

# MICHIGAN FARMER

AND  
LIVE STOCK  
PUBLISHED WEEKLY.

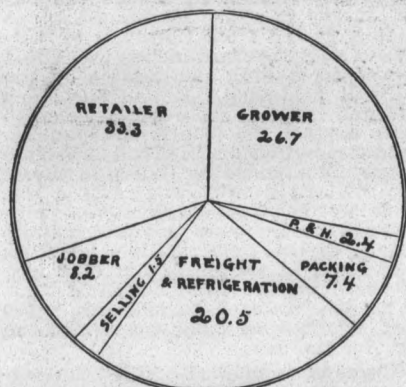
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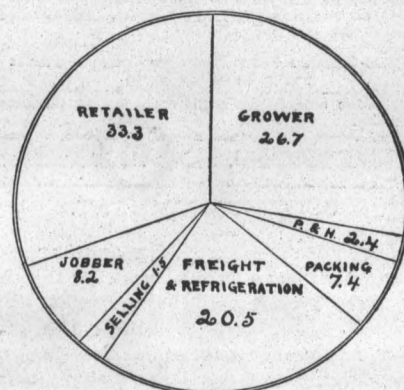


How the Consumer's Dollar is Divided.

## The Consumer's Dollar

By DON FRANCISCO

We have had a great desire to know just how the Consumer's Dollar is spent. Don Francisco, the author of this article, has called upon 3,000 grocers, divers commission houses, brokers, consumers, transportation companies, and every agency connected with the distribution of the products of 7,000 fruit growers, to get this very knowledge. He knows the situation pretty thoroughly and in this article he points out some real reasons why the consumer of fruits pays so much and the farmer gets so little.



Observe the Part that Goes to the Grower.

IN 1914 the 7,000 growers who market their citrus fruits through the California Fruit Growers' Exchange were so puzzled over the high prices which their eastern brothers were compelled to pay for their products that they set about to make a systematic investigation to determine the exact factors which enter into the consumer's price.

Through their own agents the investigation was simultaneously made in thirty representative markets of the country. Starting with the delivered prices of oranges to the jobbers it was ascertained at what price the same fruit went to the retailer and then determined what price the latter demanded of the consumer. The year's work included 5,485 reports from jobbers and retailers from which the factors entering into the consumer's dollar were calculated as shown in the charts at the head of this page.

A summary of these data shows that 36.5 per cent of the consumer's dollar is returned to the grower in California, of which 9.8 per cent represents the proportion allotted to picking, hauling and packing; 20.5 per cent represents the allotment to transportation; 1.5 per cent, the grower's cost of selling the jobber, and 41.5 per cent the proportion represented by the jobbing and retail gross distributing cost, the latter representing four times the former. The average mark-up price of the jobber is 14.2 per cent on his purchase price and the average mark-up price of the retailer is

49.8 per cent on his purchase price, both of the latter figures including the loss from decayed fruit.

It required merely a hasty perusal of these statistics to convince these thrifty growers that it was the retailing system which was most at fault. When these men revolutionized the former marketing system of the country by the organization of their wonderfully efficient co-operative exchange, they reduced the cost of marketing

about the poor marketing conditions and the failure to make a just profit even on products of superior quality. Only recently has the producer come to realize that his complaints are provoked by the same forces which aggravate the consumer and it seems likely that this understanding may work to their mutual benefit.

Due to the existence of some unscrupulous commission merchants, wholesalers and jobbers in almost ev-

tion is more intensive and the use of expensive fertilizers more common. In sections where farm labor was formerly abundant for a daily wage of \$2.25 it cannot now be procured at \$2.50. These conditions, while they tend to improve the quality of the products as we find them on the market, do not necessarily always make for increased quality produced. Many commodities formerly sold only to a wealthier trade are now in demand by the great middle classes and, despite all efforts to reduce it, the cost of producing these improved products has increased to meet the demands of the more exacting market.

In general it may be said that where prices have risen during the past few years costs of transportation have remained level. Co-operative shipping has made possible the moving of more produce under the carlot rate. A grower 700 miles from his market may ship his crop in modern refrigerated or ventilated cars for a cost no greater than that necessary to the farmer who brings his load 20 miles on a horse-drawn conveyance. The average is seven mills per ton for rail, three mills per ton on inland waterways and 23 cents per ton on horse-drawn trucks.

Improved methods of handling have reduced losses in perishables and lessened the necessity for regrading and repacking. The motor truck has made a big stride toward solving the cartage problem which is yet one of the most

(Continued on page 222).



Attractive Displays of Fruits and Vegetables Such as this are Conducive to Bigger Business in Perishables.

oranges to four and one-half cents per box, which incidentally, is the lowest marketing cost for any agricultural crop in the world. With their cost for selling the distant jobber as low as 1.5 per cent it is natural that they should resent any system of distribution within the cities which showed a gross cost of 41.5 per cent of the ultimate selling price. And, having solved so satisfactorily the problem of getting their fruit into all markets at a minimum cost, it will not be unnatural if they set about to improve the pernicious retailing system as it now exists.

In the war against the high cost of food products and the effort to prevent markets going hungry for products which rotted in the fields a few hundred miles away, every element in this cost-producing system has been bombarded. Very naturally the bulk of the criticism of high prices has emanated from the consumer. Public opinion alone has been a potent factor in lowering prices on some products. While the consumer at one end of the distributing system has been assailing what he termed an unjust and extravagant marketing scheme, the producer has been grumbling

every community—and the equally deplorable fact that there is always a sufficient number of producers who will support them rather than use the means at their disposal to sell only to honest merchants—the middlemen, as they are collectively termed, have been forced to bear a portion of the criticism which is somewhat in excess of their deserts. The entrance into the marketing field a few years ago of the growers' co-operative association removed much uncertainty, unnecessary rehandling and needless expense and the jobbing and wholesale business throughout the country has been stabilized as a result.

The efforts of the Department of Agriculture, the Agricultural Colleges and the experiment stations, the organizations of growers and the growers themselves have combined to keep the actual cost of production as low as modern scientific study and practice will permit. But the market today demands more elaborate methods of culture, more careful handling, better grading and packing, as well as transportation over greater distances. The soil has been made to produce fruit which is far superior to that grown under former conditions. Cul-



The City Fruit Stand is of Growing Importance to the Producer.



The Push Cart Brigade Sells Large Quantities of Perishables.



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DETROIT, SEPT. 11, 1915

### CURRENT COMMENT.

#### Important Bean Growers' Meeting.

In another column of this issue will be found the official announcement of a meeting of the Michigan Bean Growers' Association to be held at Flint, Mich., on September 15. At this meeting representatives from the respective county organizations will meet with a committee of the Michigan Bean Jobbers' Association for the purpose of undertaking to agree on a price basis for the current year's bean crop. This is an important meeting in that it affects one of Michigan's most important cash crops, and is the first attempt of the kind toward the solution of the vexed marketing problem.

While the history of this movement should be fairly familiar to Michigan Farmer readers, a review of same will not be amiss at this time. During the early months of 1914, when the bean market was exhibiting unusual fluctuations, with a strong downward tendency which entailed losses of considerable magnitude to both growers who were holding their crop for future marketing and dealers who had stocked up heavily in anticipation of possible advances, several conferences were held between prominent bean growers and representatives of farmers' organizations and committees of the Michigan Bean Jobbers' Association. At least one of these meetings was attended by a representative of the U. S. Bureau of Markets and a plan was formulated for a campaign of education and organization among Michigan bean growers to be participated in by said Bureau of Markets.

Later developments due to the outbreak of the European war made it impractical to carry out the tentative plans in this direction. The idea was, however, not abandoned, and last November a number of prominent men who had become interested in the movement united in the calling of a meeting of bean growers, which was held at Saginaw. There was a good attendance of growers at this meeting, and after a full discussion, it was determined to organize local county associations of bean growers which would send representatives to a later meeting for the purpose of organizing the Michigan Bean Growers' Association on a permanent basis.

During the winter Mr. James N. McBride, who first advanced the idea, presented the proposition to the farmers of most of the larger bean growing counties of the state, with the result that organizations were perfected in some fifteen counties. In March another meeting was held at Saginaw at which the permanent organization was effected, and a tentative line of procedure mapped out.

The meeting which will be held at Flint next week is called for the purpose of carrying out the original idea along the line of controlled marketing, through a co-operative agreement between organized growers and organized dealers. As a result of the work already done, the U. S. Department of Agriculture is this year for the first time collecting data with regard to the bean crop, and an official report of this condition will be available before the date of the meeting. With a general co-operation of growers and dealers, which it would seem from previous developments might be insured at this meeting, there is every reason to believe that this great Michigan cash crop can be taken out of the speculative class so far as the marketing proposition is concerned.

Bean growers in all sections of the state should be represented at this meeting either in person or by delegates of the local organization with which they may be affiliated. It is, of course, difficult, if not impossible, to get anything like a full membership of bean growers in the local organizations when first formed, but it is important that the Flint meeting be a representative one, in which the views of a sufficient number of bean growers of the state may be heard to insure the general co-operation of other growers with the plans which may be adopted at this meeting. The bean growers of the state are in a far stronger position than are the growers of any other special farm product, inasmuch as they produce the bulk of the country's crop. They have before them an opportunity to demonstrate the value of controlled marketing which is enjoyed by no other class of farmers in the country. We bespeak for this meeting a large attendance and the hearty co-operation of bean growers in every section of the state.

This issue is being sent to some former subscribers to the Michigan Farmer who are not now taking the paper. Some of these may have special reasons which are satisfactory to themselves for not having renewed their subscriptions when same expired. Many more are doubtless in the much larger class who have let their subscriptions lapse without any special purpose in the matter. No matter which of these classes the reader may be in, if he will carefully look through the pages of this issue he will find something to interest him and which will prove of real, substantial value to him in his business. The same will be true of each of the 52 issues which he would receive during the year as a regular subscriber, and all at so small a weekly cost as to be out of all proportion to the benefit derived.

This is an age of good reading matter, and there is a very large list from which the farmer as well as the city resident may make selections for his reading table, but any list that may be selected will certainly be most incomplete without your own trade paper. The Michigan Farmer is just that. It is your farm paper—the only paper which is published especially for Michigan farmers, backed by the honest effort of experienced publishers to make it a trade paper in the best sense of the word for all the farmers of Michigan, whether engaged in general farming or in some special line of production of which Michigan farms have such a variety. In it you will find the most advanced ideas of the day on the all important subjects of reducing the cost of production by better cultural methods and securing a larger percentage of the consumer's dollar for the products of the farm by better methods of marketing. And mixed with this more or less technical matter will be found educational and entertainment features which make the Michigan Farmer a well balanced and desirable men-

tal ration for general home consumption.

Look this issue over for features which are of interest to you. It will make unnecessary the advancement of any further reasons why you should again become a subscriber to your farm paper.

Every Michigan Farmer owes the duty to himself and his family, if not to his agricultural society to patronize his agricultural fair, at least by attendance if not by exhibits, and preferably by both. Four days remain in which to attend the State Fair at Detroit, if you were unable to attend last week and it would be time and money profitably expended to patronize this greatest of Michigan's agricultural fairs by at least one day's attendance. On the following week occurs the "West Michigan State Fair" at Grand Rapids, which is always worthy of patronage, and from the announcement which appears on another page of this issue will be seen to promise better entertainment this year than ever before in its successful history. Then there is the long list of district, county and local fairs yet to be held which are noted in this issue under the heading of "Michigan Fairs." Each and every one of these is worthy of patronage by those who live in adjacent territory. The general patronage of these agricultural fairs will not only help to make them successful events, but it will help to make the patrons better farmers and better citizens, besides making life better worth the living.

### MICHIGAN FAIRS.

Alger Co., Munising, Sept. 15-17.  
Allegan County Agricultural Society, Allegan, Sept. 28 to Oct. 1.  
Alpena Fair, Alpena, Sept. 28-30.  
Arenac County Agricultural Society, Standish, Sept. 15-17.  
Armada Agricultural Society, Armada, Oct. 6-8.  
Cheboygan County Fair, Wolverine, Oct. 5-7.  
Chippewa County Agricultural Society, Sault Ste. Marie, Sept. 20-22.  
Clare County Agricultural Society, Harrison, Sept. 14-17.  
Clinton County Fair, St. Johns, Sept. 28 to Oct. 1.  
Copper Country Fair, Houghton, Sept. 28 to Oct. 2.  
Croswell Fair, Croswell, Sept. 22-25.  
Eaton County Fair, Charlotte, Sept. 28 to Oct. 1.  
Emmet County Fair, Petoskey, Sept. 14-17.  
Flint River Valley Fair, Burt, Sept. 28-30.  
Fowlerville Agricultural Society, Fowlerville, Oct. 5-8.  
Grand Traverse Region Fair Association, Traverse City, Sept. 20-24.  
Grange Fair of St. Joseph County, Centerville, Sept. 28 to Oct. 1.  
Grangers, Gleaners and Farmers' Fair, Big Rapids, Sept. 28-30.  
Hillsdale County Agricultural Society, Hillsdale, Sept. 27 to Oct. 2.  
Inlay City Fair, Inlay City, Sept. 28 to Oct. 1.  
Jackson County Fair, Jackson, Sept. 13-18.  
Lenawee County Fair, Adrian, Sept. 20-24.  
Livingston County Fair Association, Howell, Sept. 21-24.  
Luce County, Newberry, Sept. 23-25.  
Manistee County Agricultural Society, Onkama, Sept. 21-24.  
Marquette County Fair, Marquette, Sept. 7-11.  
Menominee County Fair, Menominee, Sept. 28 to Oct. 1.  
Michigan State Fair, Detroit, Sept. 6-15.  
North Branch Fair, North Branch, Sept. 22-24.  
Northern District Fair, Cadillac, Sept. 14-17.  
Oceana County Agricultural Society, Hart, Sept. 21-25.  
Otsego County Fair, Gaylord, Sept. 28-30.  
Sanilac County Agricultural Society, Sandusky, Sept. 28 to Oct. 1.  
Schoolcraft County Agricultural Society, Manistique, Sept. 28 to Oct. 1.  
South Ottawa and West Allegan Fair, Holland, Sept. 14-17.  
West Michigan State Fair, Grand Rapids, Sept. 20-24.  
Whittemore Fair, Whittemore, Sept. 17-18.

Little minds are tamed and subdued by misfortune; but great minds rise above it.—Washington Irving.

### HAPPENINGS OF THE WEEK.

#### Foreign.

The European War.—The Austro-German armies continue to pound away at the long Russian front. The Czar's forces have retired all along the line except at the two extremes; in Galicia they are holding firmly to 50-mile line intersected by hills, while in the district of Riga, at the northern extreme, they have thus far held out against the vigorous attack of the Teutonic regiments, although the latter have forced the fortified bridgehead at Lannawada on the Divina river between Friedrichstadt and Riga and have captured Grodno farther to the south. The Russians are reported to have taken the offensive to the northwest of Vilna which is intended to relieve the German pressure on the line along the Dvina. Critics believe that the Teutons contemplate a drive to the southeast of Galicia for the purpose of either capturing Kiev or the placing of a wedge between Russia and Roumania to induce the latter country to allow war munitions to be transported from Germany to Turkey. Along the Dardanelles the Allied forces are making small gains on the Gallipoli peninsula. Italian successes continue to be reported, Goritz 16 miles beyond the frontier and an important position on the road to Trieste is now commanded by Italian artillery. The western conflict was revived last week by general engagements with heavy guns at many points from the Vosges to the Belgium line, which is considered as the beginning of a new offensive by the French and British. A British transport containing 1,800 men is reported sunk by a mine in the Aegean Sea.

Germany complies with the demands of the United States in connection with the submarine warfare, assuring this country that passenger boats will not be sunk without first giving warning and that the rights of neutrals will be protected. This attitude has relieved the strained relations between the two countries which was extremely precarious following the sinking of the Arabic a fortnight ago.

Austria is about to declare war on Roumania.

The steamer Hesperian was sunk early Monday morning after having been torpedoed off the British coast. Twelve passengers and 13 of the crew are missing. No Americans are among those who perished.

Report has reached here that the Germans are about to replace Zeppelin aircraft with giant biplanes which measure 42½ metres from tip to tip. The motors develop 300 horsepower.

#### National.

Officials in Washington appear to be much worried over the activities of Mexican bandits along the border of Texas and Arizona. It has not been possible to determine whether these bands of raiders are organized or whether they are merely operating on their own account. General Funston who has command of the American troops along the border now has 22,000 soldiers under arms. Minor engagements have occurred between the soldiers and the raiders on this side of the border lines.

On Friday last the downward trend of exchange rates on British pound sterling was checked by the securing of a large British loan in American markets. A delegation of English financiers are enroute to New York for the express purpose of adjusting their credit in this country and thereby overcoming the necessity of English houses paying such heavy premiums on the purchase of American goods. The third consignment of British gold and securities amounting to about \$50,000,000, arrived at Halifax Monday on the British cruiser Argyle. The shipment was made to aid British credit on this side.

Governor Whitman, of New York, has sent troops to maintain order at Deferiet, where workers in the paper mills who are out on strike, started a riot last Friday.

The contributions made by Americans to the Belgian relief fund has already amounted to \$80,000,000. Shipments have reached a total of 453,216 tons.

Boxing is under the ban in Ohio, and to prevent a bout at Columbus on Labor Day, Company G of the Ohio National Guard was called out.

Three persons were killed and two injured when an interurban car crashed into an automobile in Wyandotte on Monday.

There is an epidemic of infantile paralysis at Erie, Pa. State health officers and expert scientists have been called in to check the spread of the disease.

The most comprehensive target practice ever planned by the Navy Department was begun Monday off the Virginia capes. There will also be war games that will follow closely actual war conditions.



# Eliminate Waste In Harvesting the Corn Crop

**W**HEN we talk of handling the corn crop of the country we are talking of the crop that stands first as to acreage grown and the crop that represents the greatest value in dollars and cents of any of the crops raised on the farm. Corn is called the king of American crops. Some other crops like cotton attract much attention in some locations, but can be successfully raised in only a part of the country. The corn crop receives attention, and very properly, too, of the farmers in nearly all parts of the United States. The figures required to tell of the acreage, yield and money value of the corn crop in one year, are sufficient to astonish if they do not overtax our comprehension.

In the year 1914 there were 105,000,000 acres devoted to corn in the United States. There was produced in that year 2,700,000,000 bushels, representing a money value of \$1,900,000,000. The crop of corn in the whole world in 1914 was 3,500,000,000. The United States produced two-thirds of the world's supply in that year, and therefore produced the largest and most valuable crop in the world. We lead the nations of the earth in the production of corn, pork and the total of the meat producing animals.

While there is much to be proud of in connection with this great crop, we

when the ears are at the glazing point.

## Putting in the Silo.

Corn cut at the time mentioned and put into the silo represents the highest value attainable; the grain is perfected, and the stalks have all the nutrient elements in them in an available form. Under such conditions the crop is saved with the least waste of any method known, for the stalks are all saved and in a palatable and digestible form. The grain may deteriorate in a slight degree during the process of fermentation, but the ease with which it is thoroughly masticated after it comes out of the silo, which makes it digestible, may compensate for the small loss in fermentation.

The silo has more things to commend it than we have space at the present time to mention. When one has put his corn in the silo, it is sheltered in the best manner from the damaging effects of storms.

## Old Methods Produce Waste.

It has been my privilege to travel over different parts of the state at all times of the year, and it has been my practice to observe the methods or plans followed by a large number of farmers. While the corn crop is the most valuable crop that is raised on the farm, considering both forage and grain, it is the one most neglected. From the time the grain matures to

can be retained in the stalks a large percentage of the feeding value. On account of the lack of sufficient help on the farm, other work is pressing and is attended to and the corn is neglected. If possible to do so, it pays well to secure the corn when it is at its best.

When traveling up and down the state engaged at farmers' institute work, I have noticed that corn husking is too often deferred until very late in the season. When we see corn shocks standing in the fields until midwinter we know that there is to be a great waste, both in the deterioration of the value of the stalks as feed, and in the waste of the grain by mice and more or less injury by moisture and freezing. Last year there was a heavy crop of corn which represented great value, both for forage and grain, and yet many of the stalks were left standing in the fields until they had to be removed in order to plow the ground to sow oats in the spring. The feeding season for stalks had passed and they were wasted with the expense of moving them to make place for something else, added.

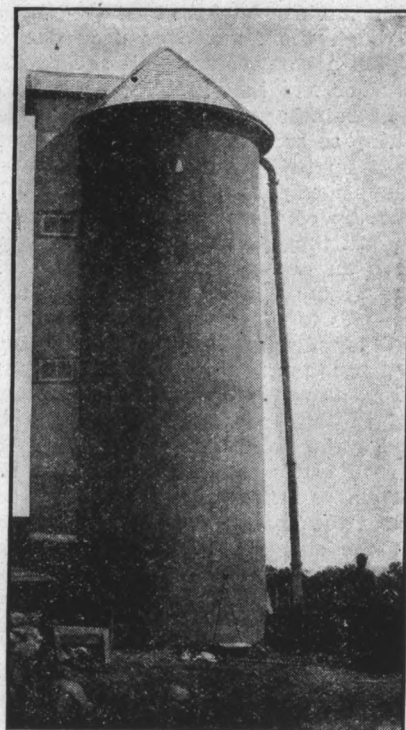
Such wasteful practices should be looked upon as criminal. Each and every individual has a duty which he owes to himself, his family and to the community in which he lives, and to ruthlessly and carelessly waste valuable farm products, is committing a crime against himself and those toward whom he is indebted for many of the possibilities of enjoyment, in many ways, in life. A sentiment should be awakened and cultivated in every farming community, which will make every individual feel that when he wantonly wastes that which is useful and valuable, he commits a crime against himself, his family and his community.

It would be far better for those who have an over surplus of roughage to secure more live stock to which it can be fed, and sell the stock in the market, thereby increasing the income, and by saving the manure and applying it to the land, help to maintain the fertility of the soil.

The time is at hand when there should be vigorous protests brought forward against careless and criminal wastes of valuable farm products. It is the prudent man's duty to speak up against it. There was never a better time to begin than now when there is a vigorous demand for all the marketable crops raised on the farm at high prices. Methods by which the wastes can be avoided will benefit both the producer and consumer, and a better condition with all will prevail.

Wayne Co.

N. A. CLAPP.



The Most Economic Storage for the Corn Crop.

## BETTER TO THRESH GRAIN LATE.

We believe it better not to thresh grain now but to hold it in the straw until December or later unless secured in well-cured condition. Those who thresh early in a season like the present one, stand a chance of decreasing the market value of their grain or losing it perhaps entirely through heating in the bin.

Complaints of grain being in bad shape are already reaching us. To overcome the trouble some are mixing chaff in the grain after it is threshed to absorb the excess moisture; some are even buying bricks to throw into the bins, others use boards and sticks, while many are endeavoring to avoid loss by shoveling the pile of grain frequently or by trying to dispose of it to the elevator men who are obliged to reduce the price liberally, since they must go to the expense of drying the grain before it will keep.

There is no better or cheaper place to cure this grain than in the straw. The chaff which surrounds each kernel tends to absorb the moisture, while the air about the straw and in the hollow stem does the same work to a greater degree and a far more efficient manner than the chaff, bricks or wood accomplishes when put in the bin after the grain is threshed.

Where the grain is yet to be put into the mow or stacked and is in bad



A Good Old Fashioned Job of Cutting and Shocking the Corn Crop.

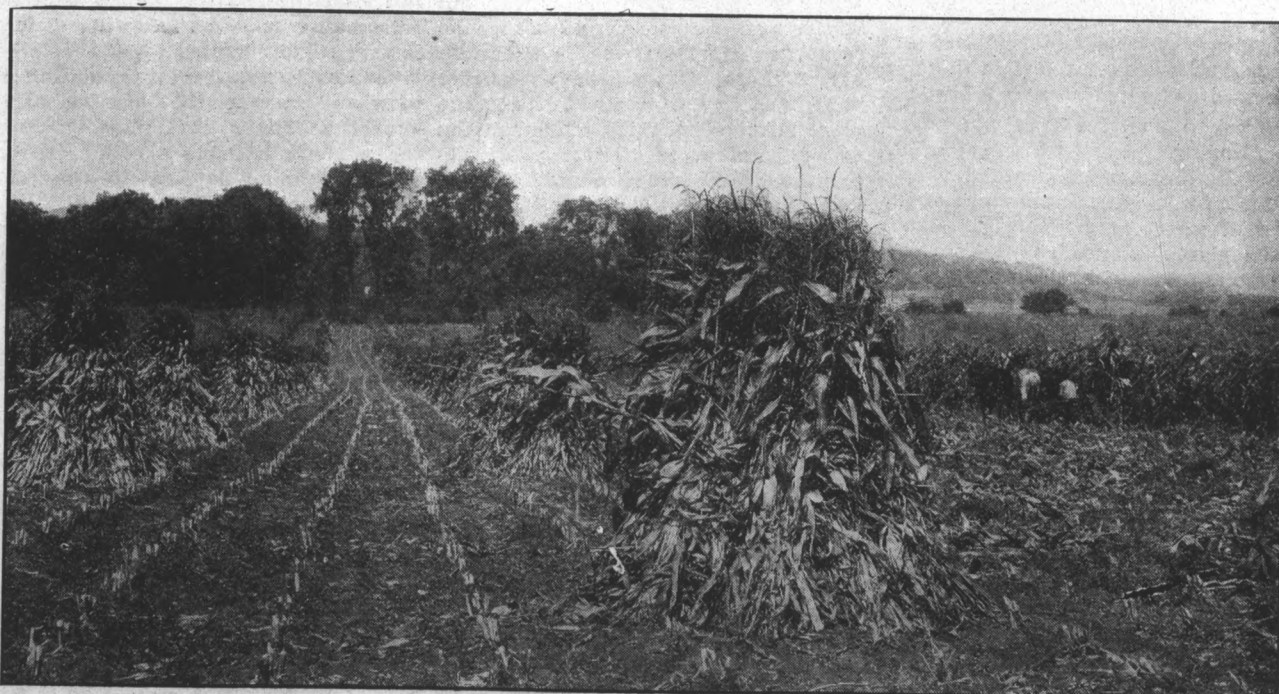
have to admit that our methods of harvesting and caring for and using the crop are such that we waste in value at an enormous rate. Careful estimates place the wastes around 40 per cent when the whole country is considered.

