFORD Down Ram lambs, also a few ewe lambs. Berkshire both sexes. Booking orders for fall pigs. CHASE STOCK FARM, R. 1, Marlette, Mich.

FOR SALE Oxford Sheep, Yearling and ram lambs. H. W. MANN, Dansville, Mich.

## OXFORDS LAMBS

and yearling rams. O. M. York, Millington, Mich.

Improved Black Top Delaines. Sixty Reg. NEWTON & BLANK, Hill Crest Farm, Perrinton, Mich. Farm situated four miles south of Middleton.

## LINCOLNS

Good Lincoln rams and ram lambs also a few ewes bred if desired for sale. E. Knight, Gagetown, Mich.

Have a few good yearling and ram lambs Also a limited amount of young ewes. HARRY POTTER & SON, Davison, Mich.

## HORSES

## Horses Will Be Horses Soon

We have on hand at all times a choice selection of young Percheron Stallions. Also have a few good work horses that we are offering to exchange for young stallions.

PALMER BROS., R. R. Orleans, Belding, Mich.

Percherons, Holsteins, Angus, Shropshires, Durocs DORR D. BUELL, Elmira, Michigan.

Percheron Stallions and mares of reasonable prices; inspection invited. F. L. KING & SON, Charlotte, Mich.

Percherons for sale. Stallion three years old. Mare six at the right price to close out. E. J. ALDRICH, Tekonsha, Mich.

Auction Sale of 16 head of Registered Percheron mares and fillies. Date announced later. J. M. Hicks & Sons, R. 2, Williamston, Mich.



# LATEST MARKET REPORTS

SECOND EDITION.

The markets in this edition were revised and corrected on Thursday afternoon, October 3.

## WHEAT.

Wheat keeps rolling into the markets. Last week there was added to the visible supply 11,070,000 bushels. Elevators at country points and primary markets are already well-stocked with the grain. However, millers, after a period of inactivity, are again buying and quotations keep a shade above the government minimum price. In some sections it is reported that farmers are selling for less than this minimum price warrants. This would mean that middlemen are getting more than the margin allowed them by the food administration's official order. (See statement on second page of this issue). A year ago No. 2 red wheat sold on this market at \$2.17 per bushel. Present Detroit prices are:

No. 2 red wheat	\$2.22
No. 2 mixed	2.20
No. 2 white	2.20

## CORN.

War news put a crimp in corn prices on Monday. The Balkan situation was taken to mean an early end to the war and dealers thought that present prices were too high for peace times. So those holding the grain were ready to sell and the price went down in Chicago, November registering the longest extreme break of seven cents. In corn sections farmers are delivering the grain more freely to get their cribs empty for the new crop and to avoid bringing last year's poor corn in competition with the better grain of this year. A year ago the price here for No. 3 corn was \$2.02 per bushel. Present Detroit prices are:

No. 3 corn	\$1.35
No. 3 yellow	1.40
No. 4 yellow	1.35
No. 5 yellow	1.25
No. 6 yellow	1.20

Chicago values are down as follows: No. 2 yellow \$1.50@1.52; No. 3 yellow \$1.39@1.42; November \$1.29½.

## OATS.

Of its own accord this market no doubt would have survived the influence of the war news without a decline but the heavy pull of lower values in corn circles finally got oats on the skids and lower figures resulted. To support the market the bulls had to show the excellent demand from millers, a large domestic consumption and the call for this grain to be exported. As it was, Chicago prices witnessed a decline of less than three cents. Present prices there are: Standard 69½¢; No. 3, 68½¢; No. 4, 67½¢; November 68½¢. At Detroit the grain sold at 62¢ for standard a year ago. The board now quotes as follows:

Standard	72½
No. 3 white	72
No. 4 white	71

## RYE.

There is no life to this market. The grain does not seem to be wanted just now. Movement is very moderate. During last week the visible supply showed an increase of 947,000 bushels. Quotation at Detroit is two cents below that of last week, or \$1.61 per bushel.

## FEEDS.

Feed prices are higher than last week. The prices quoted at Detroit for feed in 100-lb. sacks are: Bran \$35@35.50; middlings \$37@37.50 per ton; coarse corn meal \$62; cracked corn \$63; corn chop \$48@50.

## SEEDS.

The following prices are quoted on a steady and moderately active market: Prime red clover \$22.50; alsike \$18.25; timothy seed \$5.25.

## BARLEY.

This grain is not moving. The local demand is very light. Fortunately the shipments from the state are very meagre. The last sales here by sample were at \$1.98@2.10 per bushel.

## POULTRY.

Market is slow, with prices as follows: Live—Broilers 24@25¢ for the small and 27@28¢ for large; hens 28@29¢; small hens and Leghorns 24@25¢; roosters 16@20¢; geese 20@22¢; ducks 29@30¢; turkeys 35@36¢.

## Live Stock Market Service

### Reports for Thursday, October 3rd

#### DETROIT

##### Cattle.

Receipts 3,382. Canners 25¢ higher; other grades steady.

Best heavy steers	\$12.00@14.00
Best handy wt bu str.	11.00@11.50
Mixed steers and heifers	9.50@10.00
Handy light butchers	8.00@ 8.50
Light butchers	7.50@ 8.00
Best cows	8.50@ 9.00
Butcher cows	7.25@ 7.50
Cutters	6.00@ 6.50
Canners	5.50@ 6.00
Best heavy bulls	9.00
Bologna bulls	8.00@ 8.50
Stock bulls	7.00@ 7.50
Feeders	9.00@10.00
Stockers	8.00@ 8.50
Milkers and springers	\$60@ 135

##### Veal Calves.

Receipts 854. Market steady.

Best	\$17.50@18.00
Heavy	7.00@ 9.00

##### Sheep and Lambs.

Receipts 6,860. Market very dull.

Best lambs	\$15.25@15.50
Fair lambs	14.00@15.00
Light to common lambs	12.50@13.00
Fair to good sheep	10.50@11.00
Culls and common	5.00@ 7.00

##### Hogs.

Receipts 6,189. Market very dull and all kinds 25¢ lower than Wednesday.

All grades	\$18.75
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### Reports for Wednesday, October 2nd

#### BUFFALO.

##### Cattle.

Receipts ten cars. The market is lower; prime heavy steers \$16.50@17; best shipping steers \$16@16.50; medium shipping steers \$14@15; plain and coarse \$13@14; best native yearlings 950 to 1000 lbs, \$15@16; light native yearlings, good quality \$13@14; best handy steers \$12@13; fair to good kinds \$11@12; handy steers and heifers, mixed \$9.50@10.50; western heifers \$10.50@11; best fat cows \$10@10.75; butchering cows \$8@9.50; cutters \$6.25@6.75; canners \$5@5.75; fancy bulls \$10.50@11; butchering bulls \$8.50@9.50; common bulls \$6.50@7.50; best feeders, 950 to 1000 lbs \$10@11; medium feeders \$8.50@10; stockers \$7.50@9.

##### Hogs.

Receipts 10 cars; market is steady. Heavy and yorkers \$20.25@20.35; pigs and lights \$20.

##### Sheep and Lambs.

Receipts 10 cars; market is slow; top lambs \$16.50; yearlings \$12@13; wethers \$11.50@12; ewes \$10@10.50.

##### Calves.

Market steady; tops \$19.50; others \$7@18.50.

#### BUFFALO.

In the hog market the prospects are for considerably lower prices if the receipts are fair. Pigs \$19.75; others \$20@20.25; lambs are quoted at \$16.50, while calves of the best grades bring \$19.50. The cattle market is steady.

#### CHICAGO.

##### Cattle.

Receipts 15,000. Steers are steady; butchers and canners 10@15¢ higher. Good to prime choice steers \$15.75@19.60; common and medium butchers \$10@15.55; heifers \$7.35@13.75; cows \$7.60@13.25; bologna bulls \$8@13.25; canners and cutters \$6.25@7.60; stockers and feeders, good \$10.75@13.75; stockers and feeders, medium \$7.75@10.75. Veal calves strong to 25¢ higher.

##### Hogs.

Receipts 29,000. Market generally 25¢ lower than Wednesday. Tops at \$19.40; heavy \$19.10@19.35; mixed and light \$19@19.40; packers' hogs \$17.90@18.35; medium and heavy \$18.15@18.75; light bacon hogs \$18.75@19.25; pigs, good to choice \$17@18; roughs \$17.35@17.75.