In Michigan the area on which corn is raised is not so great as in some of the other states, nor are the wastes so apparent. In 1914 Michigan farmers produced 60,912,000 bushels which represent a money value of \$42,638,400. The crop was a good one and on account of peculiar conditions the money value of the crop is high. There is a marked contrast between the prices at which corn is sold and the prices which have prevailed for a long period of time in the past. The prices are such as are likely to encourage more attention in gathering the crop to save wastes.

Given the crop attention should be first given to the time when it represents the greatest value. In Michigan the value of the forage receives consideration, while in many parts of the country the grain alone is considered, and a large percentage of the value of the stalks is wasted. It is not a guess to say that when three-fourths of the corn ears are glazed, the crop is in a condition which represents the largest money value. If left for all the ears, both late and early, to become glazed, there will be a deterioration in the value of some of the stalks. After the stalks have become dead ripe they have lost their juiciness, and are never after as palatable and nutritious as

the time that the stalks are piled in stacks, there is general mismanagement which results in wastes of both grain and stalks.

In many cases the corn is left standing too long before it is cut and shocked. The golden moment to cut it is at the time when the ears are well glazed and the stalks are green and juicy. If the corn is then cut and put up in large sized shocks to cure, there



The Corn Harvester is a Valuable Aid in Harvesting the Corn Crop at its Period of Maximum Feed Value.



condition, it might be well to ventilate the stack or mow. In the mow this may be done by first providing ventilation in the floor. If a basement barn this can be done by cutting holes through the floor, over each one of which a box about a foot square and four or five feet high is placed. As the grain is put in, the boxes are lifted up so as to make continuous openings up to the top of the mow at a number of points. Leave the boxes in the top of these air channels. They permit the circulation of air and provide an escape for the moisture. If the grain is to be put in a bay that reaches to the ground or to be stacked, lay down plenty of rails before putting the grain thereon. Best results are obtained when the rails are crossed in three courses. Ventilation by using the box as above described for mows can also be employed in the stack. Carry the square boxes up from the bottom until they come out of the side of the stack where they can be left. Put a V-shaped cover over the top and then place some marsh hay or other material that will shed water readily over the top and under the butts of the bundles above so that water cannot find its way down through the hole. Keep the center of the stack firm, the bundles sloping well to the outside and top the stack carefully so that the water will shed off readily.

It may be argued that the threshermen will not take well to delaying the threshing until so late in the season. However, if a number of farmers in a community will join in holding off until late, the threshermen will have little or no objection as they can better afford to do all of the threshing at one time than to do a portion of it early and that of one or two farmers later in the season. Most threshermen, too, who are interested in the welfare of the farmers of their community will advise for the good of the crop and the farmers that this delay in threshing be made.

The experience of the writer's father, who was a Michigan thresherman for over 35 years and is still a farmer, during the famous wet harvest of 1879, is in point. He in vain urged neighbors to hold their grain in the straw and held his own until the holidays. By doing this he had a fine lot of perfect grain to sell, while those who threshed early in the season lost practically all of their year's crops. This is a similar season to the one 39 years ago, and we are issuing this warning with the hopes that it may result in the saving of much grain in Michigan and adjacent states.

Gratiot Co.

W. B.

#### SMOOTH OR BEARDED WHEAT.

The relative qualities of smooth and bearded wheat might profitably be considered at this time. There are comparatively few farmers in this section who longer grow bearded wheat.

Threshermen have long ago taught the farmers that smooth wheat is not so easily threshed as bearded wheat. So far as we know, this feature of the bearded wheat is the only excellence which places it ahead of the smooth, yet we are somewhat inclined to think that this distinction is greatly exaggerated. Smooth wheat when well ripened and has gone entirely through its sweat in the stack or mow can be threshed well enough by the thresherman who thoroughly understands the business.

In harvesting wheat, we allow it to thoroughly ripen before cutting. This was not the practice years ago when the sheaves were bound by hand, but since the bundles are bound by machinery every experienced farmer knows that the operation is far more satisfactorily performed when the grain is ripe—even dead ripe. Then, too, every experienced farmer knows

that ripe grain will cure better and be more plump than the half ripe.

Of course, if the bearded varieties are allowed to thoroughly ripen before cutting, the heads will shell out to some extent, and this is the argument most frequently made against them. The smooth varieties will not shell so much. It is not very easy to make a good and compact shock of dead ripe, bristly bearded wheat. The wet weather during the time wheat stood in the shocks this year was especially damaging to bearded wheat while the smooth wheat stood it much better because of the more close and compact shocks.

Another argument against bearded wheat is that it is as a rule more liable to lodge than the smooth. The beards catch and hold the rain to some

extent, and the stalks become top-heavy as a result. If a windstorm overtakes the wheat in this condition, the heads, heavy with moisture, are very liable to go down. Some bearded wheats, however, have stiff straw, and this will prevent it, to a great extent, from going down when top-heavy with moisture.

As to the comparative yields of bearded and smooth wheats, we believe there is but little difference. At observation and experience has been that the matter of yield depends on things other than smoothness or beardness, the principal one's being richness of soil, careful management in its preparation, and good, plump grain with which to sow the crop.

Indiana.

D. LEATHERMAN.

## It Pays to Fall Plow Early

PUTTING off plowing until the last minute will often cause a farmer to lose more than he imagines or can ever figure. The maximum crop that a farmer can grow depends largely upon the seed bed. The seed bed depends upon plowing. If the ground is not properly plowed no amount of surface preparation will make a good seed bed.

This year there is abundant moisture in almost every section of the country. We do not know whether the fall will be dry or whether we will have more rain. We do know that there is plenty of moisture in the ground now. If the farmer plows early and harrows properly after plowing, he will prevent the rapid evaporation of moisture, in the event that fall turns out to be dry. If rain fall continue to be abundant he is not doing the ground an injury, because the loose nature of the plowed earth will tend to hold the moisture.

The importance of the soil retaining moisture is that when the seed is planted air and moisture are more apt to be mixed in the proper quantities for the development of plant food, which is necessary to start sprouting and growth of the plant. It happens very frequently that drouth exists at the very time in the fall when wheat seed should be sprouting and growing. If the farmer waits to plow until late the ground has no opportunity to drink in the moisture. If this fall happens to be dry the ground will be very hard to plow, and there will be no opportunity to work the seed bed into the right shape to give the wheat seed proper nourishment.

Everyone knows that the proper seed bed for wheat is a compact sub-surface, full of moisture, and an inch or two of finely pulverized soil on the top.

One of the great reasons why fall wheat winter-kills is that after the seed sprouts and grows to a certain height there is not enough available plant food in the ground to make the plant strong enough to withstand the freezing influences of winter. In other words, the plant sprouts and grows and the cold, dry soil kills the plant before it has grown sufficient to withstand the cold. This is brought about by air spaces in the soil caused by the hasty preparation of the seed bed. The farmer who plows his ground early and in most cases deep, and pulverizes with a disk or pulverizer until he is sure that the air spaces are entirely eliminated will have little to fear from winter-killing. If the farmer, when preparing the seed bed, would dig into the ground for the purpose of ascertaining whether the soil particles were compact or not, and whether capillarity could take place with the subsoil, then, if he found the seed bed full of holes, and would keep working it until these holes or air spaces disappeared he would make many additional dollars.

Killing of vermin is another benefit to be derived from this kind of plowing. After a crop has been harvested the field nearly always contains a great many insects and insect eggs. Early fall plowing with the proper pulverizing of the soil will go a long way toward eradicating these pests.

A great many farmers have demonstrated that the Hessian fly is very successfully fought by disking the wheat stubble immediately after harvest. At this time the insects are in the ground in what is called the flax seed stage. Disking throws the larvae out on the surface and exposes them to such conditions as the heat of the sun and air that many die. The farmer following this disking with deep plowing covers the remainder so that the destruction is very complete.

It has been demonstrated further that if the ground is thoroughly permeated with moisture and plant food with sufficient nitrogen to start fermentation in every particle of soil, larvae and insect eggs are destroyed. Farmers will find that air spaces left in the soil, filled with trash are the best breeding places in the world for all kinds of insects. Farmers who take it upon themselves to see that their ground is properly plowed will eradicate, to a large extent, the insect pests. Early plowing has an immense amount to do with this.

Nature provides that insects shall exist in periods when food upon which they feed is grown. The other stages are spent in the propagation of their kind. The time to kill the pests is in the propagation period. Early fall plowing helps the farmer to kill the larvae at a period when the greatest destruction of the pests can be accomplished.

Early fall plowing accomplishes another result, whether the farmer sows fall crops or lets the plowed field lie for seeding until the following spring. It very seldom happens that the farmer has sufficient time in the spring to plow and compact the seed bed as it should be done. Fall plowing gives the winter's freezing a chance to do what he cannot do himself—compacting. Nature can do it much better than any artificial device that man has invented. The fall rains, the winter snows and the spring rains are conserved much more fully by the plowed ground than they are by leaving the stubble exposed. As a matter of fact stubble ground leaves the surface exposed to such an extent that tons upon tons of moisture escape every fall that could be conserved to benefit the crops for the following year.

We must not forget that the abundant rains which we have now will some time cease and if we make preparations to keep all the moisture we possibly can in the ground we do not need to worry about dry weather next year. No one can claim to be a successful weather prophet, but it is a

matter of history that wet years are almost invariably followed by exceedingly dry ones. If farmers take the precaution this fall to keep the abundant moisture which we have in the ground, the wail of dry weather need not be heard next year.

Indiana.

J. D. OLIVER.

#### CROP AND FERTILIZER QUESTIONS.

##### Angle Worms.

Do angle worms injure the soil in which they work, and if so how can one rid the soil of them? Also kindly give me advice in regard to inoculation for alfalfa. I wish to grow the crop and think our land is somewhat adapted to it, I seeded a field in oats two years ago, some alfalfa seed being mixed in with the clover seed. Some of the plants looked sickly but most of them were a dark green and healthy in appearance. Will it, in your opinion, be necessary to inoculate the seed or land, and if so what method would you advise?

Alcona Co.

W. R.

Angle worms do not injure the soil. On the contrary they are a benefit to it. You never find angle-worms only on land containing plenty of humus, and much of this humus is in a raw state, or to speak more correctly, this is vegetable matter not yet changed to what we might call vegetable mold or humus. The worms partially live on this organic matter and change it so it becomes humus, they therefore work over the crude stuff they find in the soil and convert some of its into available plant food. When this angle-worm soil is properly aerated (tilled) it is very productive.

##### Inoculating for Alfalfa.

Some soils seem to be already inoculated with alfalfa bacteria, also they contain sufficient nitrogen to feed the plant until natural inoculation takes place. Not knowing this, and there is no way to find out except by experimenting, it is always safest to inoculate. Besides the expense of inoculation is so small that there is really no excuse for not inoculating. You can buy enough commercial culture for \$1 to inoculate a bushel of seed. If the culture is properly handled you are practically certain of successful results.

You can get a pound of dry dirt from an old alfalfa field, dry it in the shade and use the glue method, and you will be practically sure of results. Again, buy enough dirt from an established alfalfa field so you have 100 pounds of dirt for each acre of alfalfa and apply this dirt with a fertilizer drill. This is a splendid way and will always give results.

The glue method of inoculation consists in dissolving five cents worth of glue in one quart of warm water and wetting one bushel of seed thoroughly. Use a wash tub or two of them, pour the dissolved glue on the seed and stir until the seeds are all wet. Then sprinkle on the dry alfalfa soil, made very fine by rubbing, and stir thoroughly. Some of this fine dirt will stick to each seed. Sow the seed with a drill if possible so it will not come in direct contact with the rays of the sun. If sown broadcast sow on cloudy day or after sundown and harrow in at once.

COLON C. LILLIE.

#### WHY ENSILAGE MOLDS.

Ensilage can only mold as it has a good deal of air in it. This may be due to the corn being too dry or because it is not packed well enough. Moldy ensilage is dangerous for all kinds of stock. If the corn is rather dry when put into the silo, water should be added and in whatever condition it is it should be well tramped. The deeper the silo the better the air is excluded, due to the heavier packing.—N. D. Ex. Sta.

Success in life depends upon staying power. The reason for failure in most cases is lack of perseverance. Men get tired and give up.—J. R. Miller.



## The Farm Complete

NEITHER a correspondence school course nor the academic discussion of farm management, can determine the application of capital and labor on the soil. Soil conditions, markets, capital, home labor and the ability to employ labor, together with a man's tastes are all factors as to whether it will be the farm simple or the farm complete. Simplified farming and the more complete or complex farming are, after all, relative terms and where the farm simple leaves off the farm complete begins one cannot say with definiteness. This understanding of terms is necessary which if not understood leads to conflict of opinions when the differences are minor after all. The farm complete might be called the occupational realization of one's tastes on the farm and the endeavor to supply the demands arising from those tastes.

The man with the born liking for animal life, develops some faculties along the line of supplying human needs whether it be from the dairy, the meat on the block or in the material that clothes and protects the body. With him the grain crop is not the end but the means to the end.

The enjoyment of the life chosen has added satisfactions, for the bountiful grain crop which is the delight on the farm simple is no less enjoyed on the farm complete. The reason for art is that it fills the faculties with high perceptions and incidentally crowds out low ideals. Were the history of farming to be voided of its triumphs in animal life it would be a dreary recital. The farm that produces from the dairy or makes meat or wool has the prolonged or added pleasures of the occupation claims the philosopher, while the artist asks as to their impression on the ideals and the economist asks, "does it pay?"

Sir Horace Plunkett says that the farm should be an occupation, a life, and also a business. The farm complete gives wider experiences to life and greater opportunities to tastes which vary, and in the matter of financial gain there is no complete and conclusive evidence.

My own impression is that for many years crop farming was quite as profitable as the operation of the farm complete. It is doubtful if this is so true now or will be in future. The history of English agriculture would indicate that stock raising on the farm is going to be profitable where it has not been so. In addition the western range is very much contracted as compared to former years. It may well be conceded that stock farming has been over-rated as a factor in fertility maintenance, yet the demands for fertilizer have so much increased that this will be a factor in and of itself, but with more knowledge and ability to save animal manures with a minimum of loss a new rating can be given them more as an added factor in soil fertility.

Live stock sold for commercial purposes is a bill of expense when ready for the market and until it is slaughtered. This being the case the marketing of meats has not been as successful as a whole as the more simple grain crops, which can be held, at little if any cost until market conditions improve. From a purely economic standpoint of the grower nothing more disadvantageous can be thought of than centering all the fat stock of the country at central markets and awaiting the pleasure and profit of the buyer. The daily cost of a car of beef cattle on the market and a car of grain are no comparable. These unfavorable conditions as well as the spreading of disease through stock yards are questions of marketing that may, too, in the future be changed to the advantage of the future stock grower, and be an influence more favorable to the farm complete than at present.

The farm simple does not care for labor the year around the way that is compelled on the farm complete, and this is one of the causes of lack of farm labor and a consequent loss to the farmer. The farm laborer can not go south with the wild geese when the crops are gathered in, nor can he hibernate. Again, it costs little more to employ labor for the year than it does for the season.

Migratory farm labor, the increase of city population, tenant farming, are some of the ills growing out of crop farming, to a very large extent. The long time leases of England and Scotland and of continued farm labor year after year are inseparably interwoven with the live stock industry. The actual investment of capital on the farm complete in machinery is rarely more covering a period of years than on the farm simple. Farming without live stock actually compels more of rotation and adding of new crops from time to time, these calling for new and additional machinery. On the farm complete there is often home consumption of feeds that are unmerchandiseable, yet little impaired in feeding value that live stock will convert into cash most economically. A reasonable amount of live stock on a farm is salvage on what would otherwise be a loss. A shepherd farmer once told me he could go through the country and pick out the farms where sheep were kept, by the appearance of the fence rows. The main business of the industrial world is feeding and clothing its people, which in an advanced civilization depends on the products of animal life. There is in the final analysis the necessity of the farm complete, and if its financial gain is not the equal of simplified farming the reason should be sought and a remedy found.

Shiawassee Co. J. N. MCBRIDE.

### NEW FARMERS IN WESTERN MICHIGAN.

The executive committee of the Western Michigan Development Bureau met at Traverse City, August 26, and the report of Secretary Gibson included the following: During the six months ending June 30 the efforts of the bureau have resulted in 1,352 families moving into the various counties. The families averaged four members. They took up nearly 50,000 acres of land, the average being 36.8 acres per family. During the same period about 127 families moved out, making a net gain of 1,225 families, or about 5,000 persons. It was decided to have an exhibit at the West Michigan Fair, Grand Rapids, and at a few county or regional fairs, with less attention paid to fruit and more to grain, potatoes, etc. Fruit displays will be made in large store windows in Chicago, Detroit, Cleveland, Columbus and other cities.

Kent Co. ALMOND GRIFFEN.

### PACKING ENSILAGE.

Packing the ensilage well improves it. It is the air in the ensilage that spoils it and the more air in it the more acetic acid is formed. This is the acid that makes it sour. The less air the less of the acetic acid and the more lactic acid, which is the most desirable. The tramping in compacting the ensilage leaves less room for air and so makes better ensilage. Cutting the ensilage fine makes it pack better. Half to three quarter-inch lengths are the most satisfactory.

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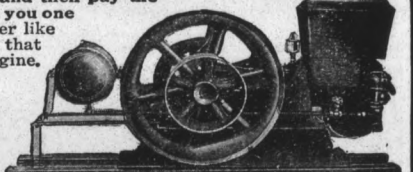
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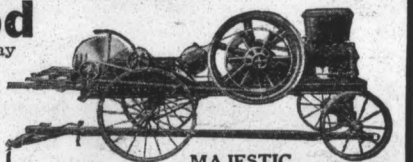
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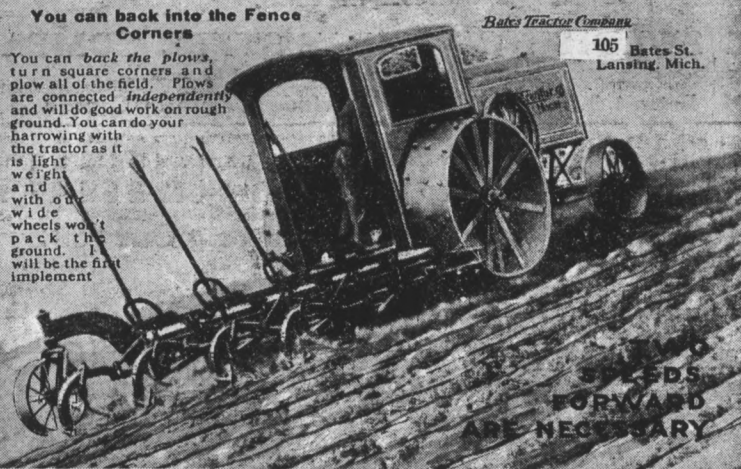
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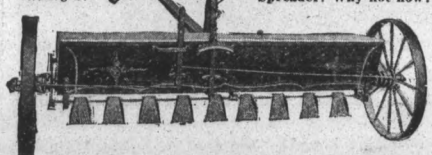
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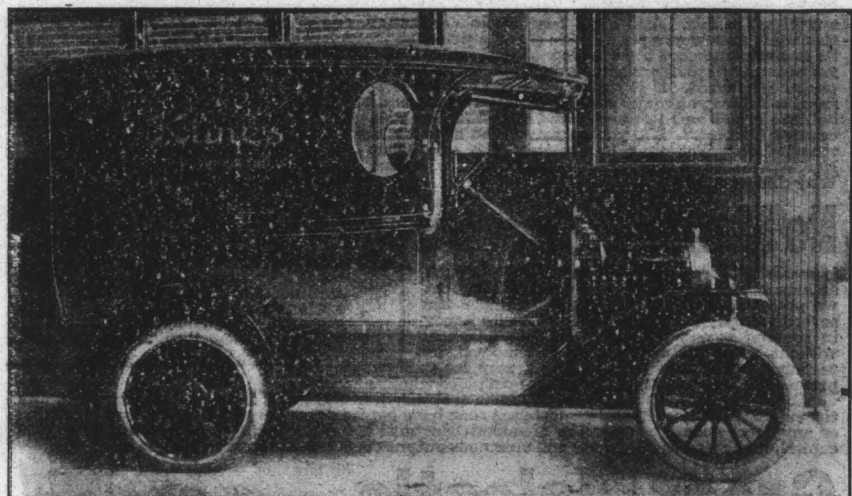
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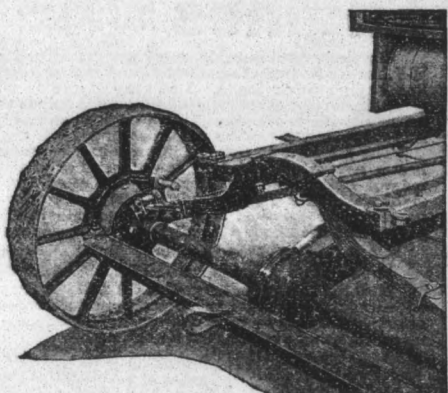
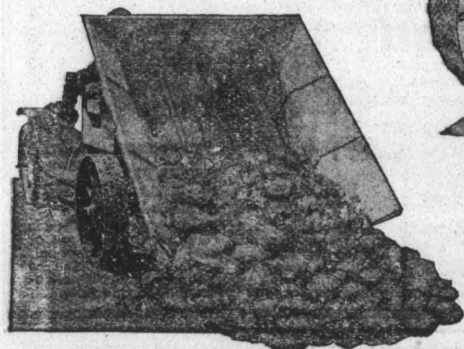
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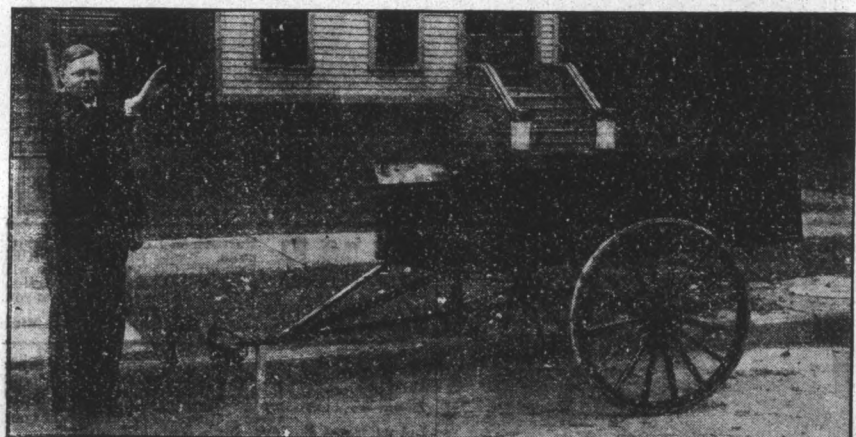
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## Some Conceptions of Heredity

OF all the studies in the universe, there is none more interesting than the study of heredity. It

has been the subject of a great deal of controversy in the last sixty-five years and while at present there is no unchanging ground upon which we may plant the premises of an argument, yet at the same time the whole scientific and practical world has arrived at the same conclusions in regard to many of the phases of heredity. Why certain traits present themselves is yet a very hazy subject. My conception of heredity is not different from others which have been introduced but I shall endeavor to couch it in such terms that the reader will not have to be a scientist in order to understand it.

While there are some few who disagree with the statement, most stockmen are agreed that the male contributes as much to the offspring as does the female. We notice some characteristics about the young that are present in the male; other traits are those of the female. The question is, what makes these traits show up in some unions and be absent in others?

There are two conflicting theories about this. Some scientists have maintained that if a character does not show up in the young, it is absolutely absent in this particular individual. However, this argument is hardly tenable because we may take two individuals in whom a certain feature is absent; mate them together and the outcome will be an individual in whom the character will be present. Though we mate a horned bull with a horned cow, we may get a polled calf, provided there were polled animals in both the sire's and dam's ancestry. This would seem to contradict the absence theory.

### What Characters Are Dominant.

The dominant and hidden theory seems more likely to be the correct one. This conception of heredity is that traits not present are only hidden and may show up at some future time. We take it that there are just as many characters in one animal of a species as in another animal of the same species. We will say one thousand for round numbers, although every animal probably has a great many more distinct characters than one thousand. If we were to take two pint jars and fill each with one thousand BB shot, we might represent the sire and the dam. We know that the offspring has as many characters as has the sire or the dam and that each one contributes equally to the union so the way to represent the offspring of these two individuals would be to halve each shot in each can and glue the corresponding halves together in a third can; this one to represent the offspring. If the sire had had his color more intensified over that of the dam his half of the color shot would be heavier or, it would be dominant. In the final shakeup, the heavier half would turn toward the bottom or the outside and for this reason the offspring would be marked like the sire. Now if we take this can of shot which has been secured by sticking together corresponding halves and shake it up thoroughly, the heavier halves will turn toward the outside and the most can see that one thousand shot would intensified points of each parent will show in the young.

No two animals are alike and we never occupy the same relative position, no matter how many times they were shaken up together. Some would get wedged in between others and so present an aspect that under ordinary conditions would be hidden. Others would be so nearly balanced that we would in some instances be able to see the line of cleavage where the two halves were joined. This may explain some characters that seem to be a mixture of the corresponding features

of the dam and sire. A bay mare and a black stallion may sometimes get a chestnut colt.

### The Practical Application.

This theory is of little value to live stock breeders unless it has some application. I have mentioned intensified characters and the question that is pertinent in this discussion is, can characters be intensified by care, feeding and environment, or must we rely solely upon ancestry?

With his usual high-sounding language, Friend Clapp, in the Michigan Farmer of July 17, attacks a "brilliant young minister" because he claimed that environment has made the civilized man what he is. After befogging the horizon with dust, N. A. vanishes, leaving the reader with a hazy impression that environment never was anything, and ancestral influences are all. After the haze has cleared away and we get our bearings again, it becomes plain that while ancestral influences are very important, environment has contributed its quota to the present achievements of civilized man.

Before we can disagree, we must first agree and the agreement in this case is that characteristics acquired in a single generation cannot be transmitted. In other words, if a cow were bathed in wine the calf would have hair no more silky nor glossy than that of any ordinary calf. If we feed the beef cow a large amount of feed, we will not get a calf from her that will have the required stomach capacity of the dairy cow in the first generation. Yet, if we keep up this liberal feeding for five or six generations, we will have developed a cow with the pendulous abdomen and she will be able to transmit this to her offspring. Of course, selection will have to be practiced but we are thus enabled to make the best of what both present and past environment has given us.

I would like to have someone designate the difference between ancestral influences and accumulated environment. It appears to me as though the two were identical. I believe even Friend Clapp will agree that the first man to climb a tree did so to get away from an enemy. In other words, his environment forced him to climb the tree or be destroyed. Was that feat lost with that individual? Indeed it was not. The offspring saw his parent climb a tree and so he did the same. This continued until the capability that was once the product of environment constituted an ancestral influence.

### Some Examples.

Our improved dairy breeds are the sum total of past environments. The environment of the Jersey and Guernsey Islands to which Mr. Clapp refers has made these cattle small of stature. Again, the Holstein cattle have been reared on abundant pastures and are larger than cattle similarly raised but having scant and rocky pastures.

Let us take an application with hogs. The typical lard hog of the corn belt states is small of bone with a cylindrical body and a tendency to put on internal fat. However, if we were to take two of these lard hogs out of the corn belt and feed them on feeds richer in protein, we have Prof. Plumb's word for it that they lose the lard type and assume the bacon type in a few generations.

Perhaps after all the young preacher wasn't far from right, for even his opponent says: "They (grains) are a blessing to humanity at the present time, for if surrounded with favorable conditions (environment) they yield abundantly of their kind." It seems somewhat doubtful if even "anthropology, ethnology, or paleontology" would have forced him to any other conclusion. The accumulated results of environment or ancestral influences is a potent factor in improving farm products.

I. J. MATHEWS.





## Autumn Care of Farm Horses

A LARGE number of users of horses do not realize that the early autumn is a trying time to the horses that are required to work as farm horses are at this season of the year. Even the early spring work on the farm is hardly more trying to the horses than is the work of the autumn. And that is not all, for just at this season the horse's vitality is subject to another severe drain, of which many farmers scarcely ever think.

This drain results from the new, heavy coat of hair the horse must grow for his winter protection. Twice a year the horse sheds his hair and grows a new coat. The first time is in the spring when he sheds his heavy winter coat and grows a light, fine coat. Then in the autumn he sheds his summer coat and grows the heavy, thick covering that is intended to protect him from the winter's cold. In view of the hard work the farm horse is called upon to perform at this time assistance should be given him without stint if it is desired that he go into winter quarters in the good condition that decreases greatly the labor of wintering him properly.

Almost everyone who has had much experience working farm horses knows how frequent, at this time of the year are cases of coughs and colds which often run into a mild form of distemper. They are usually not followed by any serious results, but they do greatly reduce the horse's capacity for performing his duties and they do bring them to winter's door in a run-down condition that means extra feed and care through most of the winter if they are gotten into proper shape to take part in the spring work.

### Economy in Winter Feed.

On most farms the horses are idle or do but little work in the winter and in warm, comfortable quarters, those that commence the winter in good health and flesh can be kept in good condition without feeding a heavy grain ration. To this end extra corn should be given them during the time the fall work and growth of the winter coat of hair tests severely their vital powers. If it has been the custom to turn the horses out to grass during the nights it should be abandoned with the arrival of the sharp cool nights and possibly cool rains; it will also be well to keep the light blankets handy to cover the horses with, provided it becomes necessary for them to stand still for any considerable length of time when they are warm, for it does not take a great deal to start trouble when the horse's vitality is at the low ebb which may be expected at this season.

Just at this season, too, the use of the currycomb and brush is far more beneficial than during the mid-summer season. The loose hair which is being shed is most irritating to the skin and the gentle use of the currycomb and the brisk use of the brush not only assists in removing the hair and dandruff but it also stimulates the organs which provide the new growth.

### Liberal Feeding Now Important.

It is by liberal feeding, however, that gives to horses the most substantial assistance during this trying period. Many owners feed too much

grain to their horses, especially during the winter, also during the spring and summer, but seldom are they fed too heavily of grain during the autumn. Horses fed so heavily in grain during the summer season that they will eat but little, if any, hay, become weakened and will commence to run down and get thin just at the season of the year when they should have plenty of flesh to enable them to stand the strain of the hard autumn work and to furnish the elements of the new coat of hair they must grow. Too much grain—certainly no more than will be eaten up clean should be given—is injurious and wasteful at any season of the year, but at no other time may it be fed to the limit to such good advantage as during the autumn season.

If one is feeding principally oats to the farm horses, new corn may be added to the fall ration to good advantage. Add it gradually to the regimen, until one of the day's three feeds consists of six or seven ears of the new corn, making the other two feeds of ground oats. The new corn is easily crushed and the horses will relish it greatly. It is both stimulating and nourishing. By commencing to feed the corn gradually and feeding it in this way there will be no danger of colic and the horses will go into winter quarters in good flesh and in fine general condition.

### Good Judgment Also Needed.

No matter how the horses are fed at this season of the year, good judgment should also be exercised in their use if the best results of proper feeding are to be arrived at. At times, during the first weeks of autumn, the days are so warm and muggy that the long hours which circumstances require the horses to work rapidly absorb strength and energy. If they fail to stand up under the strain, with the crops not yet harvested or the fall plowing and harrowing undone it means disaster to the farmer.

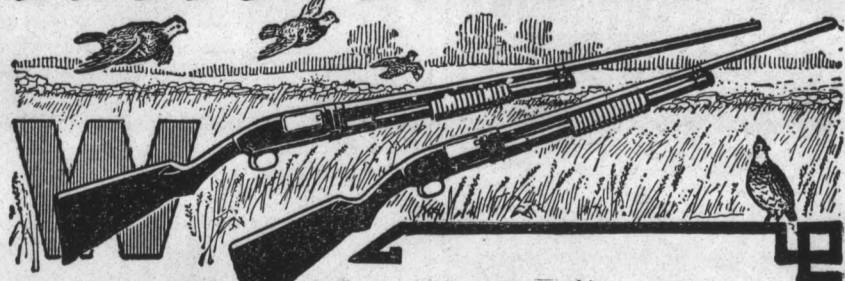
In spite of the continued perfecting of tractor engines, horse labor, and much of it is required on the farm and it stands the farmer well in hand to conserve the health and strength of his horses; and especially is this true with reference to this critical autumn season. Feed a grain ration not too rich in the fats and carbohydrates—therefore more oats than corn and in amount about two-thirds of what grain they would eat if unstinted, with all the good hay afterwards that they will eat. And there is a difference in hay. Timothy is probably superior to clover, but if nicely cured early-cut red clover can be obtained the owner need have no cause to worry over the absence of timothy. Such clover hay is greatly relished by the horses and it will do wonders towards keeping them in good flesh.

The good the horses get from feed of the right sort, from grooming and comfortable quarters, will be still more pronounced if they are given a little time to digest their food before being put to work. The horse that is allowed an hour and a quarter for his meal will do more work with less telling effect on him than the one that is given only three-quarters of an hour.

New York.

H. L. ALLEN.

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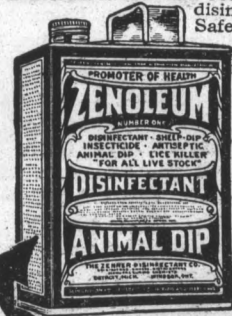
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## Co-operation Among Dairymen

Its Value Shown at Newaygo County Dairymen's Picnic

AUGUST 18 marked a new era in the dairy industry of Newaygo county when 500 dairymen and families attended the dairymen's picnic held at the home of George Crawford, of Sitka, as the guests of Newaygo County Cow-testing Association. The members of the picnic committee and County Agricultural Agent H. B. Blandford left no stone unturned towards making this a red letter day in the history of the dairy industry in Newaygo county.

At an early hour the dairymen and their families began to arrive and soon the spacious grounds of Mr. Crawford were filled with enthusiastic dairymen and their families bent on a good chat with their neighbors and thoroughly enjoying a good day. A ball game had been scheduled for the forenoon between the Holstein and Guernsey breeders. At the end of the second inning with the score six to one in favor of the "black and whites," which can be accounted for by the presence of the county farm agent on the Holstein team, and who started the scoring for that side, the ringing of the Crawford dinner bell brought the game to a close and after the bounteous repast set forth and which was heavily partaken of by everyone left no desire for further baseball activities. The coffee was furnished free by Mr. Osborne, the genial groceryman of Sitka, and lemonade was furnished free to everyone by the association. In one corner of the grounds the Ladies' Aid Society of Sitka dispensed ice cream and other like refreshments.

### The Afternoon Program

After dinner the tables were cleared away and seats arranged under the spreading maples on Mr. Crawford's lawn. At the rear of the seats 25 to 30 autos were drawn up in semi-circle, furnishing additional seats and making a fine background for the audience.

Mr. Robert Kempf, breeder of Holstein cattle, and president of the Cow-testing Association, introduced Congressman J. L. McLaughlin, of the eighth district, as the first speaker on the program. Mr. McLaughlin spoke briefly of the excellent agricultural conditions in Michigan and the reasons thereof. The relation of good citizenship and the ownership of land was dwelt on and a clear explanation of the latter as affecting this country today as contrasted with European conditions. Mr. McLaughlin congratulated the people of Newaygo county on being the first county in the United States to organize a cow-testing association which has been in operation for ten years, and also on being one of the first counties in Michigan to employ a county agricultural agent.

### The Value of Co-operative Associations

The Junior Agricultural Club, of Brookside, favored the audience with a musical selection, entitled, "Everybody Milk in Michigan," a very appropriate selection for the occasion.

Mr. Helmer Rabild, of the U. S. Department of Agriculture, Dairy Division, who, with Mr. Henry Rozema, of Fremont, and breeder of Guernseys, organized the cow-testing association ten years ago, was expected to be present but was unable to come, sent as his representative Mr. C. L. Burlingham, of the same department. Mr. Burlingham spoke on the value of the association as a co-operative proposition, the better feeding of the dairy cow, and the selection of breeding stock. The value of the advertising that can come through the organization in the selling of its surplus stock was dwelt upon. Mr. Burlingham brought home very strongly these points to his hearers.

Dr. Eben Mumford, State Leader of Farm Management, spoke next, speaking of the leadership that had fallen to Newaygo county through the organizing of its various co-operative industries, such as the cow-testing association, co-operative produce company, co-operative creamery and the farm bureau. Dr. Mumford said that the mention of Newaygo county in other parts of the state always brought to his hearers some one of these organizations and that outside of the state Newaygo county was known for being the first to organize and successfully operate a cow-testing association. Dr. Mumford told of the benefits and values that were coming to the county through the efforts of the farm bureau and its head, Mr. H. B. Blandford. A new phase of the work that is being done by the county farm men was cited in the way that stock, seed and farm produce may be sold from one county to the other through the county farm men. Last week Mr. H. G. Smith, county agricultural agent of Alpena county, came to Newaygo county and assisted by Mr. Blandford purchased between \$1,500 and \$1,600 worth of pure-bred Guernsey cattle, a thing that could hardly have been ac-

complished without the aid of some organization or person to aid in this county. The cattle numbered nine, seven being purchased of Henry Rozema, one of George Crawford and one of Raymond Kempf. Besides the cattle Mr. Smith purchased a large amount of vetch seed from various farmers in this locality.

**Cow Judging Demonstration.**

One of the features of the day was a cow-judging demonstration of dairy cattle by Prof. A. C. Anderson, of M. A. C. A dairy cow was led in and a most interesting discussion of the points and merits that should be found in the dairy cow were explained. A great deal of interest was shown in Prof. Anderson's talk and it was a very attentive audience that followed his discussion.

Through the solicitations of the committee and the farm agent, Mr. Blandford, a fine representative group

of dairy cattle of the Holstein, Guernsey and Jersey breeds was brought in from the neighboring farms. In the exhibit of cattle there were three bulls, five cows, two heifers, and seven calves of the Guernsey breed. The Holsteins were represented by one bull, four cows, one grade cow, four heifers, and three calves. The Jerseys by two bulls, four cows, and one heifer, a total of 38 head.

The Holstein aged cows were brought into the ring first and before being placed by Prof. Anderson, the Holstein men were asked into the ring and after studying the animals were asked to place them. Mrs. D. B. Coe, of Holton, a woman as enthusiastic over Holsteins, and as good a judge of the breed as her husband, was in the ring and showed that she knew Holstein cattle. The placing of the cattle in the ring by the breeders caused much merriment from the spectators but after Prof. Anderson had placed the cattle and made his explanations for the same, some valuable lessons were driven home to the spectators and those who had been in the ring judging.

### The Premiums Awarded.

The prize of \$2 given to the best type of pure-bred dairy cows of each breed went to the following: Holstein, Frank Mathews; Guernsey, Frank Zerlaut.

For the best type dairy grade cow



Cow Judging Demonstration at Newaygo County Dairymen's Picnic.

of each breed: Holstein, C. J. Miller; Jersey, H. Zerlaut.

Best heifer of each breed: Holstein, H. B. Blandford; Guernsey, Alfred Anderson; Jersey, S. Swensen.

Best heifer calf of each breed: Guernsey, Henry Rozema; Holstein, Robert Kempf.

Best bull calf of each breed: Guernsey, Alfred Anderson; Holstein, Robert Kempf.

Best bull of each breed: Guernsey, Alfred Anderson; Holstein, Robert Kempf; Jersey, C. Swensen.

The day, taken all in all, the educational and social side, will be one long remembered in the annals of dairy history in this county and in parting the picnicers voted Mr. and Mrs. Crawford fine hosts and expressed the strong desire that the Newaygo County Dairymen's picnic be made an annual affair.

Newaygo Co. K. K. VINING.

## The Responsibility for Clean Milk

AS the period of rainfall lessens the statement is true but the inference that the sole source of contamination is the milkman is no doubt an erroneous one. It is probably partially due to the handling which the milk gets in the hands of the consumers. Most milkmen are cleaving as close to the line as possible, yet they have complaints that their "milk will not keep 24 hours." No one can wonder at this. When I go down the street some sultry summer day and see milk setting out on the back porches right where it was left by the milkman in the morning, I cannot help but won-



der how it even keeps sweet 24 hours. There are two parts to this responsibility business—it being something like a quarrel in this respect. One cannot quarrel alone. The milkman is responsible to a certain degree, but the consumer is not without his responsibility also. Should a healthy milkman draw milk from healthy cows into clean receptacles, and carry on all his operations in a modern and sanitary manner, the milk would not stay sweet very long if allowed to remain in the sun any length of time after being delivered.

The following are the rules for detection of responsibility on the part of the producer: First, milk healthy cows; second, have healthy attendants; third, barns, pails and bottles should be absolutely clean and free from dust. The last and most important point is that the milk should be cooled immediately after being drawn. This is the point where many producers fall down. If healthy milk is cooled immediately, there will be but little growth of the souring bacteria. If milk produced under these conditions is kept cool while it is being delivered to the consumer, the milkman's responsibility is at an end.

#### The Consumer's Responsibility.

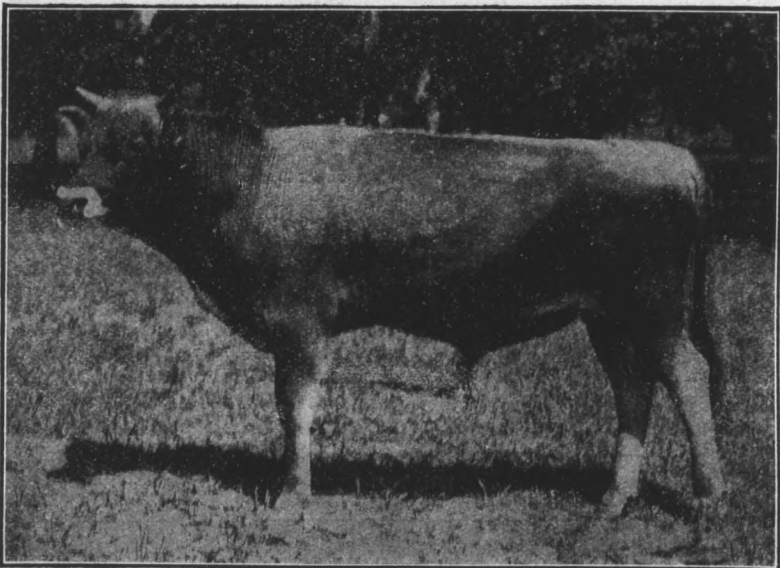
It would be good advertising and a business proposition for milk producers to place before their customers the rules for keeping milk clean and sanitary after it has been delivered to them. The following may well be embodied:

First, as soon as the milk is delivered, put it on ice or in a cool place; second, do not put the milk into a refrigerator where onions or any other

different ration should her taste demand it. People who have invested heavily in top-notchers for breeding purposes and expect to get long prices for stock may make this practice pay a profit but we common dairymen who keep good cows for a profit from legitimate everyday dairying can not do this.

In several dairy farms in this county the stable is arranged so that each cow has a feed bin of her own. The herdsman ascertains by trial just what feeds each cow likes best and then he furnishes each cow with this ration. By such methods and by milking three and four times a day the whole herd is coaxed to make phenomenal yields. The buyer of the animals offered for sale is led to believe that all the animals in the herd are superior animals, as shown by the high average yield. He is assured that their producing qualities will be transmitted and he buys at long prices. That the herd is composed of superior animals all of us will admit, but this this superiority can be maintained under ordinary conditions is not so clear, let alone having the quality transmitted. These herds are kept under exceptional conditions that the ordinary dairyman would not think of maintaining and will, if necessary, eat hay that is not prime in some seasons if we are unfortunate to have some and we want her to eat grain sometimes that has perhaps been damaged. We want a cow so reared that she will not be too notional about her feed, and at the same time convert this feed into a profit.

If you begin right with the calves you can educate these to eat any kind of



Young Jersey Bull Bred at Brookwater Farm, Washtenaw County, Mich.

odorous substances are kept. Milk will very quickly absorb these odors. third, never use a milk bottle for a pitcher. Each time the cap is removed, it is ordinarily placed on a board or some other object and although the cap may not be visibly contaminated, it is almost sure to be soiled and objectionable organisms introduced. If any milk is to be used for a baby, the baby's milk should be taken and placed in another receptacle so that it may suffer the least possible exposure.

Adherence to these rules will relieve much of the friction that often arises between the milk producer and the milk consumer. While it is not believed that co-operation is a panacea for every ill that may affect the human race, yet co-operating in this matter can result only in mutual good to both sides of the clean milk question.

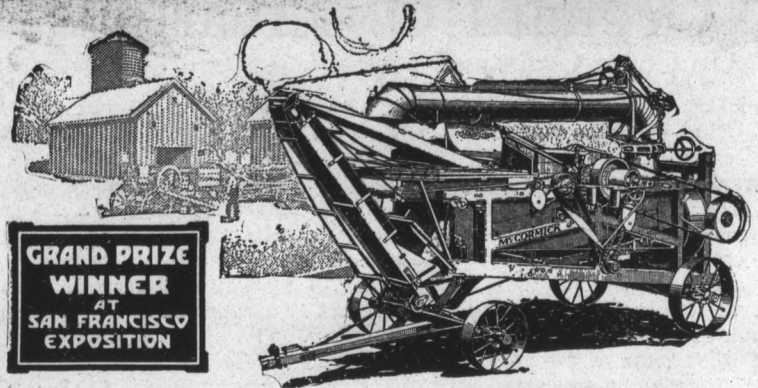
I. J. MATHEWS.

#### LILLIE FARMSTEAD DAIRY NOTES.

Catering to the taste or appetite of each individual cow in the herd is all right in theory, but it is one of those theories that won't make a man any money. The average dairyman can not take the time to feed each cow a

One practical habit you ought to have a dairy heifer acquire is to eat large amounts of roughage. This is done by not feeding heavily of grain when she is young. Heavy grain rations are always expensive rations. Heavy roughage rations are always cheap rations. There is always more profit in the cheap ration. A cow must be liberally fed. She must be a large consumer. She can't produce something for nothing, but she must be educated to eat cheap foods or she is of little practical value.

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## Orchard Observations

### On Cover Crops and Their Relation to Spraying.

WHILE traveling through the fruit belt this summer I was often struck by the peculiar appearance of peach trees and plum trees growing on the light sandy soils in adjacent orchards. I knew that in many cases the trees belonged to the same grower and were all the same variety. It looked very much like a question of spraying and my idea was to see what some of the growers, who were riding on the train, thought. In nearly every case they answered that it was a good example of proper and improper spraying.

However, I had another idea in mind and so visited many of the orchards and obtained the system of management employed in conducting the growing of the fruit.

I found that, if other things were equal, the grower that fertilized the

The immense growth of clover had taken the moisture and a large portion of the available plant food.

Recent experiments show that when clover is about half grown the greater part of the plant food is in the stem and roots and only later does it move up to pass into the seed. Also the plant is tender and decays quickly and easily. The object should be to plow it under before the stem hardens and before the available food the tree should have from the soil is exhausted. In a dry season saving the moisture by plowing early is more important than perhaps any other factor. Water is often the greatest limiting factor of plant growth.

But there is another factor which we must not overlook, and that is the physiological. The healthy, well groomed trees seem to have no blem-

lowed to die down naturally. They need not be broken down by any special means.

When pulling the onions throw five to eight rows into one window. Stir the onions frequently with a wooden rake so as to give them all a uniform curing and prevent them from sending roots into the soil. This is most apt to happen after a rain. White onions are easily discolored by this meth-

od of curing. To prevent this cure under cover, which is done by either placing the onions in an open shed or in well ventilated crates that are stacked where the ventilation is good. This procedure is not necessary unless the white varieties are being grown for market. Six to ten days after pulling the onions will have cured sufficiently to be removed from the field and prepared for storage.

## Care of the Pear Orchard

PEAR growing is a profitable branch of fruit growing where conditions are favorable for the growing of pears. While the use of the pear is not as wide as that of the apple it is not, in proportion to its field of usefulness, grown as extensively as the apple and therefore the grower is assured a more stable price than the apple grower.

The best soil for pears is one of a clayey nature and is usually one of the hard-to-work kind. If the orchard is grown on loamy soils one is not so certain of as regular crops and will have more pests and troubles to contend with. Locations being equal, the orchard of a loamy soil will be more susceptible to fungus diseases than that on a clay soil which dries off quickly.