##### Sheep and Lambs.

Receipts 43,000. Market is slow to lower. Choice to prime lambs \$15.75@16.50; medium and good lambs at \$13.75@15.75; culls \$8@12; medium, good and choice feeders \$13.50@15; choice yearlings \$12.40@12.85; medium and good yearlings \$11.25@12.40; wethers, medium and good \$10.50@11.75.

##### Cattle.

Today's receipts are estimated at 12,000 head, making 52,800 for the first half of the week, comparing with 76,435 for the same days last week. The enormous declines in prices brought about last week by the greatly excessive supplies explain the present falling off in receipts and the consequent rally in prices. The advance in steers is largely in the in-between kinds, the best corn-fed offerings having sold at strong prices all along. Choice to fancy steers are bringing \$19@19.60, and good steers sell at \$16.75 and over, with sales down to \$10@16.50 for common to medium grades.

##### Hogs.

Today's receipts are estimated at 14,000 head, bringing the receipts for the first half of the week up to 66,200 head, comparing with 56,271 for the same time last week. Today's market shows further declines of 15@25¢, with sales at \$18@19.65 for rough heavy packers to prime heavy butchers.

##### Sheep and Lambs.

The market is in worse condition than ever, with rapidly increasing receipts and more than can be disposed of promptly.

### Federal Estimates of 1918 Potato Crop

State.	1918.	Condition Sept 1.	10-Yr. Avg.	Sept. 1 Forecast.	Dec. Est. 1917.
Maine	86	84	23,117,000	20,250,000	38,000,000
New York	76	74	32,680,000	11,172,000	29,532,000
New Jersey	63	75	7,585,000	19,800,000	7,475,000
Pennsylvania	65	74	22,600,000	16,000,000	8,464,000
Virginia	76	80	14,382,000	13,500,000	35,910,000
West Virginia	67	78	5,017,000	34,998,000	33,600,000
Ohio	60	72	10,397,000	13,110,000	9,483,000
Indiana	70	68	7,406,000	7,200,000	12,495,000
Illinois	68	67	11,372,000	4,446,000	5,415,000
Michigan	69	73	28,856,000	9,310,000	6,084,000
Wisconsin	81	76	31,620,000	8,161,000	8,100,000
Minnesota	87	76	32,823,000	11,244,000	15,225,000
Iowa	72	70	11,192,000		
Missouri	55	67	6,468,000		
South Dakota	95	77	8,569,000		
Nebraska	65	70	8,612,000		
Kansas	52	64	4,160,000		
Montana	82	82	7,249,000		
Colorado	84	81	7,779,000		
Idaho	86	88	4,334,000		
Washington	73	83	8,161,000		
Oregon	77	84	5,736,000		
California	78	86	11,244,000		

## BEANS.

Weather conditions this past week have been a little more favorable for the securing of the bean crop. Michigan beans of better quality have recently been offered on eastern markets and these beans have been taken by the trade more eagerly than the off-colored goods consumers were asked to bid on for some months back. It is further believed that it will be a distinct advantage in the marketing of Michigan beans when the trade knows that the new crop is of high quality. The new crop of beans in this state is leaving the farmer's hands on an \$8@8.50 basis, according to the reports received at this office. Detroit's price is \$9.25 per cwt; Chicago quotes Michigan pea beans, hand-picked, at \$10.50@11, while New York reflects some improvement in the trade, with the above kind selling by receivers at \$11@11.25 for the best and \$10@10.75 for common grades.

## POTATOES.

With the pressure of continued heavy receipts prices show some depression in a few of the markets, the majority of the larger trade centers, however, being about steady with last week. At Detroit round whites in bulk are bringing \$2.40@2.50; at Chicago \$1.65@1.80; at Indianapolis \$2; at Cincinnati \$2.50; at Cleveland \$2.85; at Pittsburgh \$2.35@2.50; at Buffalo \$2.60. At western shipping points the tone seems a little weaker and the same might be said of the northern shipping districts. Maine shippers report a steady situation at the opening this week. The daily movement continues to total around a thousand cars per day.