### Maturing the Wood an Important Factor.

One of the essentials of successful pear growing is that the trees properly harden their wood. When they do not they will become susceptible to blight and winter injury. The clay soil insures the tree a moderate growth which will harden up well before the season is over. Some pear orchards are successful on soils of a sandy, loamy nature, but in most cases these sites have a clay subsoil.

Aside from the soil the location should be a well drained one and be of good elevation so as to be less susceptible to spring pests because the pear is fairly early in blossoming. A well elevated location is also advantageous because there is likely to be a good circulation of air which has a favorable influence on the development of fungous diseases.

Before planting the ground should be plowed deep and thoroughly worked. The most satisfactory distance to set the trees is 26x26 feet, or 24x28

cultivation should be frequent enough to keep a good dust mulch on the ground. Under no circumstances should the cultivation be deep near the trees. Deep and late cultivation will keep the trees growing to late in the season and conditions favoring blight will result. After trees are about 20 years old they do not blight as readily as the younger ones, as after the trees bear good crops they do not grow so much, and therefore the tendency to blight is reduced.

The older the trees get and the heavier crops produced the more fertilizer they require to keep them doing well. On account of the large trees shading the ground, cover crops do not do as well and therefore barnyard manure may have to be used to some extent. If this is necessary the application should be light so as not to stimulate the growth too much. I prefer to fertilize the orchard by the use of cover crops and commercial fertilizers.

### Pruning and Spraying.

The trees should be pruned lightly each year with most of the pruning done in the center so as to induce the tops to spread. The new growth should be shortened back some but not as much as is practiced in the pruning of peaches. By this method of pruning most varieties of pears can be controlled in form as easily as other fruit trees can. In spraying pears I prefer Bordeaux mixture for the spraying in the pink of the blossoms. Bordeaux is a slightly better fungicide and is worth the extra bother of making it, at this time. For the other sprays I use the lime-sulphur at the strength of 1:50, spraying at the usual times apples are sprayed.

In harvesting the fruit all of it should not be picked at once. If the trees have not been carefully thinned



Good Cultural Methods Help to Make Spraying More Effective.

trees and employed a system in which a good cover crop was included and worked into the soil at the proper time had the best results.

### The Effect of Cover Crop Management.

Let me illustrate the conditions as I found them in one very striking instance. A grower owned 80 acres of land, 40 acres on one side of the road and 40 acres on the other. The land was equal in fertility as far as could be determined. It had been fertilized as heavily and physically was uniform all over the farm. But the peach orchard on one side of the road had made more growth, the fruit was larger, and the foliage was a deep healthy green, whereas on the other side it was yellow, spotted and full of shot-holes, and the leaves were smaller. The orchards had been sprayed at the same time, and as carefully in one case as the other, for this grower I knew never did things in a half-hearted manner.

The history of the orchard gives the clue. The orchard which had the healthy foliage and had made such rapid growth was plowed early in the season. A cover crop of crimson clover had been sown in it on July 20 of the previous year. This cover crop made an excellent growth and was plowed under about April 24. A year previous each orchard had received 300 pounds of 1:8:10 commercial fertilizer. The orchard was dragged thoroughly and a good mulch was maintained during the growing season.

### Early Plowing Conserves Moisture.

The other orchard, which appeared so unthrifty was handled in the same way except as to the cover crop. The cover crop was as fine as the other but was not plowed under until in June. The clover had headed out and the growth was enormous. When the plowing was started it was very dry and the work was delayed so the drag did not follow the plow. Lying in the furrow the land dried out still more.

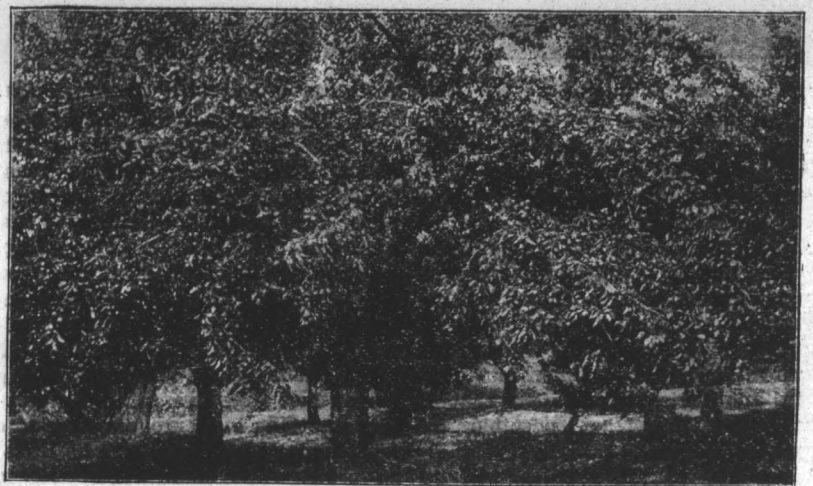
ish on their leaves, while the less favored trees in the late plowed land showed the attacks of various diseases on their leaves in spite of the spraying. This is a very important factor and one so often overlooked. We cannot develop a healthy, bearing tree factor requisite to plant growth. Some growers do not feed their trees enough, especially in the light lands. Healthy Trees Not as Susceptible to Diseases.

That diseases are more easily controlled when the trees are well fed is proved also by observation in other orchards. I made it a point to examine each peach orchard I visited. One grower took me to a hill in his orchard where he had trouble with erosion and had allowed the cover crop to remain about a month longer. The soil also was not as good. However, the spraying had been uniform throughout the orchard, but one could easily pick the trees which stood in the area plowed later. The leaves were not as healthy, fungi having attacked them in spite of the spraying, and the dark green color was absent. Another experienced grower informed me that he even found it necessary to spray trees less favored once more than the others. Whether this is of any benefit I am not prepared to say, but there is certainly a difference in resistance and results of spraying. Trees are living organisms and cannot resist disease when weakened. What causes disease resistance or what should make the well-fed tree more resistant is still to be determined.

C. N. FREY.

### HARVESTING ONIONS.

Onions are ready for harvesting when 60 to 80 per cent have ripened. This stage is indicated by the tops turning yellow and dying down to the ground. The necks of the onion should be small and perfectly ripened down to the bulb. The tops should be al-



Some of Mr. Griffin's Productive Pear Trees.

feet, according to the way land drains, there will be a greater variation in size and it will pay to leave the small planted and not more than five of those. When too many varieties are set they can not be sprayed, harvested or marketed to advantage.

### Care of the Young Orchard.

During the first few years field corn can be grown in the orchard to advantage. When this is done the cultivation should be stopped by the first of July and a cover crop sown just before the last cultivation. For this purpose use vetch or mammoth clover. Oats sown with either of these legumes will make more certain a good covering in the fall.

During the time of cultivation the

Allegan Co. G. W. GRIFFIN.

### TROUBLE DEPARTMENT.

#### Strawberry Plants Dying.

I am having trouble with my strawberry patch. The leaves wither and get brown, and then the plant dies.

Macomb Co. A. C. Some insect attacking the roots of the strawberry plants is undoubtedly the cause of the trouble. As there



are several insects which attack the strawberry roots and as the above-surface symptoms are greatly alike it is difficult to tell by the description you give which it is.

On the lighter loamy soils the common white grub often causes injury to strawberry patches but its work is usually not so prevalent during wet seasons, such as we have had. The results of the work of this insect is the cutting off of the roots parallel to the ground about an inch below the surface. The strawberry crown girdler also cuts the roots, but usually just below the crown.

Both of these insects are hard to control in established patches. The best method is to plow up the old patch and set a new one on ground which has not been in sod for a couple of years and not to use any manure that was made before August 1, as it might be infested with white grub eggs.

The strawberry crown-borer also causes injury to the roots and a consequent withering of the foliage. This insect bores directly into the crown of the plant, usually the older plants. As the eggs are laid before mid-summer the work of the grub would probably not be noticed until July or early August. The treatment consists of plowing up the infested patch, raking out the plants and burying them before August in order to kill the insects which are still in the crowns. A new patch can be set some distance from the old one without much fear of infestation because the adult beetles cannot fly.

Another probable cause of the injury to your plants is the strawberry root-louse. During the early part of the season several generations of this louse are passed on the leaves and stems, but later the ants carry the lice down to the roots and, as the plant withers and dies, take them to fresh plants. An effective treatment is to cover the patch with straw and burn it over in spring, before the growth starts, in order to destroy the eggs on the leaves and stems. Spraying with tobacco extract will help it done thoroughly and before the ants appear. Old beds which are to be discarded should be plowed up in the fall or, better yet, burned over in late fall.

#### The Peach Borer.

I have some three-year-old peach trees which seemed very healthy and thrifty until about a month ago, when I noticed some of the leaves began to turn yellow. Upon examination I find at the base of each tree just under the ground a rotten spot, one and a half to two inches in diameter from which the juice or jelly is exuding. Please state the cause and remedy.

Mecosta Co. A. J. T.

The cause of the injury to your peach trees is due either to the work of the peach borer or is the result of winter injury. Either of these troubles will cause sap restriction which in turn may cause the yellowing of the foliage.

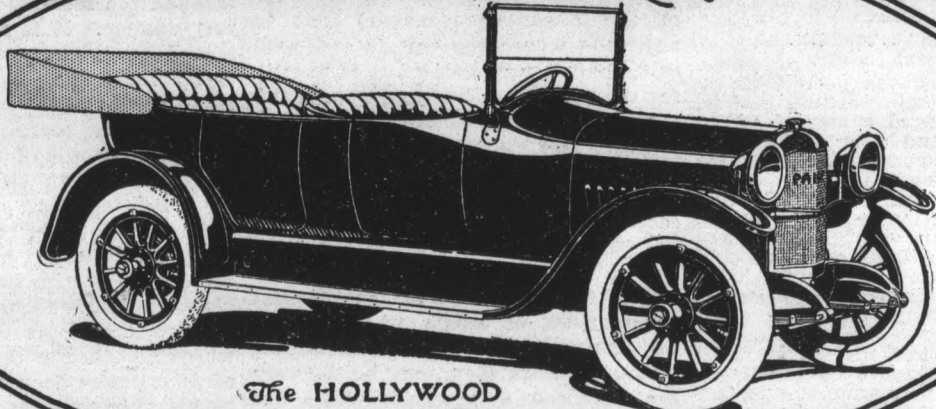
The treatment, in either case, should consist of cutting away all of the gummy secretion and dead bark. The wounds should be trimmed to firm, healthy wood with a sharp knife and all burrows of the borers should be opened and the borer destroyed. After the wound has been well cleaned of frazzle and loose bark it should be painted with pure white lead and raw oil.

Peach trees should be inspected for borers at least once a year, spring being the best time. Three or four days before digging for the borers the earth around the base of the trees should be dug away to the depth of four or five inches. Then when the inspection is made evidences of the borer can be more readily seen.

Roses that have drooped before their time may be revived if the stems after being cut are placed for ten minutes in almost boiling water and then removed to cold water.

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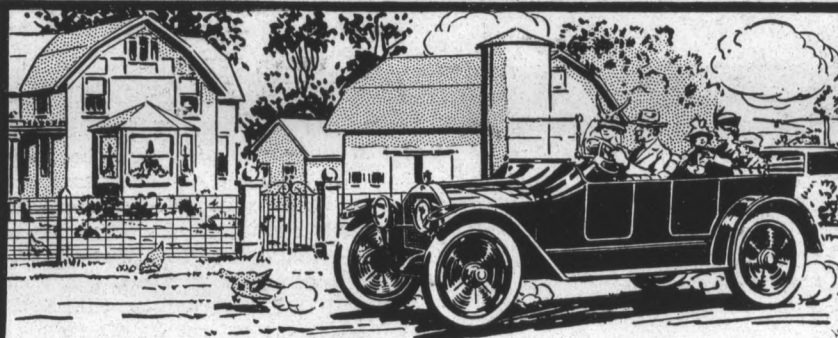
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# Practical Science.

## THE CREAMERY AND THE FARMER.

BY FLOYD W. ROBISON.  
A Typical Letter.

I write to know the particulars in regard to your testing cream, that is, that if, when I send a can of cream away, I could send a bottle of it at the same time to you to be tested. On the can that I sent to the creamery, the test they allowed me was 34, and the test reported by you on a sample from the same can was 36. Yesterday I churned eight gallons of cream and sent them the same last week. They (the creamery) allowed me 19 pounds and I had 27 1/2 pounds out of my eight gallons. I used ice to do my churning and always churned my cream until this summer. I expect the creamery to take a reasonable amount out (for churning) but almost 10 pounds out of a can is pretty steep. I would like to know the particulars as to how you do and what you would charge me to test mine.

St. Joseph Co. Mrs. H. H.

The above is typical of many letters which we receive, having to do with the service established by the Michigan Farmer in testing milk and cream free to its subscribers. This service has been going on now for some time—a sufficient time to demonstrate that there is still quite a lack of harmony in certain sections between the creamery and its patrons. We have hoped that this service might dispel some of the differences and the dissatisfaction existing between the patron and the creamery and in the mind of the patron himself over the unsatisfactory condition of his test.

### The Farmer Suspicious of the Creamery Man.

There is no need denying the fact that there has been quite a widespread suspicion on the part of the patron of creameries that he was not always being justly treated in the matter of tests by the creamery. That this suspicion has been quite widespread is sufficiently proven by the fact that it became necessary for the Legislature to enact a law making it a misdemeanor punishable in the courts for a creamery man to misread the test for butter-fat. My own experience in dairy control in the state has taught me that there has been occasion for a distrust on the part of the patron in this very matter of test.

### Creamery Owners Should Take Notice.

It is certainly time that the creameries of the state should recognize this condition for the tolerance of such a condition is the greatest obstacle in the way of successful dairy development. The reason for this suspicion is in part justly founded and in part due to a lack of real information of the true situation by the patron. In so far as the patron's suspicion is well founded, the condition should deserve the most vigorous support by the creamery man in order that the same may be remedied and the patron's mind drawn forcibly to the idea that the creameries in general and that the creamery association as an organization is emphatically for the absolute integrity of its business dealings with the patron. This we know to be the attitude of the organization, this we believe to be the guiding principle of by far the majority of creamery managers and owners but the few who depart from this path of righteousness are the enemy which sows discord from which all reap unpleasantness. It should be noted that the law prescribes a penalty for over-reading the test as well as for under-reading the test.

### Why Over-reading is Illegal.

Were it not for the peculiar conditions prevailing in the dairy industry it would seem absurd that the law should provide a penalty for the creamery man giving to a patron more than his product is worth according to

to the test. The peculiar part of this is (and herein lies some of the folly of the creamery manager) that in any case where the test is over-read other than mere accident it is usually for the purpose of taking an undue advantage of some other purchaser of cream. Two creameries, for instance, that have routes which overlap have been known repeatedly to attempt to influence patrons who are on the border line or who may be in the territory of the other by giving him a higher test, when he brings his first consignment of cream or milk, than he has been getting at the other creamery. This, then, may be the very first symptom of suspicion which has ever entered the mind of the producer, a suspicion naturally that the creamery with which he first did business was not giving him the test to which he was entitled for, of course, he would argue that the new creamery would not commit suicide by allowing a higher content of fat than really existed.

### When the Farmer Complains.

The next step, however, is the one which usually brings this condition to light for in the course of a few weeks it becomes necessary for the new creamery to make up for the extravagant test given on the start and to gradually lower the patron's test until he perhaps had even a less test than was given by the other creamery. We then find such a condition as the letter quoted above portrays, and this explains the justice of the law to prevent the over-reading as well as the under-reading of the test.

### A Dissatisfied Patron Cannot Boost Your Creamery.

Usually the creamery man knows when the patron is dissatisfied and he should take just as much interest in satisfying his patrons as a business man of other lines of endeavor takes in satisfying his customers. The Babcock test is not a difficult test to understand and it is not a real difficult test to make, although there are certain precautions that should be carefully adhered to. We believe that every farmer who sells milk or cream should familiarize himself with the principles governing the manipulation of the Babcock test. We believe further, that every creamery man should see to it that his patrons do understand this test. If necessary he should invite the patron to come into the creamery and test his own milk in the presence of the creamery man. In fact, we believe it would be worth while to invite each patron at a specified time to come into the creamery and assist the creamery man for a day in testing the milk or cream which comes in and acquaint him thoroughly with the method of testing. Let him see what his neighbors' test runs in the creamery. Let him manipulate it with his own hands and in so doing let him see (and see to it that he does understand) what a tremendously important thing the taking of the sample is. Furthermore in case of dispute or dissatisfaction which the above plan will not dissipate, we suggest that the creamery man encourage the patron to take a sample of cream or milk, being very particular that the sample is representative and send it to some careful laboratory for an independent report. It is this service which the Michigan Farmer Laboratories have been trying to give and we have had a great many instances of excellent co-operation on the part of creamery owners and managers and patrons as well.

### Dairy Industry Cannot be Developed on Dissatisfaction.

The dairy industry will never reach a satisfactory development until the

differences between the patron and the creamery man have been adjusted. The great bulk of the differences are due to suspicion aroused by lack of proper understanding between the patron and the creamery man.

We believe that the greatest differences in the test are brought about through the medium of an unsatisfactory sample. It is not a real simple matter to take a sample of milk or cream for testing which represents a true average of the milk or cream, but so far as the patron is concerned, or for that matter, so far as the creamery is concerned, an unsatisfactory sample which is not an average may work an injustice to either. The farmer however, notices it more quickly than the creamery man for the reason that his attention is focused on the one or two or three cans of milk or cream which he takes to the creamery. The creamery man does not notice his loss or his gain until he has averaged all his patron's supply together and that perhaps at the end of the week or month.

### Farmer Notices the Variation Quicker than the Creamery Man.

The farmer dealing with smaller units naturally notices a variation in those units much more quickly than if he were operating on a larger scale. Practically all of these differences are subject to adjustment through the medium of a perfect understanding. Our interest in the dairy business carried through so many years, prompts us to urge the creamery man to pay more attention to the satisfying of his patrons, not through giving a higher test but through giving a correct test and by seeing to it that the patron is convinced that the test is correct and that the intentions of the creamery toward him are absolutely those of square dealing in every particular. This may be the golden rule motto of the creamery and yet it availeth little if this fact is not passed to the individual patron.

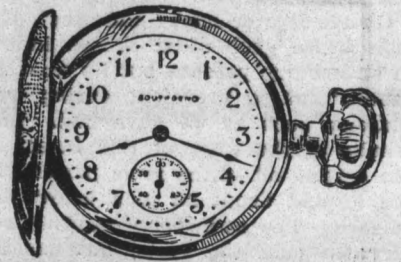
### Co-operation is the Key to Success.

We believe that the patrons of a creamery would individually welcome from the creamery owner or manager the chance to spend a day at the creamery helping test the cream, helping sample it and watching the various operations of butter manufacture. The creamery manager or owner taking the pains to explain in detail the operation of the business. The next day another patron could be invited, and so on from time to time throughout the year until the list had been gone over. We can think of nothing that would serve to banish the differences between the creamery man and the patron more quickly and more satisfactorily than this. The patron knows what it is to feed and care for his cows and to milk twice a day the year around to produce the small amount of cream or milk which he is able to transport to the creamery. It is no wonder that he feels aggrieved and resentful when he thinks the creamery is not giving him his just deserts in the matter of the test. We can think of no business man who would let matters go to the extent that the farmer does before investigating these conditions. The creamery man can well afford to take the opportunity, nay he can not afford to neglect any opportunity to satisfy and convince his patrons along these lines.

### A GOOD VETERINARY BOOK.

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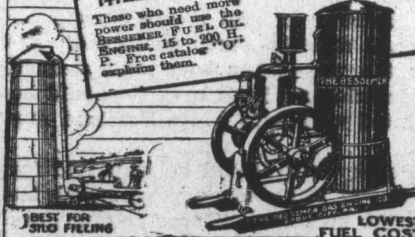
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# Magazine Section

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

The FARM BOY  
and GIRL  
SCIENTIFIC and  
MECHANICAL

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

## Fanny's Friend from Fairyland By MARY L. DANN

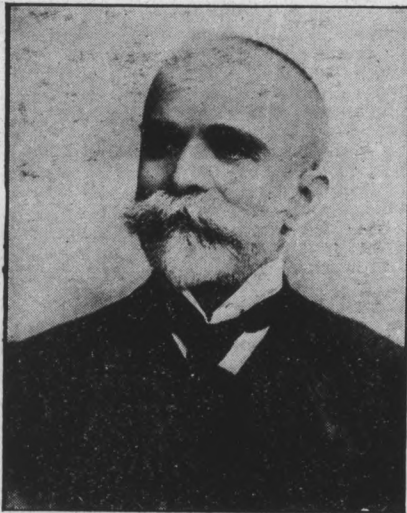
FANNY was tired of knitting, just as all Fanny's were in the long ago; but Grandma had set her a stint, which must be knitted up to. Fanny thought that if she was a Grandma and Grandma was a little girl, she would never set Grandma a stint. If there is anything girls detest, it is having to keep right on doing up to a certain line, like toeing the mark in school.

Fanny knitted on, around and around the stocking. The blue and white clouded yarn made funny little patches of such queer shapes. One would never think that just tying a tight knot in a skein of white yarn and dipping it into blue dye, would make it into uneven lengths of blue and white, which would knit into the oddest little figures, but it did. One of the blue backgrounds, which she had knitted, showed in its center a pudgy white boy, with such a round stomach and very short legs. She wondered what the next figure would be like when she should have it knitted.

Her long lashes drooped wearily over her cheeks, the knitting fell from her fingers and such a delicious warm comfortableness spread over her. About that time the door opened noiselessly and an object appeared in the doorway. It was the strangest thing Fanny had ever seen. Just a giant Jack-in-the-pulpit. It stood still for a moment, then the green flap raised and out of the pulpit sprang the queerest little sprite.

The strange little creature landed on the floor with never a sound. Her shoes were long, pointed and very slim, and the points turned up in such a saucy way. Her ankles were small and her stockings were of the brightest yellow. Her dress and her many crisp, rustling petticoats were all of

## WORLD EVENTS IN PICTURES



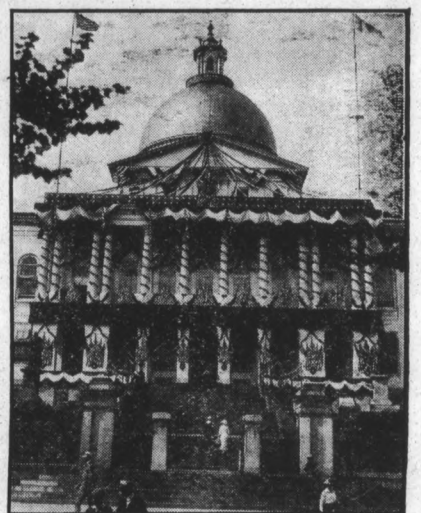
Bernardino Machado, Newly Elected President of Portugal.



Australian Soldiers in the Trenches at the Dardanelles.



French Soldiers Protected Against Danger from Poisonous Gases.



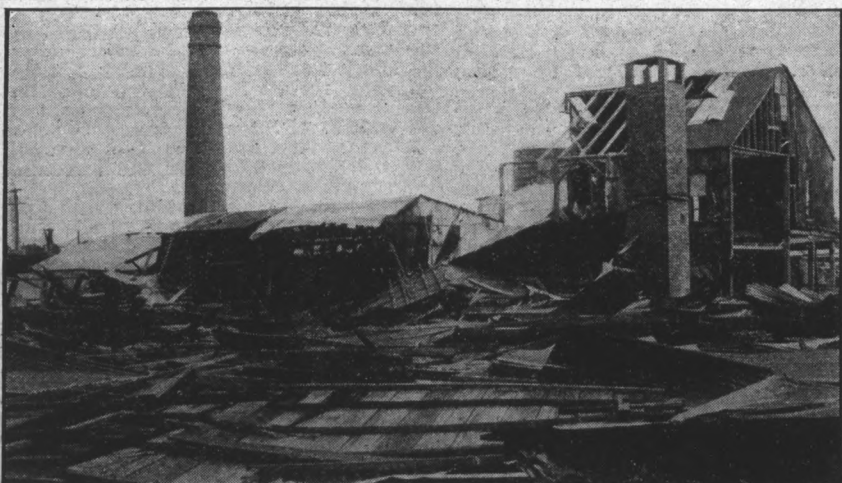
State House at Boston where State Governors Discuss Defense Plans.



Mohammedans, Principally British Indian Troops, Assembled at Woking, near London, for Prayer.



General View of the Assembly of Spectators at Asbury Park, N. J., to see the Baby Parade.



Storm Sweeps Houston, Texas, and Causes Millions of Dollars of Damage to Property.



Ten Thousand Rendered Homeless as Floods Sweep through Canton, China, Destroying Shops and Homes.



black and her face, believe me, was black too; but her eyes were bright, her lips red and her teeth very white. She had in her hand a wand, which was crooked and wiggly, like a snake, and was as black as her dress. At the end of the wand was the queerest head, not at all like a snake's but, would you believe it? It was just like the head of Thomas, who spread his tail and strutted and gobbled and sometimes chased Fanny out of the barnyard. The head on the wand had great red wattles and a long, red pendant over its bill. Fanny looked at it and shivered, for she was so afraid of Thomas.

The strange little creature, whose name was Gill-in-the-pulpit, came toward Fanny on the tips of her long toes, and waved her wand, and the room was filled with a light almost as red as Thomas's wattles. The sprite dropped her wand and took the knitting from Fanny's lap. Fanny clasped her hands and drew in a long, wondering breath. The knitting needles had turned to gold and the creature was knitting so fast. The golden needles glittered in the red light and the stocking grew at an amazing pace. But still more wonderful, the color of the yarn had changed from common blue and white to the most brilliant crimson. As Fanny watched, she saw that it was not a stocking the creature was knitting but a bag—a splendid bag. The yarn was strung with beads that glittered like diamonds, and as the needles flew they formed themselves into charming patterns of birds, flowers and butterflies. In a very few moments the bag was completed and out from her sleeve this fairy Gill drew a crimson ribbon, all covered with flowers and figures in gold embroidery, which she slipped through the loops at the top of the bag and tied the ends in pretty bows. When it was completed, she threw it into Fanny's lap. "It is all yours," she said. "Look inside and see what you find."

Fanny timidly opened the bag and drew forth a tiny box in which was a ring of coral. The very one she had wanted so much and had cried behind the pantry door when she did not get it for her birthday. Slipping her hand again inside, she found two elegant hair ribbons, so wide and so long and so pink that she kissed them in her delight. Again she put her hand inside and drew out a little instrument of gold with a scaly, pearl handle.

"This," Gill explained, "is a rig-a-ma-jig. Perhaps you never owned one before. Very few people have even seen one of these useful things. If you have any work to do, pass the rig-a-ma-jig over it and it is done."

Fanny gasped in amazement. With this she could touch her neck and it would be washed clean; she could touch her hair and it would be smoothly combed, without having to make wry faces while Grandma combed out the snarls and witch-stirrups; she would touch the bed and it would be made, with the pillows fluffed up and the spread not the tiniest bit awry. Oh, it was great!

Something warm and heavy dropped into her lap. She gave a terrified little scream and sprang to her feet, throwing her knitting and Snowball, the cat, half across the room. Grandma came in from the kitchen.

"Where is the black fairy and the red bag and the ring and the ribbons and the rig-a-ma-jig?" Fanny asked, with wide open eyes.

"Tut, tut, dearie," said Grandma, "you have been asleep and must have dreamed queer things. I will help you to undress and we will tuck you in bed."

Fanny looked at the blue stocking. The needles were an inch from the thread and she felt sure the rig-a-ma-jig must have done it.

## THE RED MIST.

By RANDALL PARRISH.

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### CHAPTER XXVII.

#### With Backs to the Wall.

I grasped the situation clearly enough, and also comprehended the reckless nonchalance of the officer. What was his purpose, his present plan? It appeared to me that the conditions warranted a retreat, back along the unfrequented mountain trail by which this daring party of adventurers had come. The troops, as well as the guerillas, must have discovered by this time that we were not in advance of them. They would return searching every nook and corner in hope of discovering our hiding place. They might even unite their forces, impelled as they were by the same desire, and thus become truly formidable. Personal hatred of me, and the wish to regain possession of Noreen, would animate and control both Anse Cowan and the angry, humiliated lieutenant. While neither would likely confess his purpose to the other, yet their mutual interests would naturally suggest an alliance. And there was no war feud between the two which would necessarily prevent their co-operation. Indeed, the troopers would gladly welcome any excuse which would bring Cowan's gang of outlaws into closer connection. And the outfit would never pass by this church again without searching its interior. Only eagerness, a haste to overtake us in our attempted flight, had led to their blind riding by before. I turned to Harwood, who was whispering nonsense to Noreen.

"What do you mean to do, Lieutenant?" I asked quietly, but with my own mind made up. Remain here?"

He stroked his small moustache. "I thought we might hang on until midnight, Wyatt, and then, if nothing happened, take the back trail. I don't want to pass another day in this cussed hole. What do you think?"

"That the sooner we get away the better," I answered promptly. "Your position here is far more dangerous than you appear to realize. Both those parties traveling east were in search after us; they were led by men who would go to any extreme to effect our capture. I haven't time to tell you the whole story now, but it involves your cousin as well as myself. They rode straight on because they were convinced we were still ahead of them. 'Tis likely they know better now, and will search every ravine and covert on their return. If the forage train is moving this way those cavalrymen are with it in addition to the regular guard, and you will never dare attack with your small force. The only chance you have of bringing your command safely back to Covington, Lieutenant, is to get away before your presence here is suspected."

"I suppose that's right," he admitted reluctantly. "But I don't like to turn tail without hitting a blow—it's not the style of the Third Kentucky. We could give a good account of ourselves against those Yankee troopers."

"Possibly; but not against a combination of troopers, wagon guard, and Cowan's gang of guerillas. They would outnumber you four to one; and they are fighting men."

"You think they will combine?"

"If they meet, and there is an explanation—yes. Cowan doesn't care which side he fights on, so he gains his end, and the cavalry commander will welcome any reinforcements. They might quarrel later over results, but now they possess a common object, and will be like two peas in a pod. Do as you please, Harwood, but I am not under your command, and, if you choose to remain here, we will ride on alone. Will you go with me, Noreen?"

She had not spoken, and in the fast increasing gloom I could scarcely distinguish her presence. But at my direct question she took a step toward me, and I felt the presence of her hand on my sleeve.

"Yes," she said, "whenever you think best, Cousin," she added, glancing across her shoulder at the perplexed officer, "I would like you to come, too."

He laughed, wheeling about in sudden decision.

"I reckon I might as well," he admitted good humoredly, "as long as the family endorses the move. Wharton, have the pickets drawn in, and the men mustered. We'll start—Great Scot! What is that?"

It was the sound of a scattered volley, the pieces not all of the same caliber, the reports ringing clear. In the instant of silence which followed, a voice called down excitedly from the tower:

"There is firing to the east, sir."

"How far away, Somers?" It was the sergeant who spoke.

"About a quarter of a mile, I reckon; the flash showed up a bunch o' men this side o' the big rock. They must o' got sight o' Hardy, sir, an' popped away at him; that's about whar he was."

Harwood swore, but his sudden oath was not altogether uncheerful, as he strode across to the nearest window on that side, and endeavored to peer out. Except for a faint tinge of light in the west, and a half moon in the southern sky, we were enveloped in darkness. I could scarcely distinguish the girl at my side, although the windows emitted a slight glimmer, and the form of the lieutenant outlined against the opening was dimly visible. I doubt if he perceived anything, but we all of us heard the sound of hoofs, and the approaching rumble of wagon wheels. Harwood turned, and faced inward.

"It's the forage train, boys," he said sharply, "with a bunch of cavalry riding ahead. Get to the windows, but be quiet about it—you know the orders. Great guns, Wharton, we are liable to have our fight yet. Have the men load; come with me, Wyatt, where we can see out in front."

Noreen clung to me, as I groped my way through the narrow door into the vestibule. It could make little difference where she was in case we were discovered and attacked; better, indeed, that we remain together. At the open window I held her hands, and the three of us watched in silence, staring out at the white ribbon of road revealed under the moon, the noise of the approaching column growing more distinct.

### CHAPTER XXVIII.

#### The Trap Closes.

THE lieutenant's fingers gripped my shoulder.

"By the Lord Harry, the fellows make noise enough for an army," he whispered. "I reckon they are all there."

"No doubt of it—how is your ammunition?"

"Sixty rounds to a man," he chuckled. "It will cost them something to get through these log walls. Still, we haven't much chance in the end," he added thoughtfully, "for they're bound to get us. Generally I pray for a fight, but I hope those Yanks will be kind enough to ride by."

"And so do I," I answered soberly, feeling the quick pressure of Noreen's fingers. "There they come, Harwood—see! two horsemen ahead."

They were merely black shadows outlined against the white road, but as they drew somewhat closer the moonlight gave them substance, revealing dimly the shape and clothing of each. One was slender, sitting straight in the saddle, to all appearance a cavalryman; but the other slouched awkwardly over his pommel, a larger, more shapeless figure, the barrel of a rifle showing clear above his shoulder, a broad hat-brim flapping to the movements of his horse. They drew rein opposite the church, the cavalryman's horse turned partly about. In the distance, down the sharp slope of the hill, appeared the deeper shadow of an advancing column of mounted men. The only sound was the impatient pawing of a horse's hoof, and Noreen's whisper at my ear:

"The bigger one is Anse Cowan."

"And the other Raymond," I returned in the same low tone. "The two have apparently got together."

"It looks mighty odd to me," said a voice suddenly, clearly audible through the night, "that fellow being in Reb uniform. What could he be doing here?"

"A scout, I reckon," grumbled a reply, barely distinguishable. "Couldn't be no considerable force along yere, Lieutenant, fer we've both been over ther pike since mornin'. That was just a straw we run into, but it mout be best ter take a look along this yere ridge afore we ride on."

"All right," assented the other. "I'll wait here until Fox and Moran come up. Let some of your men ride back as far as those woods over yonder; and say, it wouldn't do any harm to take a look inside the church. You didn't stop coming out?"

"Naw; we didn't stop fer nuthin'."

We thought the way you fellows was a'ridin' yer hed a hot trail, an' so we rode pellmell ter git in at the death. 'Tain't likely thar's anyone inside the meetin' house, but I reckon we may as well be sure as long as we're here."

No darn fool would hide this close ter the pike. That you, Kelly?"

There was a meaningless growl from an advancing group of horsemen, and Anse swore, spurring his horse forward to meet them.

"Say, Kelly! I've had enough of your confounded grouch. Either you'll do as I say, or I'll cave the side of your head in, and have done with it. I've had enough! do you hear? I reckon I'm just as interested in overhaulin' that cuss as you are. Now you obey my orders, an' be quick about it; give me another line of back talk, an' I'll blow the whole top of your head off! You're what? Joking! Well, let up on that kind, will you? I'm in no humor for it. Take three or four men, and ride over the ridge, back as far as the rock. The sojers are goin' ter halt yere a minute."

Kelly and his little squad trotted past us, circling the end of the building, the remainder of the group of horsemen, evidently composed of Cowan's gang of cut-throats, scattering along the roadside, with no semblance to military discipline. A few kept to their saddles, permitting their horses to browse idly among the weeds, but the majority dismounted, and flung themselves wearily on the ground. A dozen strolled across to the well a few yards away, and we could hear them laugh and joke among themselves, as the windlass creaked. Raymond drew his horse back, away from close contact with the fellows, staring at their antics a moment, and then looking toward the black silence of the church. He said nothing, but finally touched spur to his horse's flanks, and went trotting back down the road, as though intending to intercept the advancing column, which was not yet visible. Cowan looked after him with a sneer.

"The confounded dandy," he growled to a man just behind, gesturing with one hand. "We're not quite good enough fer him, but I'll show him afore this job's done who's the boss. I don't take orders from nothin' like that. Would you, Lem?"

"I should say not," responded the other, spitting into the road. "Whatever got us tied up yere with these Yanks, Anse, anyhow? I don't thought as how we wus fightin' against the blue-bellies a bit ago; an' now we're as thick as two fleas. Did yer git yer price?"

Cowan laughed grimly. "Thar ain't no occasion fer yer ter worry, Lem," he confided, evidently willing the others close about should hear. "We ain't tied up with no Yanks, 'cept fer maybe a few hours. Thar wasn't nothin' else ter do, but be friendly. Thar wus thirty o' us runnin' kerbump inter thet bunch o' cavalrymen, with ther wagon train a comin' a hundreds yards away."

"We weren't in no shape ter fight about a hundred an' fifty sojers. I reckon tho' we'd a had to if that young popinjay hed been in command—he ain't got the sense of a dried louse. But Cap Fox, he rode out, an' we sorter talked it over. He don't feel very blame kind toward me since our fracas tother night, but he's a sojer, an' he knows what Ramsay wants. Thet's what I banked on, fer I knew the general had give his orders ter use every means possible ter git us ter help out the Yanks. So I just up an' told ther Cap thet we wus out huntin' fer ther same feller he wus; thet my father had been killed, an' I reckoned the Reb spy did it, an' thet frum now on we wus goin' fer te fight on ther side. I don't reckon as how he believed much o' what I sed, but all ther same, he had ter pretend he did, an' let us go 'long without no fightin'. So he done sent us on ahead, an' sent thet young snip along fer ter watch me. Thet's how it happened."

"I see, an' ter-morrer we leaves them holdin' the bag—Hullo, Anse! look thar—it's Kelly comin' back, an', by Jinks, he's leadin' two hosses."

The returning party came clattering out onto the road, past the well, Kelly asking loudly where Cowan was, and then riding straight toward his chief, the two riderless horses trailing in the rear.

"They was hobbled back o' ther chimney rock," he reported shortly, "an' I reckon they'd been rid up the old trail from Silver Spring."

Anse swung down to the ground, and ran his hands over the animals, fingering the equipment.

"Not cavalry stuff," he said, "so 'tain't likely they belonged to the Reb we shot back thar in the hollow. Didn't the lieutenant say thet the spy an' the gurl got off on horses hitched by the hotel?"

"I didn't hear tell."

"Well, I did; anyhow they wasn't army horses they took. I believe they are a hidin' now in that church. Here, you Kelly, a new exultant tone to his voice, "scatter your men around ther whol' buildin'; we've treed our game, I reckon. Hurry up, man! don't sit there starin' at me. Hey, Lem! where are you? Oh, all right; ride back to the sojers, an' tell Fox we've got the



coon. Go on now. Wait a minute, Kelly; leave ten of the fellers here with me. I'll look after the front. Don't forget that's a back door."

The guerillas came forward on foot, running, and scrambling up the incline, but inclined to keep well back from the silent church. Yet they did not seem to take their mission seriously, laughing and talking as they ran, Kelly's voice growling out commands. Even if their victim was within those log walls, they had little to fear from one man; there might be a shot or two fired, of course, but the odds were far too great for them to entertain any doubt as to the result. Anse remained out in the road motionless, holding his horse, a dark shapeless group of men gathered about him. Jem was clattering down the pike, the clang of his horse's hoofs dying away in the distance. Harwood dropped his gripping hand from off my shoulder, and stepped back from before the window.

"Sergeant," and Wharton moved slightly in the darkness, so as to signify his whereabouts.

"You attended to the door?"

"Yes, sir; we found an old iron bar to fit across; they'll have to crush in the wood to get through."

"Good; we'll give those devils a surprise party; there will be some dead men around here presently. I'll take charge here at the front; you have men at the other window?"

"Five, sir."

"Let Johnson and McIlvane join me here; what is the name of that lad I was going to recommend for corporal?"

"O'Hare, sir; Jacob O'Hare."

"Put him in command of the south side, and you take the north; place benches to stand on under the windows, but keep your men down until you get the word. There is to be no firing until I give the order. Tell them they have got to fight for their lives. You understand?"

"Yes, sir; we'll do it, sir."

"Then get to your stations. Now, Wyatt, how about you, ready to take a hand?"

"I place myself under your orders."

"Then I give you command at the other end; there are two windows and a door. Here, take this gun, and belt; I can get another." He stopped, and drew in a quick breath, glancing out again through the window.

"Friend Cowan—if that be his name—seems to be waiting for the military to come up," he commented mockingly. "Prefers to let the Yanks pull his chestnuts out of the fire. Perhaps he has known you a long while—hey, Wyatt?"

"The acquaintance has been rather brief, but warm."

"No doubt; well, I'll help make it warmer presently. Fair cousin, I do not know where to hide you in safety. This is going to be a real fight, or I am greatly mistaken, and bullets will fly wild through the dark."

"I suggest the tower," I interrupted, "with the ladder drawn up; the heavy puncheon floor will be sufficient protection."

"I thought of that expedient," he admitted, "but we will let the lady decide."

"If it is left to me," she said quietly, "I prefer to go with Tom Wyatt."

"But you do not understand," I broke in hastily, my pulses throbbing at her unexpected decision. "They may attack—"

"Oh, yes, the lady does, Wyatt," chuckled the lieutenant, his reckless good nature in no wise lost by the desperation of our position. "She is a Harwood, that's all. Lord! I knew what her choice would be before ever I asked the question. Greetings, fair cousin; now I know we are kin. Hullo! here comes the cavalry! Now, boys, to your posts—and stand up to the music."

I caught her hand in mine, still doubtful as to her real purpose. In the reflection of the moonlight I could perceive the outline of her face, and knew her eyes were uplifted frankly to mine.

"You—you mean that, Noreen?"

"Yes; do not refuse. I am not afraid," she implored. "Take me with you."

I found the door, and the narrow aisle leading between the two rows of benches. Enough moonlight straggled in through the side windows to enable us to pick our way, and to note the dark, motionless shadows along the side walls where the troopers waited grimly, guns poised and ready. There was a tense breathlessness to the situation which made my heart leap, not a sound audible within but the low whispers as some order passed from man to man down the line. We came to the platform, and felt our way up the steps. It was darker here, yet my eyes, accustomed to the gloom, caught glimpse of crouching figures beyond the pulpit. Outside, sounding some distance away, Kelly's sharp, penetrating voice shouted an order, accompanied by an oath. One of the kneeling figures rose slowly until his eyes were even with the window sill.

"Men," I said quietly, barely loud enough to reach their ears. "I am a sergeant in the Staunton Horse Artillery. Your lieutenant has just assigned me to take command at this end of the church. How many are there of you?"

"Ten, sir," answered the one nearest, after a pause, turning his head slightly. "Three at each window, and four at the door."

"Door barred?"

"No, locked, and benches piled up against it."

"You have a prisoner, I understand."

He gave a muffled sound, as though stifling an incipient laugh.

"Nuthin' ter worry 'bout; he's a lyin' over thar in the corner with Jack Gold a guardin' of him. I reckon the cuss likes prayin' better ner fightin' any day o' the week."

"All right, then; we'll give Jack Gold something more valuable to attend to." I dropped my voice to a whisper. "Noreen."

"Yes."

"It will give us an extra fighting man if you will keep an eye on Nichols, and we'll need them all. You are willing to help?"

"Of course; I thought I could load guns, but—"

"I would rather have you there," I interrupted earnestly, "where I can feel reasonably sure you will be safe from stray bullets. I shall be less a coward if I believe you out of danger."

"A coward—you! Yes, of course, I will go."

I stepped across the platform, holding her arm.

"This you, Gold?"

"Yes, sir."

"The lady will watch the prisoner; you had better join the others at the door."

He moved off, evidently glad enough to be relieved, and I stood erect where I could gaze through the near-by window into the moonlight night without. I had a moment in which to think, to gather my scattered wits together, to face the situation. Behind me the tramp of approaching horsemen sounded along the pike, the gruff tone of an occasional voice, the clang of accoutrements. Then this noise ceased, as the head of the cavalry column came up to where Cowan and his men waited. I could barely make out the murmur of voices in explanation, muffled by the sound of approaching wheels, signifying the slower advance of the guarded wagons. I heard no orders given, yet the moonlight revealed more numerous figures in the thin line stretching across the open space.

"Thar's sojers out thar now, sir," whispered the man next the window, fingering his gun nervously, "a slew of 'em. Do yer know how many they got?"

"Only to guess at it: a couple of hundred altogether I should say—enough to make it interesting."

I leaned forward, attracted by the sight of two figures standing together in the full gleam of the moon—Cowan and Raymond. So they were to command the rear attack, while Fox and the infantryman remained out in the front.

"Have you counted the fellows out there?" I asked.

"'Bout fifty near as I kin make out; they're movin' round some, an' the light is bad."

"Then the main body is still in front and that is where the fight will likely begin. Pass the word no firing until you get the order."

I stepped back, whispering a word to Noreen as I passed, and took place beside the pulpit, where I could see and hear something of what was about to transpire.

(To be continued.)

#### A LITTLE WISDOM.

A single seed of fact will produce in a season or two a harvest of calumnies, but sensible men will pay no attention to them.—Froude.

The working of revolutions, therefore, misleads me no more; it is as necessary to our race as its waves to the stream, that it may not be a stagnant marsh. Ever renewed in its forms, the genius of humanity blossoms.—Herder.

He who lives in the spirit never grows old. The outward man perishes, but the inward man has a perpetual youth.—Phillips Brooks.

The efforts and strivings of our three score years are not adjusted to the scale of seventy, they are adjusted to the scale of immortality. This life is not the opera, it is the overture. It is not the book, it is the first chapter of the book. A man must be wakeful to his eternal destiny if he would know the magnitude of things.—G. H. Morrison.

## Heating Pipes Are Needless

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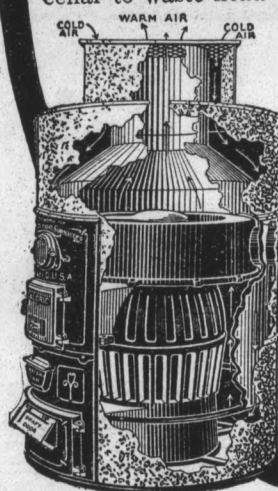
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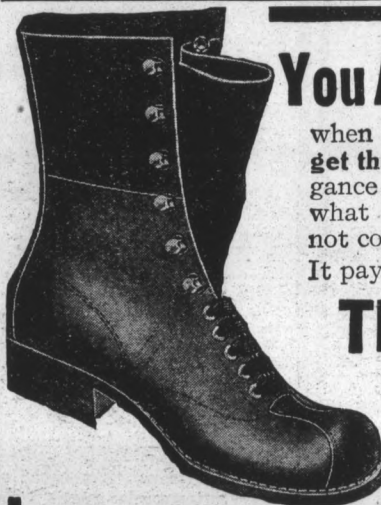
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quality. All Galloway goods sold on a binding money-back-if-don't-like-them plan. Don't buy until you first get our NEW BOOK and new low-cut-and-slashed prices for the summer. Shipped from Chicago, Waterloo, Minneapolis, K.C., Council Bluffs.

Wm. Galloway Company Box 187 Waterloo, Iowa

SPREADERS 64 75 UP

500 LBS. CAP. SKIMS GAL. A MIN. D-23

FOR SALE—One De Laval Separator No. 15 al-

most new, also a good 30 gal. churn and single

buggy, cheap. E. Stricker, 741 Meldrum Ave., Detroit, Mich

## War Prices for Beans

The "ORIGINAL"

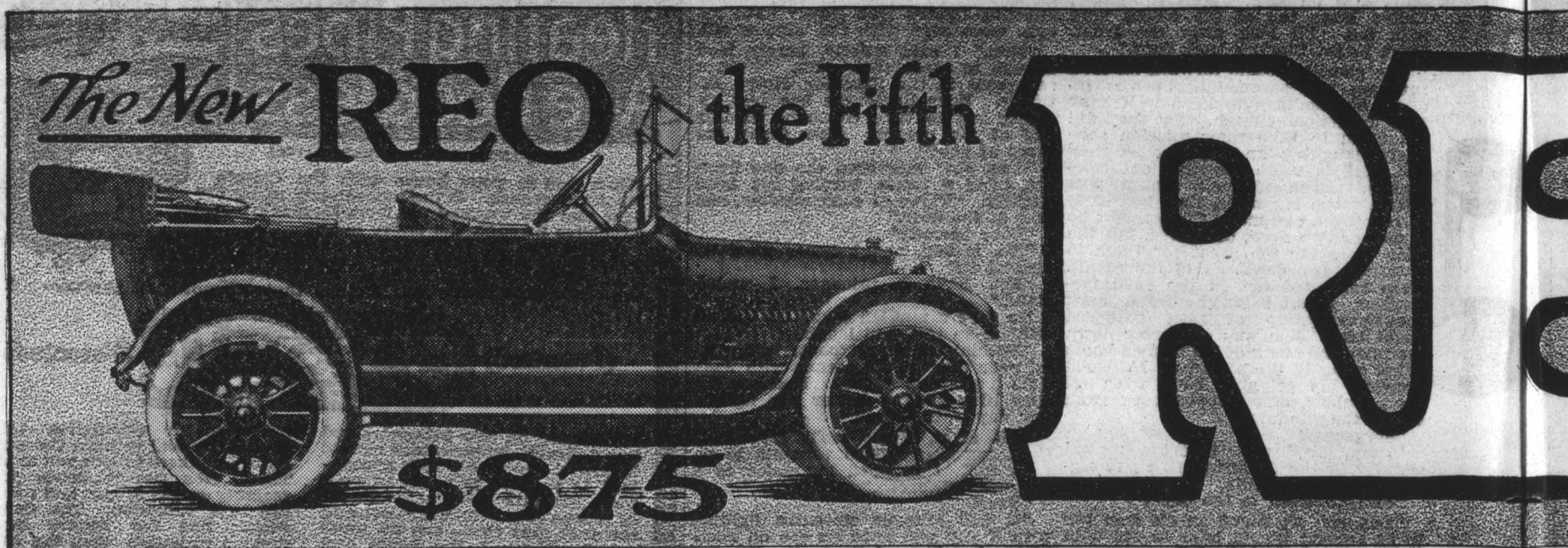
**MILLER BEAN HARVESTER**



still leads all others as the most reliable and satisfactory tool for harvesting beans. Don't be deceived—demand the machine with the name "Miller" plainly stenciled. Wood or Steel frames. Manufactured by Le Roy Plow Company, Le Roy, N. Y. Ask your Dealer or write us.