## HAY.

With the demand active and the receipts of hay showing little if any increase, there remains a very firm market at the following prices:

No. 1 timothy	\$29.50@30.00
Standard timothy	28.50@29.00
No. 1 mixed	24.50@25.00
No. 1 clover	23.50@24.00

Pittsburgh.—Further advances are noted because receipts are too light to take care of the demand. Prices are: No. 1 timothy \$34.00@34.50; No. 1 light mxd \$32.00@33.00.

## APPLES.

The demand and movement is moderate with prices little changed. At Detroit the trade is paying from \$5@6 for barreled stock of commercial kinds, although Jonathans bring up to \$8.25. At Benton Harbor prices range from \$5.25 for Hubbardston to \$7.50 for Steele Red and Jonathans. Rochester, New York, market is steady with the run heavy, but meeting a healthy demand.

## BUTTER.

Recent sharp advances to unusually high prices for butter has resulted, no doubt, in a cutting down of consumption and the introduction of substitutes. Partly as a result of this, and also, it is believed, in fear of government action, values have been marked down during the past week. At Detroit jobbers are now paying 57½¢@58¢ for extra creameries and 57¢ for firsts. The Chicago range is 51¢@58¢ and in New York 58½¢@62¢; extra creamery brings 62¢ to Philadelphia receivers.

## CHEESE.

With a heavy shortage and wide demand the recent advance in cheese prices seems likely to stand. Michigan August flats are selling at Detroit to jobbers for 28¼¢; daisies 33¼¢. Chicago market firm and New York trade steady with state fresh specials at 31½¢@32¢ and average run 30¢@31¢.

## EGGS.

Another advance is here for eggs, Michigan candled stock, current receipts bringing 47¢ from jobbers; firsts in new cases 49¢. Chicago market is also higher, with the range at 45¢@48¼¢. New York is firm and Philadelphia higher at \$15.90@16.20 per case for western receipts.

## DETROIT CITY MARKET

Farmers are bringing much produce to the markets these days but the heavy offerings are meeting a big demand and prices rule steady for most kinds. We note the following prices: Apples \$1.25@1.75 for bulk of offerings; onions \$1.25@1.50; potatoes \$1.50@1.75; tomatoes \$1@1.75; cabbage 50@75¢; pears \$2; plums \$5; eggs 68@70¢ per dozen.



## "Dairying for Dollars Without Drudgery"

Sound good to you? Then write for this book on **Sharples Milker**—the only milker with positive squeeze.

## SHARPLES MILKER

THE SHARPLES SEPARATOR CO., West Chester, Pa. SC-15

## NEVERSLIP

**Red Tip Calks**  
Insure  
**STRONG EVEN PULLING**  
ON ICY ROADS

No Farmer can afford to risk losing a valuable horse through falls on icy roads when safety is so cheap and convenient. Red Tip Calks insure safety to the horse and comfort to the driver.

Your Blacksmith Has Them.



THE NEVERSLIP WORKS  
NEW BRUNSWICK, N.J.

## LET US TAN YOUR HIDE.

Horse or Cow hide, calf or other skins with hair or fur on, and make them into coats (for men and women), robes, rugs or gloves when so ordered. Your fur goods will cost you less than to buy them and be worth more.

Our illustrated catalog gives a lot of information. It tells how to take off and care for hides; how and when we pay the freight both ways; about our safe dyeing process on cow and horse hide, calf and other skins; about the fur goods and game trophies we sell, taxidermy, etc.

Then we have recently got out another we call our **Fashion Book**, wholly devoted to fashion plates of muffs, neckwear and other fine fur garments, with prices; also fur garments remodeled and repaired.

You can have either book by sending your correct address naming which, or both books if you need both. Address:

The Crosby Fur Company,  
571 Lyell Ave., Rochester, N. Y.

## If You Want A Square Deal

and your money on receipt of shipment send your Poultry, Veal & Hogs to

J. W. Keys Commission Co.,  
470 Riopelle St., East. Market  
Detroit, Mich.

the best market in America; weekly market circular on request, please mention this paper. Are you doing your bit? Buy War Stamps.