When writing advertisers mention Michigan Farmer





## SPECIFICATIONS

The New Reo the Fifth—\$875

Wheel Base—115 inches.

**Springs**—Front—Semi-elliptic—38"x 2" with 7 leaves. Rear—three-quarter elliptic. Lower section—44½"x 2" with 7 leaves; upper section 22 13-16"x 2" with 7 leaves.

**Front Axle**—I-beam, drop forged, with Timken roller bearing spindles.

**Rear Axle**—Tubular—semi-floating. Timken roller bearings at differential—Hyatt High Duty roller bearings at wheels, pin on integral with stub shaft—two universal joints in propeller shaft.

**Tires**—34" x 4" front and rear. Non-skid on rear.

**Motor**—Vertical, four-cylinder, cast in pairs, modified L type with integral head, with inlet valve in head. Valves mechanically operated and protected.

**Cylinder Dimensions**—4½" x 4½".

**Horsepower**—35.

**Cooling System**—Water jackets and tubular radiator, cellular pattern.

**Lubrication**—Automatic force feed by plunger pump with return system.

**Carburetor**—Automatic, heated by hot air and hot water.

**Ignition**—Combined generator and magneto, driven through timing gears with 100 ampere hour storage battery.

**Starter**—Electric, separate unit, six volt, connected to transmission.

**Transmission**—Selective swinging type with single rod center control.

**Clutch**—Multiple dry disc, faced with asbestos with positive instant release.

**Brakes**—Two on each rear wheel, one internal, one external, 14" diameter drums—service brake interconnected with clutch pedal.

**Steering**—Gear and sector with 18" steering wheel.

**Control**—Left-hand drive, center control—spark and throttle on steering wheel with foot accelerator.

**Positive**—Thief-proof locking device.

**Fenders**—Drawn sheet steel of latest oval type—shield between running boards and body—close fitting, quick detachable under pan—aluminum bound, linoleum covered running boards.

**Gasoline Capacity**—16 gallons. Air pump on dash for emergencies.

**Body**—Five—passenger—streamline touring car type with extra wide full "U" doors, front and rear. Genuine leather upholstery. Deep cushions and backs.

**Finish**—Body, Golden Olive, running gear, black; equipment nickel trimmed.

**Equipment**—Fully electric lighted throughout; improved 5-bow, one-man mohair top with full side curtains; mohair slip cover; clear-vision rain-vision, ventilating windshield; speedometer; electric horn; extra rim with improved tire brackets; pump; jack; complete tool and tire outfit; foot and robe rails.

Price—\$875, f. o. b. Lansing, Mich.

## Here Are The New REO Models

Look at the Cars, Consider the Values, and Why  
Read Carefully the Explanation of H

WE FEEL WE MUST EXPLAIN to our more intelligent readers why and how it is possible to place such cars in your hands at such unheard of prices.

FOR WITHOUT THAT EXPLANATION—without reasons so logical they must satisfy you—you could not understand, could not accept, these values as genuine.

OF COURSE THE PRICES ALONE would not astonish—might not even interest—you. For mere price taken by itself, indicates nothing to the intelligent buyer.

BESIDES YOU'VE BEEN SURFEITED with announcements of "big cars at little prices"—this year more than ever before.

MOST MAKERS SEEM TO HAVE LOST THEIR HEADS in the fierce battle of price competition. As a result you've seen price reductions that indicated to your mind clearly one of two things—either that the value was not there last season or couldn't be this.

SO MERE PRICE—EVEN THESE sensational new Reo prices—would interest you only mildly if at all.

BUT KNOWING AS YOU DO REO STANDARDS of excellence in materials and manufacture; knowing as you do the Reo reputation for making only cars of sterling quality; knowing and estimating as you will, Reo integrity in selling as well as in making, you must marvel at these prices.

YOU KNOW THESE TWO REOS—you know that in all the world there have never been two models that enjoyed greater popularity.

AND RIGHTLY SO—for we maintain that these are the ripest, the most refined, and the most nearly perfect automobiles ever turned out of any factory—simply because they have been made in their present form—in all essentials—for more years than any others; and more time, and more experience, more skill, and more care have been devoted to refining and perfecting them.

BOTH REO MODELS—Reo the Fifth, "The Incomparable Four," and the new Reo Six—have long since passed the experimental stage. Both have been tried and proved—and not by factory testers, but by thousands and tens of thousands of owners, and in every land.

THINK WHAT THAT MEANS. Consider the satisfaction it is to us to know—to know absolutely—that every car that leaves this factory in the coming year will carry with it absolute satisfaction—absolute certainty of satisfaction—to its new owner.

THIS YEAR OF ALL YEARS we are glad we have nothing radically new, nothing experimental—nothing even doubtful or questionable to offer our hosts of friends.

OF COURSE WE CONSIDERED this matter from every angle. We are conversant—have been for months—with everything others were trying to do.

OUR ENGINEERS ARE JUST AS ALERT as others—just as enterprising and just as prone to experiment and to explore new and interesting fields. They enjoy working mechanical puzzles just as keenly as any. But—

MOST OF ALL WE CONSIDERED it from the standpoint of those thousands and thousands of friends who have learned to lean upon us, secure in the belief that we will offer them nothing but that of which we ourselves are sure.

"BUT THE PRICES?" YOU ASK. "Why and how were these necessary and possible. Why necessary—how possible for this product, not merely as good as formerly, but better."

WE WILL ANSWER THAT QUERY,

IT WASN'T NECESSARY—any more than it was necessary to devote the thought and the energy and the expense to the improvement of cars that already represented values so great that every Reo car was snapped up the instant it came from the factory.

IT WASN'T NECESSARY either to improve the quality or to reduce the price—except that it is and always has been the Reo desire to give Reo buyers greater value than could be obtained elsewhere and just as much more as our greater experience and superior facilities could give.

BUT IT WAS POSSIBLE—and that was sufficient.

THE REASON IS INTERESTING—interesting and instructive and makes mighty profitable reading to any prospective buyer of an automobile.

A COMBINATION OF FACTORS and conditions that are, we believe, unique with Reo, made these prices for these quality-cars possible.

NO; PRICES OF MATERIALS HAD NOTHING to do with it—prices of no important materials are lower, while prices of many are higher now than a year ago. Only way cost of materials in a car can be reduced this year is by reducing quality of materials—using inferior or substitutes.

YES; THERE IS ANOTHER WAY—the simple expedient of reducing the amount of materials. In other words, reducing the weight of the car.

FOR IT IS A FACT THAT YOU CAN reduce the cost of an automobile twenty-five per cent by the simple process of cutting the weight down that much. Some do—to the danger point, we believe.

REO CARS ARE LIGHT CARS—but not light to the point of flimsiness. They are as light as may be without sacrifice of safety or durability.

SO THAT EXPEDIENT of cutting down the amount of materials that go into the car was not to be thought of, any more than was the other of using materials of inferior quality or substitution.

IN THE MAKING OF REOS this year we are using—not better because they are not to be had—but the same quality of materials as formerly. So that isn't the reason for the lower price.

COST OF MAKING IS, HOWEVER, somewhat less, thanks to the fact that in many ways we have been able to reach still higher degree of efficiency.

ONE BIG ITEM IN COST REDUCTION of these two models was the fact that both had passed the experimental, the uncertain stage.

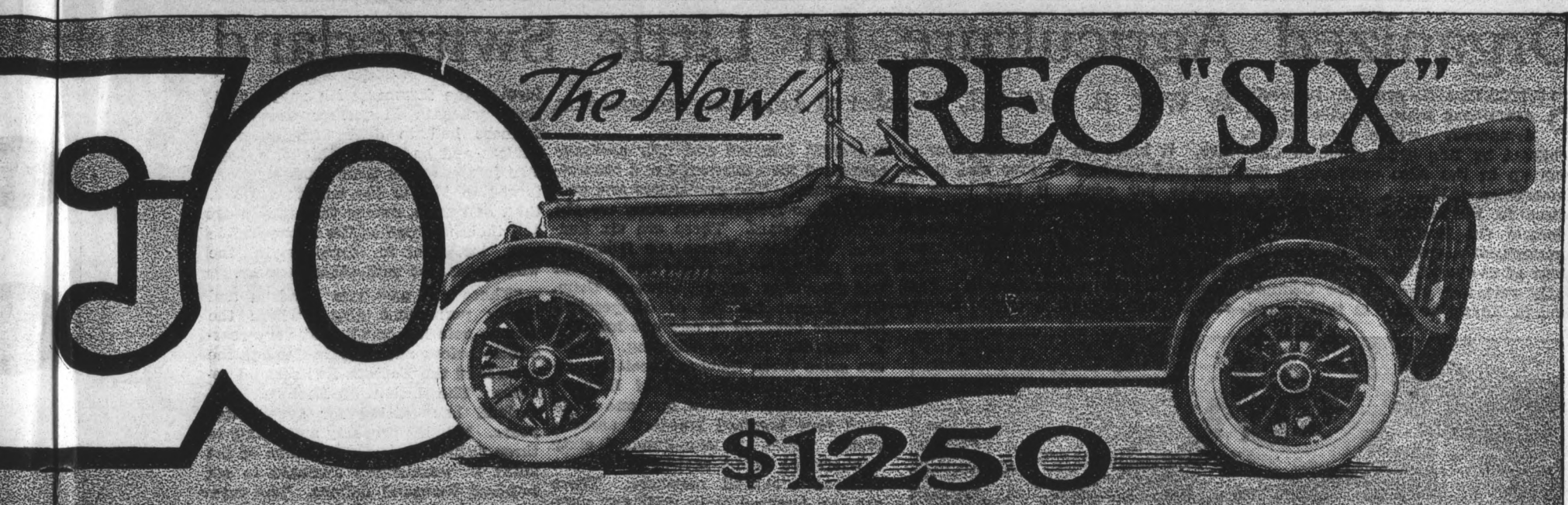
WHEN WE TELL YOU that, had we found it necessary to project a new model to take the place of either of these, we would have set aside a fund of at least \$100,000 to defray the cost of the experiment—and would have doubled the amount had our plan been to supplant both—you will see where we have been able to place to the credit of Reo buyers for the coming year a fund of at least \$200,000.

IT TAKES AT LEAST THREE YEARS to perfect any new automobile model. Anyway it takes that long to get a car to the point of perfection where we are willing to offer it to Reo buyers and back it with the Reo guarantee.

ANOTHER ITEM THAT HELPED tremendously was the fact that the tool cost on both these famous models had long since been absorbed—charged off—permanently disposed of.

## Reo Motor Car Company





## Models and The New REO Prices

and When Your Astonishment Has Somewhat Abated,  
 tion of How These Prices were made Possible

THAT IS A BIG ITEM. You'd be surprised—unless you also are a manufacturer—to know how big.

BUT PERHAPS THE MOST IMPORTANT factor in the reduction of manufacturing cost and at the same time the making of a better product, was to be found in Reo itself.

NEVER SINCE THE DAY REO WAS incorporated has there been a single change in the personnel of the executive organization.

THE SAME PRESIDENT presides who occupied the chair at the first meeting of Reo.

THE SAME GENERAL MANAGER DIRECTS; the same engineer designs; the same expert handles the funds; the same purchasing agent buys; the same factory superintendent oversees; and finally, the same men direct the sales, who have handled these important departments since the first Reo was designed and made and sold.

ALL WE'VE LEARNED WE'VE KEPT right in the Reo organization.

AND IN THE FACTORY: Do you know there are scores of men in the Reo factories today working on these latest Reo models who worked on the very first Reo? Hundreds who have been here six to ten years.

SO THERE AGAIN WE CAN SAY "All we've learned we've kept." Every man has become a specialist—is an expert—at his particular task.

CONTRAST THAT with the kaleidoscopic changes you've seen in this new industry—changes so frequent and so radical that today you can find no one to back up the guarantee of the car you bought yesterday.

WE WISH YOU COULD COME and visit us at the Reo factory. Wish you could talk with Reo workmen—the rank and file as well as the directing heads. You'd know then the reasons for the superior quality of Reos.

BUT REO DEALERS ARE RESPONSIBLE—the credit is theirs—for the biggest item. For, but for the unprecedented action and the hearty co-operation of hundreds of Reo Distributors we could not have placed these cars in your hands at these prices.

LIKE THE FACTORY ORGANIZATION the Reo Dealer Organization has been with us from the first. Many of the principal Reo dealers have sold Reos exclusively ever since the first Reo was made.

WE TAKE THEM INTO OUR CONFIDENCE to a greater degree than is usual in this business. We have no secrets from them.

THAT'S WHY REO DEALERS are so loyal—they know—they do not guess, they know—that in Reo cars they give their customers more value than they can find elsewhere.

WELL, THIS SEASON WE WERE CONFRONTED with a problem—price competition to an extent greater than ever before.

OUR DEALERS INSISTED that, even though fortified with Reo quality and prestige, still they could not wholly ignore price competition.

WE CONTENTED that price did not matter; that it fooled no one—or at most only a small percentage of buyers and they not the most desirable.

WE SHOWED THEM that the cost of making Reos could not be materially lessened without reducing the quality—and that our plan was to improve the quality wherever possible.

WHY, WE REO FOLK wouldn't want to be in business if we couldn't feel we could make better cars this year than last; next year than this!

WE SET OUR OWN STANDARDS and will always ignore those of others—at least when they trend downward!

BUT THEY PROTESTED that the average buyer saw only the price tag. That while he saw the reduction in price he did not notice the reduction in quality—in value. So they wanted a competitive price on Reos as well as Reo quality in the product.

THERE WAS ONLY ONE WAY it could be done—that was if the dealers would agree to handle Reo cars on a smaller margin of profit than is the rule with other cars. We told them that if they would agree to that, we could set a price on Reo cars that would create a genuine sensation.

AND THEY AGREED! It is an unprecedented action. And that the hundreds of Reo Distributors assented to the plan was due to another unique condition—namely, the extremely low cost of selling and of giving service on Reo cars.

A CANVASS SHOWED this remarkable fact: That the average cost of the dealer's guarantee on a Reo car—the cost of keeping it in perfect running order and its buyer thoroughly satisfied was less than six dollars per car per year!

JUST COMPARE THAT with the cost of maintaining some makes of cars.

WHY, ONE OF OUR DEALERS who handled two other lines last season—but who declares, most vehemently, he will handle Reos exclusively hereafter—tells us that the average cost to him per car on one of those lines was \$60 and on the other \$49—while Reo averaged in his case \$4.75 per car per year!

AND THAT WASN'T ALL. The factor that Reo Distributors consider most important is the customer—satisfied or the reverse. For you must know that though that dealer spent \$60 to keep a certain car running he still could not keep the man to whom he had sold that car satisfied—not even by taking it back and standing the full loss himself.

HE COULD NOT REIMBURSE him in dollars for the delays, the disappointments and the aggravations he had suffered.

SO REOS WILL BE SOLD in the future on a lesser margin from dealer to user (and factory margin has always been as close as was safe) than any other automobile in the same class or of higher price.

AND YOU AS A REO BUYER get the full benefit.

AND YOU GET MORE THAN THAT. You get more than a Reo at the unprecedented price.

YOU RECEIVE AN ASSURANCE, a guarantee that cannot be over-estimated—in the fact that Reo cars have proved so good—so absolutely dependable—so economical in up-keep and operation—so wonderfully satisfying to their owners that those dealers feel they can handle them on that small margin.

WE THINK WE HAVE PROVED TO YOU *how* and *why*, and therefore, that you *do* receive a higher percentage of value for your money when you buy a Reo than is possible in most, or perhaps any other automobile.

## SPECIFICATIONS

The New Reo Six—\$1250

Wheel Base—126 inches.

Springs—Front—Semi-elliptic—38" x 2" with 8 leaves Rear—Cantilever—50 1/4" x 2 1/4" with 8 leaves.

Front Axle—I-beam, drop forged with Timken roller bearing spindles.

Rear Axle—Full floating, Timken roller bearings at differential and at wheels—two universal joints in propeller shaft.

Tires—34" x 4 1/2" front and rear. Non-skid on rear.

Motor—Vertical, six-cylinder, cast in three, modified L type with integral head, with inlet valve in head. Valve mechanically operated and protected.

Cylinder Dimensions—3 1/8 x 5 3/8".

Horsepower—45.

Cooling System—Water jackets and tubular radiator, cellular pattern. Water circulation by centrifugal pump direct to exhaust valves.

Lubrication—Automatic force feed by plunger pump with return system.

Carburetor—Automatic, heated by hot air and hot water.

Ignition—Combined generator and magneto, driven through timing gears with 100 ampere hour storage battery.

Starter—Electric, separate unit, connected to transmission.

Transmission—Selective swinging type with single rod, center control.

Clutch—Multiple dry disc, faced with asbestos, positive instant release.

Brakes—Two on each rear wheel, one internal, one external, 14" diameter drums—service brake interconnected with clutch pedal.

Steering—Gear and sector with 18" steering wheel.

Control—Left-hand drive, center control—spark and throttle on steering wheel with foot accelerator.

Positive—Thief-proof locking device.

Fenders—Drawn sheet steel of latest oval type—shield between running boards and body—close fitting, quick detachable under pan—aluminum bound, linoleum covered running boards.

Gasoline Capacity—18 gallons. Tank in rear with Stewart Vacuum System supply.

Body—Seven-passenger—"Sheer-line" touring car type with extra wide full "U" doors front and rear. Genuine No. 1 hand-buffed, enameled finished leather upholstery. Deep cushions and backs.

Finish—Body, Golden Olive—running gear, black—equipment nickel trimmed.

Equipment—Fully electric lighted throughout; improved 5-bow, one-man, mohair top with full side curtains; mohair slip cover; clear-vision, rain-vision, ventilating windshield; speedometer; electric horn; brackets; power tire pump; jack; complete tool and tire outfit; foot and robe rails.

Price—\$1250, f. o. b. Lansing, Mich.

Company, Lansing, Mich, U. S. A.



# Organized Agriculture In Little Switzerland

SWITZERLAND probably interests Americans more because of the democracy which has been achieved by this little group of Cantons up in the Alps overlooking the monarchies of Europe. There are surprises in Switzerland, then, perhaps because she has not preceded the monarchical countries in the development of co-operative agriculture. Similarly surprises awaited the Commission in Russia to find in this accre-

By WM. B. HATCH, Member of American Commission

lars. It loans on endorsed paper at four and one-half to four and three-fourths per cent. It also loans to communities and to societies for the purpose of building churches, school-houses, streets, bridges, irrigation and water works, electric works, etc. These loans are made on amortization plan, making them payable within twenty-

are eight hundred and fifty societies organized for commercial and economic purposes. The purchasers and consumers' co-operative societies are the most important. There are six hundred of these. These are federated into ten federations and the best of understanding exists between them. The largest number of co-operative societies engaged in any one industry is naturally that of dairying. There are some three thousand societies engaged in manufacturing of Emmentaler cheese. There are one thousand four hundred breeders' associations. There are one hundred sixty co-operative credit societies with one hundred thousand members. There are one hundred forty fruit and vineyard societies. There are also co-operative societies for threshing and lately there is a remarkable activity in the organization of co-operative milling and baking societies.

## Wholesale and Provision Supply Society.

These societies are co-operative organizations comprising the retail or distributing co-operative organizations in a given district, for example, the union of agricultural associations for eastern Switzerland includes one hundred eighty associations divided among nine Cantons. The separate Cantons usually have an association. These Canton societies usually do business in fertilizers, seeds and agricultural implements. Besides this they make a specialty of supplying the farmers with the necessary produce for the

furnish the farmers with supplies direct; whereas in former times the farmers had to deal with different dealers and had to pay higher prices. The farmers with their products were forced to join in the world's market, that, of course, means that they must sell their produce at the best possible rate in order to compete in the world's market with other farmers.

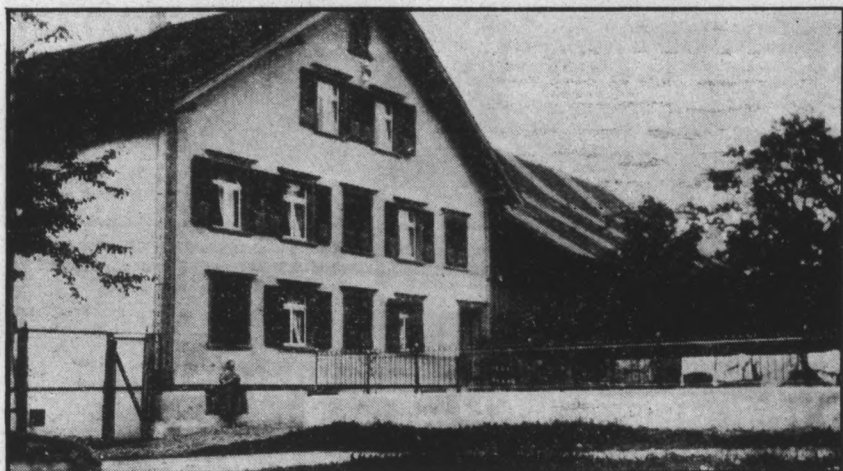
"There are now two hundred and eighty permanent shops where the farmer gets his supplies at very reasonable prices and they are under the control of the Eastern Switzerland societies. The Union of Eastern Switzerland has existed for seventy-five years. It holds property amounting to three million dollars. The value of the stock in warehouses amounts to six hundred thousand dollars. The turnover of business for the year preceding the visit of the American Commission amounted to approximately two million dollars. Over three hundred twenty thousand dollars was repaid in rebate from the last year's business to the societies of which the union is composed. This two million dollars represents the wholesale business between the union and its societies. Thirty per cent of the profit goes to a reserve fund but the balance of the profit is returned to the purchasers in rebate.

These cooperative wholesale associations not only import large quantities of goods but also serve as a market for things produced by their members. "The society has been a tremendous boon to the farmers of the Eastern Canton. To take a striking illustration the prices of commercial fertilizers have been reduced fifty-six per cent. The benefits to all of the small farmers have been even greater than these figures indicate. The co-operative stores have become the price makers in the Eastern Cantons.

It is estimated that from ninety to ninety-five per cent of the Swiss farmers own the land which they cultivate. Somewhat more than half of these land owners live in rural villages while the others dwell in separate farm homes surrounded by their holdings.

The American is surprised to find in Switzerland as in most European countries that the same roof will cover both the home of the farmer and that of his stock, machinery and feed-stuffs. Of course, there is no opening or connection between the farmer's home and the stable. A large commodious brick dwelling with perhaps an attractive tile roof, with green blinds, with plenty of flowers and shrubbery provided in front will be extended back and the other end beyond the garden and front yard fence will be the barn and stable. So clean and neat are the farm animals and the stables and yards and buildings kept as a rule, even an American does not find occasion to criticize.

The Swiss thrift if once established here would revolutionize American agriculture.



The Substantial Home of a Prosperous Swiss Farmer.

ited ultra-monarchical atmosphere a much larger development of co-operative agriculture than was expected.

Switzerland is but little more than one-fourth as large as Michigan, yet she has fifty per cent more population. The per capita intelligence in Switzerland is naturally high as might be expected. She has five universities. In considering her accomplishments we need to bear in mind that we are studying a little country which could probably be stowed away in the lower peninsula below the thumb. We need to remember, too, that this comparatively small area is largely mountainous.

I was surprised throughout our travels on the continent to find how much more prominent the Simmental breed of Swiss dairy cattle was than the Brown Swiss which is the usually seen representative of Swiss dairy cattle in America. Simmental sires could be seen all over Europe and the effect of using such sires on the grade stock. The representative grade Simmental cow shown in this cut was snapped in Russia. It better illustrates the breed than any obtained in their native country. They are large and this, no doubt, is one of the chief reasons why they are popular in Europe. Because the European farmer uses both the bull and the cow as beasts of burden.