### Mr. POULTRY FARMER:

We make a specialty of White Henery Eggs and have created a profitable market for your eggs the year around. We pay the highest premium for your Henery Whites—We remit same day shipments arrive.

Ship Often—Ship by Express

GEO. R. ELDRIDGE CO.

494-18th Street, Detroit, Mich.

Remember! We guarantee you satisfaction with every shipment.

## CULLOTTA & JUELL

Eastern Market, Detroit, Mich.

We handle only on commission. No merchandise competition with your goods. Highest prices possible obtained on arrival, and you don't have to wait for your money.

Reference Peninsular State Bank.

## POTATO CROP EXCEEDS FIVE-YEAR AVERAGE.

(Continued from page 292).

### Colorado.

The Colorado crop shows a decrease over last year. This statement is borne out by reports from growers and shippers as well as the government report for September which makes a forecast of 7,779,000 bushels, as compared with 9,310,000 bushels last year and 6,900,000 bushels in 1916. The condition percentage is given as 84 on September 1 compared with a ten-year average of 81 in the same date. Shippers' reports are summarized as follows: Denver shipper says 20 per cent reduction; carbondale, 600 to 800 cars; Craig, 50; Del Norte, 375; Delta section, including Olathe and Montrose also, 1,800; Eagle, 375; Eaton, 75 per cent of 1917; Greeley district, all the way from 3,000 to 5,000 cars; Olathe, 600; Rifle, 12; Salida, 50.

### The Dakotas.

There is a better crop of potatoes in the Dakotas this year than last, especially in North Dakota. The government gives the North Dakota crop at 9,828,000 bushels against 3,870,000 bushels last year and 6,975,000 bushels in 1916. Most all points reporting tell of a better crop than last year. Some of them are as follows: Arthur, 15 cars; Berthold, 200; Buffalo, eight; Carrington, 50; Casselton, 15; Fargo, better crop; Grafton, 40; Hickson, 10; Hoople, 300 cars, better crop; Kindred, 15 to 20; Larimore, 40; Tower City, 15; Walhalla, 75 to 80; Williston, 20.

The South Dakota crop is forecasted by the government on September 1 at 8,569,000 bushels as compared with 7,200,000 bushels last year and 4,290,000 bushels in 1916. The condition percentage is placed at 95 against 77, the ten-year average on September 1. Reports from growers and shippers indicate the following shipments: Britten, 15 cars; Bruce, 90 to 100; Clark, 25; Flandreau, 30; Gary, 20; James, eight; Mellette, 15; Oldham, 20 to 25; Raymond, 10; Renner, five; South Falls, 50; Tripps, 15; White, 150.

Back of almost every agricultural achievement, great or small, there is a human interest story. All too often it is the last thing which practical men think of getting. In cases where it is obtained, however, it is the part which sticks in the reader's mind and carries the story home.

### NEWS OF THE WEEK.

(Continued from page 302).

to happen shortly: The Hindenburg line is rapidly crumbling with Roulers, the German base supporting the U-boat operations on that coast in the hands of the Belgians; the capture of the Wyschaete Ridge by the British, the pushing of the American-British line between Cambrai and St. Quentin far beyond these objectives, the clearing of the Chemin-des-Dames of practically all Germans by French aggressiveness and the joining of General Gourad's French troops with the Americans as they push rapidly to the north in the Champagne sector. The German reichstag passes a resolution to form a responsible government having a parliament answerable directly to the people.—Stock yards at New Orleans are swept by fire, entailing a loss of \$200,000.

### AN APPEAL FOR HELP.

THE Turkey Knob Orchard Company at Mount Jackson, Va., has been making a strong appeal for help during the past week by inserting large advertisements in the local newspapers, in which they offered gold and war savings stamp prizes to those who would work and stay on the job. Everything possible is done to make life at the orchards attractive. There are moving picture shows, rifle shooting contests, games and dancing with an orchestra to furnish the music. Separate camps are being provided for men, boys and women.

# Nothing Is More Important

DO YOU think of *Digestibility* as being just a big, vague word which has little or nothing to do with anything in particular in your line of business.

Or do you think of *Digestibility* as being something which really has some definite connection with the amount of money to be made from the dairy.

There isn't a thing about the dairy business any more important the *Digestibility*.

## BUFFALO CORN GLUTEN FEED



When you pay a good price for coal to burn in the heater, and get a lot of clinkers, you don't think you have gotten your money's worth, do you? You are up against the same thing in feed. Feed that runs 'way down in *Digestibility* is just as poor a buy as clinkery coal.

Feed has to break down and get through the cow's digestive tract in order to make milk. Unless a big share gets through, you lose.

1,614 of the 2,000 pounds in a ton of Buffalo Corn Gluten Feed are milk-bucket possibilities. Look over the list and see what runs higher in *Digestibility*.



Corn Products Refining Co.

NEW YORK  
CHICAGO

## Pure Cider Vinegar Market for Michigan Apples

We will buy one hundred carloads of Michigan apples this Fall to make cider vinegar at our mill, Wiard's Siding, Ypsilanti, Michigan, to comply with the Michigan cider vinegar laws.

Provided, The Drug and Dairy Department at Lansing will enforce the Law in an intelligent and vigorous way, to prevent the further sale in Michigan of "Skin" vinegar, which is produced from Dried Apple Skins and Cores Sulphured, and usually reinforced by Chemical Acetic Acid. This so-called vinegar is manufactured outside of the state and is sold here by dealers, not manufacturers of cider vinegar, and sold as Pure Cider Vinegar.

It is now being sold here in Michigan contrary to our State vinegar laws.

We believe that not only Michigan Apple growers but all consumers of pure cider vinegar, produced from whole apples only, as required and intended, should be interested in having the law rigorously enforced.

WM. W. VAUGHAN COMPANY

Sept. 22, 1918

By Wm. W. Vaughan, Pres.

## Referring further to PURE CIDER VINEGAR

We just received a letter and quote a paragraph, dated at Lansing, Michigan, September 23rd, 1918.

"When all is said and done, however, there is but one question remaining—the enforcement of the Vinegar Law. That will be enforced.

Very truly yours,  
(Signed) FRED L. WOODWORTH,  
State Food and Drug Commissioner.

Relying on this assurance, we are now in the Market for One Hundred Carloads of Sound Fall or Winter Apples, October and November Delivery.

Dealers should advise promptly, number of carloads to be shipped, freight rate from shipping station to our Mill, Wiard's Siding, Ypsilanti, Michigan.

Spot Cash Payment. Address,

Wm. W. VAUGHAN COMPANY

Wm. W. Vaughan, Pres.

Detroit, Mich.

Sept. 25th, 1918.

HAY Ship To The Old Reliable House  
Daniel McCaffrey's Sons,  
623-625 Wabash Bldg., Pittsburgh Pa.

## HEAVEN AND HELL

Swedenborg's great work, 400 pages, 15 cents postpaid.  
Pastor Landenberg, Windsor Place, St. Louis, Mo.



# Our Big Fall Money Saving

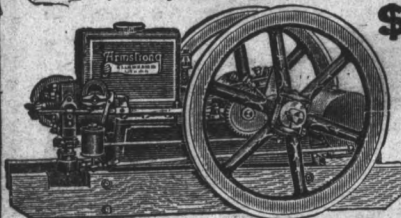
CHICAGO HOUSEWRECKING CO.

## Special Value Price Wrecker Bulletin

### Famous Armstrong Kerosene Engines Now Built for Harris Brothers!

The one and only real successful kerosene engine is now offered at reduced prices for the first time in 51 years. The builders of these celebrated engines have turned to us to distribute their product. Like many other leading manufacturers they have made the necessary price concession in order that we might use our wonderful sales organization to acquaint our many thousand friends and customers with the most simple, reliable and economical engine ever offered—"Built for Service Since 1867". Get all the facts—here's the chance you've been hoping and waiting for. Learn all about the many improved, superior, exclusive features of the Armstrong construction.

Your old engine taken as part payment on any Armstrong Engine you select. Free trial—most liberal terms, and a guarantee forever.



**\$66**

**Buy the 2 H.P. Size!**

Armstrong engines are now ready for quick shipment in the sizes below: Order No. JB-330—2 H.P. \$66.00, 3 H.P. \$85.00, 5 H.P. \$165.00, 7 H.P. \$240.00, 12 H.P. \$420.00, 16 H.P. \$540.00.