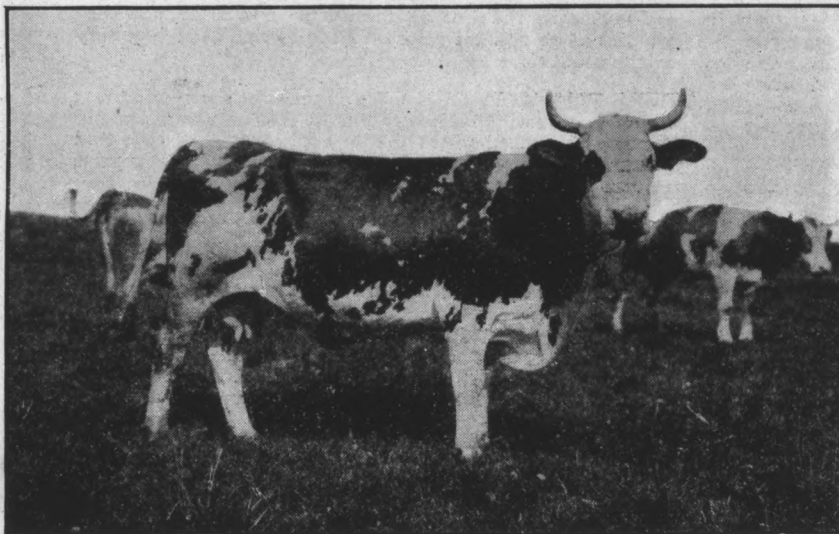
A look at Switzerland justifies the reputation of the Swiss for thrift and enterprise. The snap shot of a Swiss farm home shown here is not uncommon. The snap of the barn does not show up quite so well. It suggests that proper ventilation is sacrificed to Swiss architecture. The manure pit, however, is provided so that the fertility may be conserved rather than let to run down the obvious steep grade of the hillside.

## Finance.

Aside from the usual type of Raiffeisen banks which obtain in Switzerland and to a considerable extent, the separate Canton governments encourage Canton banks as government institutions. There are twenty-three of these in Switzerland. The capital is furnished either from the government treasury or from the issue of bonds. The Zurich Canton Bank, established in 1870, now has a paid-up capital through the issue of Canton bonds aggregating six million dollars. The bank pays the bondholders four per cent and also the Canton for any capital it supplies from the treasury. It also has a reserve fund now of practically two and one-half million dol-

five years at the utmost and the rate is four and one-half per cent. It had invested in this class of loans about three and one-half million dollars. This bank has eleven branches and fifteen agencies. The rate of interest prevailing is lower than that of the private banks.

There are also mortgage banks and savings banks. The deposits in the



A Grade Swiss Simmental Cow of Good Type.

savings banks aggregate three hundred million dollars.

The Raiffeisen banks here as elsewhere are popular with the small borrower. He can get the money he needs promptly because he is known and his neighbors vouch for him. The operations of the bank are confined to a comparatively small area. There are one hundred and fifty-seven of these banks which are federated and have central bureaus which act as clearing houses.

## Agricultural Co-operative Societies.

If you should draw a line from Saginaw across the state to Lake Michigan and then report that within that part of Michigan below that line, there were six thousand five hundred agricultural co-operative societies, people would certainly consider that southern Michigan was organized agriculturally. There are about six thousand five hundred agricultural co-operative societies in Switzerland. These have grown up in the main during the second half of the nineteenth century. This number does not include "two hundred twenty-three Alpine co-operative societies which date their existence from ancient times." The larger group, of course, includes societies for agricultural education, but there

family use or consumption. The "Union of Eastern Switzerland" has found out that the farmer spends an amount equal to seventy-five per cent of his income on necessities, whereas he only spends twenty-five per cent for the equipment of the farm. That is, the farmer is a greater buyer on the market of food supplies than for the material which he needs for exercising his profession. These Unions run against a great deal of trouble from the commercial people because they



An Unpretentious Swiss Barn with Concrete Manure Pit in Foreground.





# Woman and Her Needs

## At Home and Elsewhere



### Twentieth Century Philosophy

AS an illustration of the difference between the philosophy of 1915 and that of 1895, the following gleaned from a criticism of "The White Sister," as it appeared to a Detroit newspaper man is respectfully submitted:

"There are people for whom this play has an appeal. There are others for whom it has none, but who appreciate good acting to such an extent that they will be pleased in spite of the vehicle. But to many the philosophy of the play is medieval. It might as well be a dramatization of the old argument as to whether angels find it necessary to use toothpicks. A twentieth-century people, interested in efficiency methods and Tiger victories and motor boats, is resolved to 'take the cash and let the credit go,' and looks no longer on this good old world as a vale of tears to be passed through with as much suffering as possible so that the next world may be a debauch of self-indulgence lasting forever and ever."

The modern attitude toward life may have been more aptly put elsewhere, but it hasn't happened to come to my notice. Down with principles, away with ideals if they interfere with pleasure. Give us our good time now, for it's the only time we are sure of. Such is the attitude of the present generation, or at least the major portion of it.

It's a good thing, of course, to live in the present. Today is the only time we are sure of, when all has been said and done. As the popular song puts it, "Why Worry About the Future? Tomorrow Never Comes." So that living in the present is really the only sane way to live. We can't mend yesterday and we may not have tomorrow, so let's make the most of today. But is the modern way of living the way to make the "most" of life? Is snatching all the pleasures we can, irrespective of the other fellow, the real way to get the most for ourselves?

As a people we have been growing more and more prosperous in the last two decades, and hand in hand with our prosperity there has been a proportionate growth of selfishness. As we have grown better able to help the unfortunate, most of us have grown less willing, and some have even denied that they had a duty in that direction. "Charity always weakens the recipient," has become a favorite motto with the crowd, and the average individual has seen to it that he did nothing to weaken his impoverished brother.

The great god Pleasure has become the god of the average American. If we can do good without interfering with our own good times we will do it. But let no one expect us to sacrifice any of our good times for the sake of the helpless. In these strenuous times we all need relaxation if we are to keep up with the procession, and the average American sees to it that he "relaxes" often enough to avoid breaking down with the strain of overwork. Instead of "each considering first the other," we affirm that "self-preservation is the first law of nature," and we see to it that we are taken care of first.

As to dying for a principle, as F. Marian Crawford's heroine was ready to do, the thing is quite too absurd to be considered. Principles should be so pliable as to fit any situation, and if they are not, why then chuck them.

It is out of the question to expect anyone to keep a promise, if that promise is going to inconvenience the one who who made it.

Family loyalty even, a thing as old as the human race, is thrown into the discard. The individual is the one thing to be considered in the new philosophy. Unfortunate relations have no claim on the more prosperous members of their family. No matter if their poverty has come because they assumed the burdens of others. They should have known enough to look out for number one, and if sickness or old age finds them unprepared they need not expect the ones who were prudent to provide for them. The first duty of man is to look out for himself, and let the rest of the world go hang.

Such is our twentieth century idea of life. It's a fine rule for the young and strong. The old and the weak might not agree to it, if anyone bothered to listen to what they had to say.

DEBORAH.

### LINOLEUM AS A FLOOR COVERING.

BY ELLA E. ROCKWOOD.

For a kitchen floor nothing could be more satisfactory in every way than a good grade of linoleum. Having had ample experience with it I am prepared to give my unqualified approval. It is sanitary, durable, easily kept clean, and attractive. There are, however, a few requirements which must be observed in its selection and use.

First of all in buying linoleum it always pays to get the best quality. When one considers that a good inlaid pattern will wear almost indefinitely, while the printed article, even the best of its kind, will sooner or later wear off and leave the foundation exposed, the difference in price does not appear so great as at first imagined. In the end the higher priced grade is the cheapest. In order fully to understand the merits of the two, inlaid and printed, they should be examined side by side.

Cheap linoleum possesses small value and is not worth putting down, while a good grade in the ordinary kitchen will wear for years and look like new.

The term, "years" is indefinite, but if given a coat of floor varnish once or twice in the course of a 12-month and not subjected to the action of hot soap suds, there is no reason why it will not almost equal the inlaid in endurance. On the other hand, if soaked with soap and hot water and not kept varnished it may wear the colors off in places most exposed in one year. All depends on the care which has been given it.

Linoleum should always be washed in tepid water, using soap sparingly, and immediately wiped dry. It should preferably be laid in hot weather as it is then more pliable and hugs the floor more closely. It must not bind at the edges but lie loose and perfectly flat else it will bulge in places and sooner wear out. It usually stretches a trifle after using and it is safe to allow for this. The edges should be covered after a time with a molding to keep out dirt and dust next the base.

In selecting a pattern let it harmonize with the other colors of the room, avoiding gaudy patterns. An inlaid wood pattern is good, or other formal or geometric designs. Solid colors show "tracks" more easily than those which are blended and neither extreme of light or dark is best.

For a bath room linoleum is the ideal floor covering. Here the tile patterns are excellent, following out the color scheme with white, blue, gray or green.

Linoleum should be laid by a professional where there are openings to be made for registers, pipes, etc., as the novice is pretty certain to make a bungling job. Since it comes in different widths up to 12 feet it can be laid in the average kitchen without a seam. This is advisable since it is at that point, if one is present, that wear first shows owing to the admission of water in cleaning. Light, washable rugs placed in front of stove and table are desirable. For this purpose pieces of old rag carpetings are excellent.

Widows of honorably discharged soldiers and sailors who die without leaving means sufficient for their support shall be given a fitting burial at public expense.

No woman or girl may be required to work in any "factory, store, shop or establishment," for more than nine hours a day, or 54 hours a week, or more than 10 hours in any one day except in preserving perishable fruits and vegetables in canning establishments. No girl under 18 years shall work between the hours of 6:00 p. m. and 6:00 a. m. in any manufacturing establishment, and no child under 14 years of age shall be employed.

Women are prohibited from operating emery wheels and buffing wheels.

DEBORAH.

### SOMETHING ICY.

If the family begins to tire of ice tea while the weather is still warm follow the suggestion of Miss Oberlin of Colorado Agricultural College and serve tea punch or chocolate cream nectar occasionally.

For tea punch use six teaspoonfuls of tea; two quarts of boiling water; two quarts ice water; six lemons; one cup cracked ice; two and one-half cups of sugar.

Prepare tea with one quart of the boiling water. Prepare syrup with one quart of boiling water, the sugar, and the grated yellow rind of two lemons boiled for five minutes. Cool the tea and the syrup and when ready to serve mix the juice of six lemons, the tea, syrup, ice water and cracked ice. If the flavor of cloves is liked six whole cloves may be added to the tea.

To make chocolate cream nectar use two squares of chocolate; half a cup of hot coffee; one teaspoonful of vanilla; one and one-half cups sugar; three cups water. Whipped cream.

Melt the chocolate in the coffee, add the sugar and water and boil for five minutes. There should be one quart of the liquid. Chill, add the vanilla, pour into glasses in which you have placed one tablespoonful of whipped cream.

### SHORT CUTS TO HOUSEKEEPING.

In many ill-planned houses there are not half enough clothes presses. In such houses one corner of a bedroom may be fixed to answer the purpose. Make a large shelf to fit in the corner of the room. Around the wall, under the shelf, put strong hooks or nails. Two or three clothes hangers may be suspended from each. If the shelf is quite large and strong some small hooks may be placed on the under side of that on which light weight garments, such as children's clothing, etc., may be hung. Fix a curtain on the shelf and you will have a neat looking corner clothes press.—Mrs. E. S. T.

Sometimes it is difficult to obtain ice so this method of keeping butter may prove convenient in cases of an emergency. If the butter is not too soft, roll it in a napkin, and immerse it in flour. If it is melted put it in a bucket, put on the lid, and set in the flour, always being careful to keep it entirely covered with the flour. This is a mode practiced in places remote from civilization where ice can not be had at any price.—Mrs. J. D.

## Michigan Laws for Women

WHILE by no means the first state in the Union in its laws providing for the comfort and well being of women and children, Michigan has not been lax in such legislation. Women factory inspectors are provided for, and there is a law on the statute books requiring that seats must be provided for women employees in "stores, shops, offices and manufacturing," and that no arbitrary rules be made regarding their reasonable use.

In cities where police court is held, a woman under arrest must be confined only in a station where there is a woman matron, and in a department separate from that of the men. When women are arraigned in the criminal courts the matron must be present. No woman can be arrested and imprisoned on any execution issued by a justice of the peace, that is in any civil suit, except for a violation of the liquor law.

Stringent liquor laws protecting

women are in force. No woman or girl can be employed as a barkeeper or to serve liquor, nor can they furnish music or other entertainment in any place where any "spirituous, intoxicating, malt, brewed or fermented liquor" is sold. Furthermore, no woman can take out a liquor license.

Michigan women do not need to listen to bad language if they chose to make complaint. A law provides that "no indecent, immoral, obscene, vulgar or insulting language" shall be used before any woman or child. Offenders may be haled into court and fined not to exceed \$100 or imprisoned not more than 90 days.

Widows of soldiers and sailors who served three months or more in the Federal army may be relieved from the payment of taxes on real estate used as a homestead, provided the property is not worth more than \$1,200. Certain steps prescribed by law must be taken to secure such exemption.



# Saving the Wastes of Garden and Orchard

WE are accused of being a wasteful people. Each year our gardens and orchards produce a \$500,000,000 crop of fruits and vegetables. And each year we allow half of this crop, or \$250,000,000, to go to waste. Michigan is one of the states that suffers from this enormous loss of food products. Last fall there were apples rotting on the ground all over the state. A few months later there was want and hunger in all of our great cities.

What are the reasons for this ruinous process? There are probably three fundamental causes for our prodigal habits of allowing our surplus crops to rot on the ground where they are grown. In the first place our methods of distribution of food products are awkward and cumbersome. Michigan produces as finely-flavored apples as grow anywhere and yet we pay exorbitant prices for western-grown apples on all of the fruit stands of our state. Our system of distribution is such that it works to the disadvantage of both the producer and the consumer; but this is not the place for a discussion of the distribution problem. The second cause of wastefulness comes about because of poor prices at marketing time. When there is a good crop of any particular commodity the market is flooded with that pro-

## How the Girls' Canning Clubs are Teaching How to Make the Surplus Profitable

keep their natural color and flavor. And more than this, it means that by using this method any fruit, vegetable or green that grows may be canned successfully. Those who are interested in the health of the family will at once grasp the significance of this last statement. When cold weather comes on we naturally stop doing most of the hard, out-of-door work; at the same time we stop eating fresh fruits and vegetables. And about the same time the patent medicine advertiser makes his appeal to us because he knows that such an abnormal condition is sure to produce an unhealthy body. This is perhaps the reason why over eighty per cent of all patent medicines manufactured are sold to people who live in the country. A balanced ration which will provide fruits and vegetables throughout the year will do away with a large part of the patent medicine evil.

In order to use the cold-pack method of canning the following operations must be observed:

1. All products to be canned should be graded for size, degree of ripeness, etc., etc.
2. All fruits (with the exception of the soft fruits—group 1) and all veg-

poured over all fruits; hot water over all vegetables and to each quart can of vegetables one teaspoonful of salt is added. The rubbers are then placed in position and the jars are partially sealed. This means that Mason jars are to be sealed just tightly enough to allow the escape of the expanded air. Usually the covers are screwed tightly and then unscrewed one quarter turn. Easy Seal or Sure Seal types of jars should be left with the bale up. Economy types of jars may be sealed completely. The jars are now ready to be sterilized or processed.

5. Sterilization or processing is done usually in one of the four distinct types of canners or containers.

### Type No. 1. Hot Water Bath Outfit.

In the hot water bath outfit the jars are completely immersed in water. The jars are placed in the container and rest on a false bottom which should keep the jars at least one inch from the bottom. Water is then added to cover the jars and extend about one or two inches above the tops. The water is then brought to a boiling temperature. The operator begins to make time when he or she is absolutely sure that the water is at boiling temperature. The jars are left in this temperature for the required length of time. They are then removed from the canner, the covers are tightened and the jars are placed away for future consumption. The hot water bath outfit is the one which is generally used by beginners. Home-made outfits may be constructed out of wash boilers, new garbage pails, large lard pails, or any container which can be fitted with a false bottom and has a fairly tight-fitting cover.

### Type No. 2. Water Seal Outfit.

The water-seal outfit differs from the water-bath in that the jars do not come in contact with the water. The water is sealed on the outside of the bucket which holds the jars. With this type of outfit it is easier to secure the required temperature and canning work may be done with less time and consequently less fuel and cost.

### Type No. 3. Steam Pressure Outfit.

The steam pressure outfits are built stronger and are capable of holding from five to ten pounds of steam pressure. This makes it possible to save still more in time and fuel.

### Type No. 4. Pressure Cooker Outfit.

The pressure cooker outfit outfits are made of aluminum and are capable of holding from five to twenty-five pounds of steam pressure and consequently save still more in time and fuel.

There are numerous makes of these types on the market and the outfits vary in price from six to fifteen dollars. Larger commercial or community canning outfits will, of course, cost more.

By following the directions given in the table on this page any housewife or girl should be able to can successfully all of the products of the home gardener or orchard. Perhaps the following additional suggestions will be of help:

1. Learn to use the cold-pack process by canning but one product at a time.
2. Follow one set of recipes; don't try to use the recipes which come with your canner and those given by the U. S. Department of Agriculture. Follow one set.
3. Never begin taking time with the water-bath outfit until you are sure the water is boiling.
4. When canning apples sliced, put a small amount of salt in the cold water into which they are sliced. This will prevent tarnishing.

5. Provide a cool storeroom for your canned products.
6. Develop a personal market for your canned goods.

7. Syrups of various densities may be judged as follows: Thin syrup is transparent, not sticky; medium thin syrup is sticky to the fingers; medium thick syrup begins to ball up on spoon; thick syrup rolls on edge of spoon.

For all syrups in Michigan use three parts-by measure of water to two parts of sugar and boil to the desired density.

8. Buy the best can rubbers you can get.
9. Never try to use rubbers the second year.

10. Watch your screw-tops closely. If they have been bent at the sealing surface do not attempt to use them.

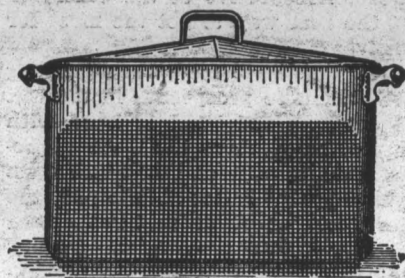
11. Follow directions accurately.

## Canning Directions for the Cold Pack Method.—Fruits.

Group 1 consists of soft fruits, such as strawberries, blackberries, dewberries, sweet cherries, blueberries, apricots and peaches. In preparing the fruit for canning, it should be graded, culled, rinsed, stemmed and seeded, after which pack in jars and add a thin syrup. The jars should be partially sealed. The time for processing or sterilizing by the different methods is as follows: Water-bath 16 minutes; water-seal 10 minutes; steam pressure eight minutes at a five-pound pressure, and pressure cooker five minutes at a 10-pound pressure.

Group 2 includes all sour berry fruits, such as currants, gooseberries, cranberries and sour cherries. The fruit should be stemmed, hulled and cleaned and then blanched in boiling water for one minute, after which it should be dipped in cold water. Pack closely in the jar and add a medium thin syrup. The jars should be partially sealed. The time for processing or sterilizing for the various methods of canning is as follows: Water-bath 16 minutes; water-seal 12 minutes; steam pressure 10 minutes at a five-pound pressure; pressure cooker five minutes at 15-pound pressure.

Group 3 consists of the hard fruits, such as apples, pears, quinces, etc. After grading blanch in boiling water for one and a half minutes, after



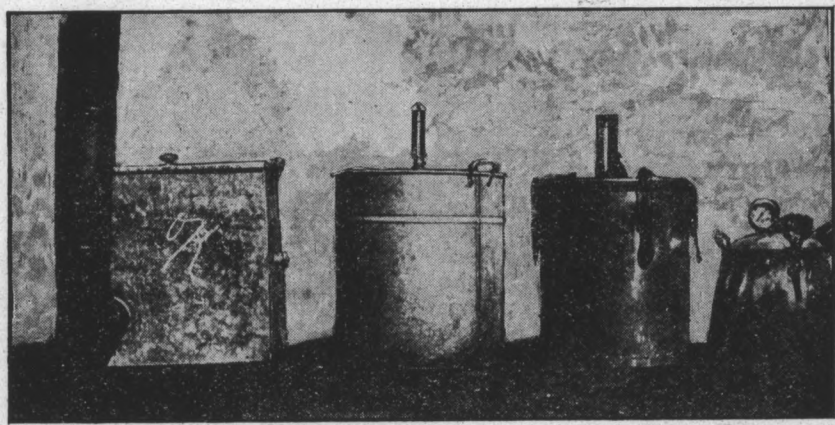
A Washboiler fitted with either Metal or Wooden False Bottom, makes an Excellent Water-bath Outfit.

which core, and remove the skins if necessary. Pack with a thin syrup in jars which should be partially sealed. Processing or sterilizing requires the following time under the various methods of canning: Water-bath 20 minutes; water-seal 12 minutes; steam pressure eight minutes at five-pound pressure; pressure cooker six minutes at 15-pound pressure.

Group 4 includes oranges and other citrus fruits, either whole or sliced. Only sound fruit should be used and the skin and white fibre removed. Blanch in boiling water for one and a half minute, and then dip in cold water. After packing add a thin syrup and partially seal jars. The time for processing or sterilizing is as follows: Water-bath 12 minutes; water-seal eight minutes; steam pressure six minutes at five-pound pressure; pressure cooker four minutes at 15-pound pressure.

## Vegetables.

Group 1 includes such greens as



1. Water-bath. 2. Water-seal. 3. Steam Pressure. 4. Pressure Cooker.

duct and consequently the price drops. If producers were in possession of means for conserving a portion of their crop for future demands this difficulty could in part be overcome. And this suggests the third cause of wastefulness, namely the lack of conservation methods on the part of the producers.

It is at this point that the girls' canning clubs are offering a very promising solution. They are taught to sell fresh fruits and vegetables only so long as the market is reasonably good. When the market drops below the profitable point they are urged to begin canning their surplus products for sale during the winter months. There are at least three sound reasons for canning. First, it saves the waste or the surplus. Second, it provides a better ration for the family throughout the year. Third, it provides a source of income to the farm.

The real purpose of this article is not to merely urge that more canning be done in the homes, but to describe how it may be done successfully. The old open-kettle method of canning is unsuited for conserving whole fruits and vegetables for market. With this method it is necessary to cook the product to pieces, and in so doing the flavor and the color is destroyed. In addition, this method has not been successful with some fruits and with many vegetables.

The new method of canning which is being used by the canning club girls is called cold-pack canning. This means that the fruits and vegetables are packed in the jars while they are cold and are then processed or rendered sterile. This means that fruits and vegetables may be canned whole; they may be canned so that they will

etables should be blanched before packing in jars. Blanching means dipping in boiling hot water for a certain length of time, depending upon the product, and then plunging quickly into cold water. Blanching has several very beneficial effects. It firms the texture so that fruits and vegetables may be canned whole; it fixes the coloring matter; it removes the objectionable acids which form the base for spore or bacterial growth. There are additional effects from blanching, such as loosening skins, but the three mentioned above are the most essential.

All fruits and vegetables, with the exceptions noted above, should be blanched in boiling water. Greens should never be blanched directly in the water. This saves the volatile oils and mineral salts. Persons attempting to use this method of canning should give due attention to blanching because proper blanching is just as important as proper sterilization. Always be sure that the water used is boiling. That means that it should be 212 degrees F., or it must be actually jumping in the kettle. An ordinary wire basket makes the most useful utensil for blanching, although it can be done just as successfully by wrapping the fruits or vegetables in cheese-cloth.

3. After the products have been blanched and, in some cases before, they should be stemmed, hulled, decayed parts should be removed, in some cases skins should be removed, and in other ways the products should be so prepared that they will make a good appearance when canned.

4. After the products have been prepared they may be packed directly into jars or cans. Hot syrups are then



spinach, beet tops, asparagus, endive, dandelion and all wild and cultivated greens. After a sorting and cleaning steam for 15 to 20 minutes and then dip in cold water. Cut in convenient lengths, pack tight in the jars and fill with hot water to which salt has been added at the rate of a level teaspoonful to a quart. The time for processing or sterilizing is as follows: Water-bath 90 minutes; water-seal 60 minutes; steam pressure 50 minutes at five-pound pressure; pressure cooker 25 minutes at 15-pound pressure.

Group 2 includes root and tuber vegetables, such as carrots, beets, turnips and sweet potatoes. After grading and washing, scald in boiling water sufficiently to loosen the skins; after scalding plunge in cold water. Remove the skin, pack whole or sliced in the jars and add boiling water salted to the proportions of one teaspoonful to the quart and partially seal in the jars. Time for processing or sterilizing is as follows: Water-bath 90 minutes; water-seal 60 minutes; steam pressure 50 minutes, at a five-pound pressure; pressure cooker 25 minutes at 15-pound pressure.

Group 3 consists of all kinds of tomatoes. They should be graded, scalded in boiling water to loosen the skin and then plunged into cold water. After coring and skinning, pack whole and fill jar with pulp juice. Add salt at the rate of one teaspoonful to a quart. Partially seal. Time for processing or sterilizing is as follows: Water-bath 22 minutes; water-seal 18 minutes; steam pressure 15 minutes at five-pound pressure; pressure cooker 10 minutes at 20-pound pressure.

Group 4 consists of sweet corn on or off the cob. After grading, blanch on the cob in boiling water for five to 15 minutes, then plunge in cold water. Boiling water should be poured over it after it is packed in the jars. Add two teaspoonfuls of salt to each half-gallon. Partially seal. Corn should be canned the same day it is picked. Time for processing or sterilizing is as follows: Water-bath 180 minutes; water-seal 90 minutes; steam pressure 60 minutes at five-pound pressure; pressure cooker 35 minutes at 20-pound pressure.