### Buy Your Roofing Needs Now—Don't Delay These Low Sale Prices Prevail

This is your big chance to buy prepared roofing, metal roofing and siding at prices that will not be equalled in economy for some time to come. But you must not delay. Quick action is necessary, for the supply of these bargain lots is limited. Read them carefully, mail order quickly, to insure yourself against disappointment.

#### SPECIAL for This FALL SALE!

Ajax high grade rubber surfaced roofing; put on 108 sq. ft. to the roll. Complete with nails and cement No. JB-302, 3-ply, per roll \$1.27; 2-ply, per roll \$1.07; 1-ply, per roll \$1.07.



Rawhide stone faced Gold Medal Roofing, guaranteed 15 years. Rolls contain 108 sq. ft. of roofing and cement included. No. JB-303, per roll \$2.20.

Our Famous Rawhide Rubber Roofing, 3-ply, guaranteed for 12 years; a high grade covering. Rolls contain 108 sq. ft. of roofing and cement included. No. JB-304, 3-ply per roll \$1.64; 2-ply, per roll \$1.44; 1-ply, per roll \$1.20.

10,000 rolls of extra heavy high grade roofing; red or gray slate coated, rock faced, brown pebble coated, double ended, mineral or mica surfaced. No. JB-305, per roll of 108 sq. ft., nails and cement included \$1.94.

**Corrugated Sheets**



**Look at These Big Savings in Metal Roofing!**

28 gauge painted 2 1/2 in. corrugated, overhauled siding sheets; 5 1/2 ft. long. No. JB-306, per 100 sq. ft. \$2.00.

26 gauge painted 2 1/2 in. corrugated, overhauled roofing sheets. No. JB-307, per 100 sq. ft. \$3.00.

24 gauge extra heavy painted, 2 1/2 in. corrugated overhauled sheets for roofing barns, granaries, etc. No. JB-308, per 100 sq. ft. \$3.50.

### WATTS CORN SHELLERS

**Now Sold Exclusively by Us!**  
**\$17.70**

now buys the Watts No. 4 Corn Sheller, built for the man who shells for himself and a few neighbors. Cleanly shells 75 to 125 bushels per hour with a 3 H.P. to 6 H.P. engine. Shells, cleans and loads all the corn—stacks the cobs. Order No. JB-301.

Here's Big News for America's Corn Growers—Our First Announcement and your best chance to own a World's Famous Watts Corn Sheller in any size—small, medium or large capacity to meet the needs of every farm. In taking Watts entire factory output and the exclusive sale of these machines, we are able to offer them at big cut prices in all sizes, under most liberal terms, with a 30-day Free Trial and a guarantee of complete and lasting satisfaction.



**All Other Sizes** are now offered at equally big reductions.  
**Watts No. 1** Corn Sheller for the man who shells corn only for his own use. Capacity 50 to 75 bushels per hour with a 3 H.P. engine, now \$39.50. Order No. JB-300.  
**Watts No. 7** Corn Sheller with standard equipment including wagon box, grain elevator, cob stacker, type "B" feeder, on steel trucks. Capacity 200 bu. per hour, now \$300.00. Order No. JB-303.  
**Watts No. 8** Double Cylinder Corn Sheller for custom work, with standard equipment, wagon box elevator, swivel cob stacker and feeder on steel trucks. Capacity 60 bu. per hour, now \$436.50. Order No. JB-305.

**Buy on Your Own Terms**

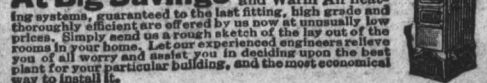
**Write for prices on different equipment.**

### \$86 Bath Room Outfit Now \$65.00

Consists of porcelain enameled 5 ft. bath tub, half circle lavatory, size 18x21 in., and low down closet outfit with golden oak, heavy copper lined tank and syphon wash down vitreous china closet bowl; seat and cover of closet finished to match the tank. The outfit is furnished complete with all nickel plated fittings above the floor line, bath cock, faucets, supply pipes, etc., ready to install.

No. JB-1742—Bath room outfit, \$65.00. No. JB-1743—Bath tub with fittings, \$31.50. No. JB-1744—Half circle lavatory with fittings, \$13.50. No. JB-1745—Closet outfit complete, \$22.50.

**Complete Heating Plants At Big Savings** Hot Water, Steam and Warm Air heating systems, guaranteed to last fitting, high grade and thoroughly efficient are offered by us now at unusually low prices. Simply send us a rough sketch of the lay out of the rooms in your home. Let our experienced engineers relieve you of all worry and detail you in deciding upon the best plant for your particular building, and the most economical way to install it.



**IRON PIPE** 1 in., Per Foot 7c

Good Iron Pipe in random lengths complete with couplings, all sizes. Order No. JB-204, 1" per foot 7c. Order No. JB-205, 1 1/4" per foot 9c.

**HOG TROUGHS**

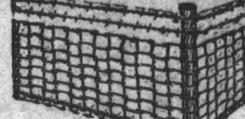
Non-Tip Hog Troughs made of heavy galvanized iron, painted black. Heavy bar iron cross brace and legs, strongly riveted, capacity 20 gallons. Size 14" wide, 6 ft. long. JB-208 each \$3.14. In lots of three each \$3.04. In lots of six each \$2.94.

### Ready Mixed Paint Per Gallon \$1.77



Our guaranteed house paint of best formula spreads farther, wears longer and costs less. 23 non-fading colors to choose from. Order No. JB-206, per gallon \$1.77. Guaranteed quality Barn Paint, a lasting preservative, 6 colors. Order No. JB-207, per gallon \$1.00.

### BARBED HOG FENCE



**Per ROD, 33 Cents**  
Special barbed bottom galvanized hog fencing. Strong and durable. Made of No. 11 top wire and No. 14 intermediate line and stay wires. Stays spaced 6 inches apart. No. JB-209—28 inches, per rod 33c. No. JB-210—32 inches, per rod 39c.

### One-Piece Sinks



20x36 in. \$16.00  
White porcelain enameled, roll rim sink and back; two nickel plated faucets and strainers; lead pipe. 6 JB-6523, 20x36 inch, \$16.00. All other sizes.

### "Presto-Up" Garages



12 different sizes, both single and double styles. Patented sectional—put up in a few hours. Made of best lumber. Quality and construction guaranteed. Mail coupon for complete descriptive catalog of "Presto-Up" Garages and Houses.

### Ford Radiators



JB-1507. Latest Honeycomb pattern. Large water capacity and cooling surface. Piped in black Japan. For 1909 to 1916 models, \$25.00. For 1917 and 1918 models \$26.00.

### Sharples Cream Separators

You must act quick, or be disappointed. A limited number of these World's famous original and genuine Sharples Tubular "A" Cream Separators can still be had in all sizes. Our previous announcements have brought a flood of orders from wise, posted farmers everywhere, and our entire remaining stock will soon be gone.

We will accept your old separator as part payment. Send your Sharples on 30 days Free trial—give you four months to pay for your machine, and guarantee satisfaction forever. Order direct from this advertisement. No. JB-20 Sharples No. 2, now \$42.50. Sharples No. 3, now \$47.50. Sharples No. 4, now \$55.00. Sharples No. 6, now \$67.50. Sharples No. 9, now \$75.00.



### Electric Light Plant \$210.00

75 Light Rumely-Falk Electric Light Outfit complete with Willard rubber jar storage batteries, 80 volts. No. JB-213. Complete \$210.00.



### Advance Ensilage Cutter \$120

Enormous capacity—15 to 20 tons per hour. Cuts any silage as fast as you can feed it. Order No. JB-214. Now only \$120.00.



### Robinson Hay Baler \$225

Best made, biggest capacity. Built to run from large tractor, or small gas engine. Hand feed size 16 in. x 13 in. No. JB-215. Now \$225.00.



Other sizes proportionately low.

### Mail This Coupon Now

**HARRIS BROTHERS CO., Dept. JB-42 Chicago, Illinois**  
Mark an X in the square below to show which books you want. They are FREE and sent postpaid.

- |                                                                 |                                                                             |                                                               |
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