Group 5 includes lima beans, peas, string beans, okra, etc. After culling, grading and stringing, blanch in boiling water for two to five minutes (more for peas), then plunge in cold water, pack in jars and add one teaspoon of salt to the quart. Partially seal. Time for processing and sterilizing is as follows: Water-bath 120 minutes; water-seal 90 minutes; pound pressure; pressure cooker 40 steam pressure 60 minutes at five-pound pressure.

Group 6 includes pumpkin and squash. After cutting into convenient sections, remove skin and core, cook 30 minutes to reduce pulp, pack in jars and add one cup of sugar and one teaspoon of salt to each quart of pulp. Partially seal. Time for processing or sterilizing is as follows: Water-bath 60 minutes; water-seal 50 minutes; steam pressure 40 minutes at five-pound pressure; pressure cooker 10 minutes at 20-pound pressure.

## ROSES.

BY CHARLOTTE BIRD.

If the question be asked, "When may I plant a rose garden?" except in winter at almost any time in the year, the answer may be, "Now." If treated right, roses set almost any time before frost will grow and flourish. In the cold states, though, the early spring months are not good.

Whatever the latitude, soil is the first consideration. It should be cultivated and turned and returned till it is very mellow. A hole for each plant should be dug a foot or more deep and filled in with well-pulverized cow dressing, which is said to be the best for roses, and then return the earth and set the plants. Even in mid-sum-

mer roses may be set. But every leaf and bud must be nipped off, leaving nothing but the bare stalks. Give plenty of water and the stalks will not long remain bare. They will even bloom the first season.

Though the best time to transplant roses is about May 1, the Prairie, Rambler, June and other hardy roses may be successfully transplanted late in the fall in the northern states, provided the soil is in good condition and well pressed down about the roots and some protection given, such as coal ashes, stable litter, or leaves. If the tops are ever injured by frost, they should be cut back in the spring. As soon as the severe frosts are past in the spring the stable litter or decayed leaves should be removed. But the coal ashes should be dug in about the roots to sweeten the soil.

One should have a large rose garden if possible, that is, about 60 or 70 roses. But for a beginning six or seven will do. The roses should be planted where they will have full exposure to the sun. If they have only partial shade, they cannot do as well.

For a shade to a porch or a screen to an old building, there is no finer vine than the various kinds of ramblers. And in June they make an appearance to delight the most beautiful heart. And the culture is altogether simple. In northern climates, they should be partially protected throughout the severe months.

Besides the climbers we have the hybrid perpetual roses, the hybrid teas and the tea or monthly rose. The monthly roses are only half hardy and therefore are liable to be winter-killed when the temperature approaches

## A WISH.

BY L. M. THORNTON.

What shall be my prayer for thee,  
Baby mine?  
That the world be fair for thee,  
Baby mine?  
That life's pathway for thy feet  
Be forever soft and sweet  
Ease and calm with joy replete?  
Baby mine.

Nay, a better prayer for thee,  
Baby mine.  
Strength life's woes to bear, for thee,  
Baby mine.  
Eager feet that fear no hill,  
Earnest heart to meet each ill,  
Courage, faith and steadfast will,  
Baby mine.

zero. So they have to be protected. The best way to do this is to bend the stalks down and fasten them securely to the ground by stakes driven into the earth and then covering with dry leaves or rough litter to a depth of six inches. Never use manure; it is too hot and may contain dangerous fungi. But this should not be done till cold weather sets in so that nearly all the leaves are off the plants and the wood thoroughly ripened, which in the northern states is about Thanksgiving time. The coal ashes around the roots also will do no harm. Care must be taken not to remove the covering too soon. It should be kept on till all danger of heavy frost is past, say, sometime in April.

Especially, in dry, hot weather the roses should be cultivated, not only to keep the weeds down, but to keep the soil mellow and help it to retain the moisture better than it could if allowed to bake into a hard crust. Then it develops the young roots close to the surface. But one has to be careful not to hoe too deeply or these young roots may be injured. One should be careful also to cut off all flowers which are past their prime. This saves the appearance of the stalk and also preserves the strength which would otherwise go to form new seed pods. Thus all the strength goes to form the new growth and increase the number of flowers.

At certain times all roses should be pruned, but the times depend on the varieties. The object of pruning is to keep the stalk within bounds and by removing the dead wood to promote

the healthy growth of the flowering wood. Also the dead wood is likely to become a harboring place for insects and various diseases. The bush varieties of roses are summer or autumn flowering and the flower buds are formed on new wood grown the same year. These, therefore, are to be pruned while they are dormant in the fall or winter. But the climbing varieties, which are spring flowering, have already the preceding year formed their flowering buds. So they must be pruned only just after they have finished blooming, else the flower buds would be removed and the following spring there would be no blooms.

Roses make a very acceptable hedge also. The ground for this purpose should be thoroughly prepared in the spring and then planted with the hardier hybrid perpetual bloomers, such as Paul Neyron, John Hopper and General Jacqueminot. They should be spaced about a foot apart and set in about six inches to promote a low, bushy growth. Cultivate well and as hot weather comes on mulch with a layer of good stable manure which later in the season can be well worked into the soil. These should be trimmed the same as other roses and the faded flowers removed. Many of these will bud and along towards fall bear blossoms. A hedge may be made also of the rambler rose, trained over a trellis provided for their support. But such a rose hedge will bear only the regular summer crop of flowers.

Also roses may be successfully grown in the house. One must begin the year before by getting young plants of such kinds as Hermosa, Burbank, Clotilde Soupert and Caroline Kuster, which can be depended on for winter blooming. Put them into three-inch pots and shift as they grow. Make the plants bushy by pinching off the buds and the tops. In summer keep the pots plunged in a cool place and well watered. Remove to the house before frost and at first avoid direct sunshine; afterwards put in full sunlight. Place chopped tobacco stems around the roots to keep off insects and sprinkle every week to remove dust. The air should be kept moist by the evaporation of water placed in an open pan over the register or radiator or stove. The atmosphere should not fall below 50 degrees at night nor above 70 in the daytime. From time to time use some fertilizer.

If one knows how, it is easy to propagate roses. At any season one may bend down a stalk, fasten into place, and cover a part with earth. In two or three months there will be roots to the covered part and it can be separated from the parent stem. Or in July or August, the height of the growing season, they may be propagated from slips. From the hardwood or medium new wood break off by a quick downward movement, thus getting a heel, or ball-like end. Place two or three inches deep in wet sand and turn a glass fruit jar over it. The sand must not be allowed to get dry. Keep in a sunny place and in two months it will be nicely rooted. Then transplant into pots till the roots are well ripened.

All roses must be sprayed early in the spring because they have many and busy enemies. For green fly spray with a solution of tobacco, or, after first wetting to make it adhere, sprinkle with tobacco dust. Tobacco is also a fine fertilizer. For rose slug apply whale oil soap, one pound dissolved in eight gallons of water, or Paris green, one ounce to ten gallons of water. For rose bug, a difficult enemy, pick off or knock off early in the morning on a sheet. For mildew sprinkle with flowers of sulphur or spray with Bordeaux mixture, one pint to six or eight gallons of water. Avoid roses inclined to mildew.

Household Editor:—Will someone give me a recipe for sweet cucumber pickles, such as you buy in bulk at the store?—Mrs. L. B. F.

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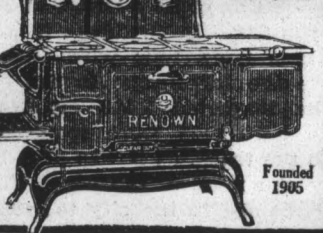
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# Farm Commerce.

## Saves Money With Motor Truck

**M**R. F. P. SIMMONS, of Wayne county, a fruit grower of statewide reputation and a producer that is up-to-the-minute in every regard, has clearly demonstrated the remarkable possibilities of the motor truck in the hands of the farmer. During the eight working days from August 23 to 31, inclusive, he transported 36 loads of plums from his farm to Detroit markets 27.5 miles away, with one 1,500-lb. capacity motor truck. Each load consisted of 42 bushels of the fruit.

Every farmer in Michigan can well afford to figure out just what this accomplishment means. During these eight days this truck actually traveled 1,980 miles, or an average of 247½ miles per day. In two days it would make nine trips, four trips one day and five the following. In the eight days he marketed 1,512 bushels of plums. Two men were required to operate the truck, as it was kept busy all day and most of the night, and a third remained in the city to look after the sales. Each trip averaged in time about four and one-half hours, which included time for loading and unloading.

### A Good Investment.

Now, had Mr. Simmons depended upon horses to do this work he would have employed one team 54 days, since the round trip requires two days of time for a good team to make it. Or if he was obliged to do the work in the same time as the motor truck did it, seven teams and rigs would have been necessary. As a matter of fact these teams will not stand up under the strain of making the trip one way every day for a long period, but the horse was here first and we want to take no advantage of him. Besides seven men would be needed to drive these teams and take care of them.

From the point of investment and labor, therefore, we find that Mr. Simmons was quite wise when he purchased his motor truck. In this instance he would have been obliged to tie up \$4,200 in teams, harnesses, wagons, springs, racks, etc., to do the work performed by a truck that cost him \$1,500. And when he looks to the labor question he is satisfied there also, for three men are doing what it would require at least seven men to do under the old method of delivery.

### Another Advantage.

But this man who talks little and thinks much, goes farther than the above in figuring the advantages the truck has given him. He declares that his fruit is delivered upon the market in a far better condition by the truck than it would be with teams. If we think a moment we can understand just how this is. The teams and wagons are on the road about nine hours and all the time the fruit is being shaken up and down, while the truck gets the load to the market in two and one-half hours at the outside, thus subjecting it to but one-quarter of the shaking secured by the wagon. This is an item that the fruit man appreciates.

Even at this rate Mr. Simmons fears he will not be able to get his big crop of plums and other fruit to the market as fast as it ripens and has arranged with another party owning a truck to assist him when he is needed. He offers this party ten dollars for each load he may bring in. At this figure his own truck and drivers are making a daily gross saving of from \$40 to \$50. So as he uses the motor truck it brings him an income as large and net prof-

its far in excess of that from a modern threshing outfit.

### Other Illustrations.

There are other examples which have recently come to the attention of the writer, that show the value of this modern vehicle to the farmer, none of which, however, are quite as remarkable as the experience of Mr. Simmons.

The truck illustrated on this page is making two trips daily to the Detroit market over a distance of 24 miles. As pictured it is loaded with 50 bushels of tomatoes. Each day for the past two weeks the truck and one driver have delivered 100 bushels of tomatoes on the Eastern market and at stores in different sections of the city.

Another party living near Ypsilanti is able by means of his motor truck to make a delivery of farm produce on the Eastern market in time for the

that his services are more complex than those of the jobber, and that he is under the additional expense of rent, advertising, transporting supplies to and from his store, maintaining sanitary conditions and attractive appearance, telephone and delivery service, credit accounts and other overhead charges. These operating costs are largely necessitated by the demands of the retailer's own trade and many of them are in turn inflicted upon the jobber. Such service costs are naturally larger in the fancy fruit stores and high-class groceries and lowest when the distribution be effected through such a medium as the army of huxters, push cart vendors and side-walk stands so common in our large cities. The value to the grower of the efforts which this latter class exert toward disposing of all sorts of fruit and produce and in increasing the per capita consumption can scarcely be over-estimated.

In the large cities the retail agencies may be classified as follows: the fancy fruit store, the high-class grocery store, the average corner grocery store, the popular market, the chain store, the fruit store and the fruit vendor. Among these general classes will be found other stores which handle meat, fruit and produce, or deli-

making unusual efforts to run special sales and arrange the grower's products in attractive ways. At present, however, it is more liable to be the case that a chain store simply makes more profit than the individual store instead of giving its customers the benefit of the cooperative buying. The clerks in most chain stores are also usually pretty busy pushing the company's private brand of staples, which net higher profits, and perishables are consequently not given consistent attention.

### Fruit from Five and Ten Cent Stores.

Whenever one store lowers its retailing price it tends to automatically reduce those of its competitors. Other stores must decrease their margin of profit or suffer a loss of business. The five-and-ten-cent stores which usually handle fruit simply as a means of drawing trade and without any attempt to make a profit, are strong factors in keeping selling prices low. It is the powerful buying advantage and the systematic business methods used in conducting its affairs that will enable chain stores to secure a large part of the trade from the individual store.

So far as the average retailer, himself, observes, the only force which would cause him to reduce his price would be competition. He often faces the temptation, and sometimes the seeming desire on the part of his customers, to place a higher price upon his stock than should be charged. The public knows little about wholesale prices and the demand on the retail market is therefore not intelligently formed.

### An Ignorant Buying Public.

One dealer known to the writer, tried the experiment of retailing the same size and grade of oranges at two different prices and found that the higher fruit sold most rapidly. With unusually low prices on fruits and vegetables this year, retailers said that they could not reduce their prices below normal because prospective purchasers would view the products with suspicion. Some dealers complain that when they once reduce their selling prices in accordance with a drop in wholesale quotations, it is difficult to raise them again and a loss of trade usually results. While such instances as these are common and are undoubtedly being practiced continually in some communities, the theory that retail prices do not vary in accordance with wholesale prices cannot be applied to all products all over the country. The orange growers, for instance, proved very conclusively that the selling prices of the grower, the jobber, and the retailer varied in accordance with one another with startling regularity.

### Expensive Service Often Demanded.

Another expensive luxury which is blamed against food products themselves is the insistence of the public upon an expensive service. People prefer to have their yeast cake sent up from the high-class store of Charles & Co., on Fifth avenue than buy it at the little grocery around the corner because it is nice to have one's friends see the elegant automobile of Charles & Co. stop in front of one's home while a liveried attendant delivers the order. This pernicious habit cannot be blamed against the retailer. There are sufficient people in every good-sized city to amply support a high-class, service store.

In a very few communities the plan of charging extra for service has been successful. Such stores encourage their patrons to come for their purchases and charge extra for delivery, credit and other service items. Thus those who receive service pay for it, while those who pay cash and carry their purchases home, pay only for the commodities bought.

### Teaching the Public.

Much of the consuming trade is ignorant of the season when certain



Motor Truck Loaded with 50 Bushels of Tomatoes Starting on Second Trip of the Day to Detroit, a Distance of 24 Miles. In Service Four Years.

morning trade, to return home, secure another load, carry it to Ann Arbor, dispose of it and get back in time to load up for the morning's drive to Detroit again.

The transportation end of the marketing of farm produce is coming to be recognized as a very important factor in determining whether farmers profit or lose on certain crops, and the experience they are having with the motor truck gives hope that a substantial widening of the margin of profit can be effected through its use.

## THE CONSUMER'S DOLLAR

(Continued from first page).

obnoxious and burdensome increments which contribute to the ultimate cost.

The greatest barrier in the path of price reduction is the present retailing system and perhaps the average retailer. An analysis of price increments from producer to consumer shows that the greatest percentage of increase exists between the wholesaler's price and the retailer's price. This means that the cost of distribution within a city is greater than that of getting the goods to the market.

The inflexibility of retail prices, while working an injustice upon the consumer, is a factor which is of the gravest account to the producer and not until retail quotations come to reflect the fluctuations in the wholesale prices will the consumer be able to buy at reasonable prices and the grower be able to throw all of his products into consumption.

In defense of the grocer who insists on making a large margin on fruit and produce it must be granted

catessen goods and fruit, or confections and fruit, tobacco and fruit, or other combinations.

The number of small retail stores in the larger cities has greatly increased during the last few years, due, probably, to the increase in population density under modern metropolitan living conditions. In apartment districts the people find it inconvenient to store food, and prefer to buy it in small quantities from the handy, neighborhood store. This multiplicity of small stores means in the end greater overhead expense in getting fruit into consumption and from the point of low prices is far less satisfactory than the large retail market which buys more directly and in larger quantities. However, more stores means more points of contact and greater consumption.

### The Chain Store.

The chain store offers some hope of solving the costly distribution problem. These chains of sometimes several hundred stores are most common in the eastern states. When practicable, the perishable products are received from a central purchasing department the same as other commodities. These stores are operated by business men upon business principles, everything is systematically checked and the store managers often work on a bonus agreement which stimulates sales effort. The quantity of fruit handled in the many stores sometimes enables them to buy in carload lots or at an auction and thereby absorb the usual brokerage or jobber's profit. Many of these stores are just realizing the possibilities which fresh fruit and produce offer and are



## TRUCK CROPS REPORT.

The Bureau of Crop Estimates has received from a special list of truck-crop growers' reports relating to the condition on August 15. Correspondents were requested to estimate the condition on the basis of 100 representing a normal condition. The results of the tabulation of the replies are given below:

State.	Cabbages.		Onions.		Tomatoes.
	Condi.	Produce.	Condi.	Produce.	
Virginia .....	92	92	83	87	..
California .....	89	89	93	96	93
Delaware .....	97	100	87	96	75
New Jersey .....	94	97	94	94	71
Tennessee .....	88	87	89	92	86
Oklahoma .....	94	92	100	99	76
Arkansas .....	75	95	83	96	78
Washington .....	91	95	85	90	..
New York .....	89	100	70	70	78
Ohio .....	88	85	34	63	78
Indiana .....	93	97	68	61	74
Illinois .....	83	92	87	90	78
Michigan .....	84	87	75	74	71
Wisconsin .....	94	92	81	91	..
Minnesota .....	99	98	90	82	..
Iowa .....	110	110	60	75	66
Missouri .....	92	98	89	95	71
Colorado .....	90	92	92	93	..

## Crop and Market Notes.

## Michigan.

**Cheboygan Co., Aug. 27.**—Frost last night injured corn, cucumbers, beans and late potatoes. Clover hay and alfalfa very good. Wheat, oats and rye good yield. No preparations as yet for fall seeding. Early apples are scarce, late apples half a crop. Butter-fat 29c; milk 20c per gallon; eggs 30c; broilers 30c per lb. dressed.

**Merosta Co., Aug. 26.**—Potatoes are looking good. Beans in some districts are rusting. Farmers are plowing for fall seeding. Pastures not very good. Some early apples but no late ones. Some peaches and a good crop of plums. Eggs 18c; butter-fat 24c; hogs \$8@9; cattle \$4.50@6.

**Van Buren Co., Aug. 30.**—Corn is pretty good, but needs three or four weeks of warm dry weather to mature. Our apple crop is very good and free from worms and scab. We have sold our winter apples for \$2 on the trees; most other growers have sold for \$2.75 delivered at the station. Peaches a fair crop, but a drag on the market. Some light frosts, but no damage done.

**Washtenaw Co., Aug. 26.**—Weather is unseasonable, the coldest and wettest August in many years. Early potatoes were a very good crop, but the late ones will be almost a total failure due to blight and wet weather. Beans poor. Corn very uneven, but with favorable weather may yet make a good crop. Farmers are beginning to plow for wheat. Not many farmers engaged in feeding operations, live stock being mostly dairy cows. Butter 30@32c; eggs 20c.

## New York.

**Genesee Co., Aug. 28.**—Clover is a high crop; most alfalfa very good. The yield of wheat, oats, barley and rye is in most cases very good and quality fine. Corn doing fairly well, but most of it maturing late. Potatoes damaged to some extent by blight; also beans damaged by rust. Apples will be scarce, but pears, peaches and plums are plentiful. Wool is bringing on an average 23c per lb; butter-fat 29c; milk \$1.50 per cwt; eggs 20c; hogs \$7.50; wheat 90c; oats 60c; potatoes 50@60c; loose hay \$12@14.

## Ohio.

**Brown Co., Aug. 27.**—Farmers are busy plowing wheat ground. Threshing nearly all done. Wheat and rye not as good as usual. Oats good; clover and timothy better than average. Corn is good except on low lands, where it was injured by the excessive rains. There is going to be a big crop of fruits of all kinds. Butter 18c; eggs 20c; spring chickens 14c; lambs \$8@8.75; mixed packers \$7@7.25.

**Warren Co., Aug. 27.**—Weather is cold and wet, and the damage to the grain crops has been very great. The most of the wheat crop has been threshed; but very little oats threshed. The hay crop was heavy but it was not secured in very good condition. Rye an average yield; fully half the oat crop lost. Corn prospects are average. Rye average yield, fully half the oat crop lost. Corn prospects average; corn will be mostly cut and the ground sown to wheat. Wheat seeding will, however, be late. Potatoes are rotting in the ground. Canning factories running overtime, as a large crop of sweet corn is reported. There will be plenty of fruit of all kinds. Very little live stock moving. Wheat

\$1.10; corn 75c; rye 90c; apples 30c; peaches \$1 per bushel; plums \$1.25; eggs 17c; butter-fat 24c; chickens 18c per lb; hogs \$7; cattle \$6; calves \$10; wool 30c per lb.

## Indiana.

**Daviess Co., Aug. 30.**—Weather is very cool and too rainy. Threshing about done. The yield of wheat, oats and hay is far above the average. Prospects for corn better than usual in spite of the fact that it was damaged by wind and floods. Fair crop of clover seed. Fall plowing well under way. All kinds of vegetables and fruit plentiful except peaches, which are a partial failure. Wheat 95c; oats 35c; corn 80c; hay \$7; potatoes 40c; butter 25c; eggs 18c; chickens 13c; hogs \$6@7; cattle \$8@9.

## Wisconsin.

**Jackson Co., Aug. 28.**—The past two weeks has been very cool frosts on August 17 and 27 damaged corn, beans and cucumbers in some localities. All hoed crops are backward. Big yields of hay, clover and alfalfa, but somewhat injured by bad weather when euring. Big yields of small grain. Potatoes promise well. Apples below the average. Seeding just begun. Grain, oats and rye coming into the local market slowly. Butter-fat 24c; eggs 16c.

## Missouri.

**Phelps Co., Aug. 28.**—A big yield of hay and a fair crop of alfalfa was harvested in this county. Wheat is averaging about 10 bushels to the acre. Oats extra good but not much barley or rye. Recent heavy rains washed away a considerable amount of these grains down in the low lands. Corn in low lands was ruined by the rains. Potatoes extra fine and yielding a good crop. Lots of beans and all kinds of vegetables. Lots of fruit of all kinds. Farmers expect to put in a big wheat crop. Wheat \$1@1.05; butter-fat 20c; hens 11c; spring chickens 12c per lb.

**Vernon Co., Aug. 28.**—Wet weather continues, making it very hard for threshing. A considerable amount of grain is badly spoiled in the shock. Tame hay is good, hay on bottom lands not so heavy as usual. There is considerable plowing being done. The apple crop is not as large as usual, as orchards are badly infested with some kind of fungous disease which causes the fruit to rot. Some peaches and pears. Pastures are in good condition. Butter 25c; eggs 16c.

## Kansas.

**Cloud Co., Aug. 28.**—The hay crop is the largest in years. We also had a bumper wheat crop. Rye is a good crop; oats almost a failure due to the rust. Corn prospects are fine, and unless we have frost before the corn matures, there will be an extra large crop. Potatoes and beans are good. Fall seeding very slow, as the fields are too wet to work. Fruit prospects never better. Wheat \$1; oats 50c; corn 75c; potatoes 60c; apples 25c; butter-fat 22c; eggs 1 1/4c. Cattle, stockers \$6.50@7.50; feeders \$8 per cwt; calves \$7. Horses and mules are bringing better prices than before.

**Dickinson Co., Aug. 27.**—Plenty of rain and unusually cool weather. The third crop of fine alfalfa has been harvested. Pastures good and stock is looking well. Corn in fine shape. Not much threshing done as it is too wet. Farmers are plowing. Potatoes are splendid. Not much fruit except apples.

**Franklin Co., Aug. 28.**—August was cool with lots of rain. Hay crop fine, but not good haying weather. Clover not so good as timothy, which is extra fine. Alfalfa is a good yield except where high water flooded the fields. Wheat yielded from three to eight bushels, and not of good quality. Oats 10 to 35 bushels, quality poor as the rainy weather prevented the grain from filling properly. Corn fair, but weather too cool for it to mature fast. Potatoes a fair crop but not keeping well. Many are plowing now for wheat, of which a large acreage will be sown. Early apples not good, late ones fair. Pears and peaches scarce. Eggs 17c; butter-fat 20c.

## Colorado.

**Kit Carson Co., Aug. 27.**—We are still getting lots of rain and the roads are in bad shape. Harvest is nearly through and threshing has begun. Grain is making a good yield. Corn is backward but in good condition. Potatoes and beans are good. No seeding begun yet. Not much fruit. Wheat \$1; barley 45c; cream 20c; eggs 18c.

## Idaho.

**Power Co., Aug. 29.**—Second crop of alfalfa is being put up. The yield is good. Harvest is about done and threshing is under way. Wheat made only a fair yield, ranging from five to 40 bushels per acre. It would probably average about 12 to 15 bushels. Potatoes did not do very well this year. There will be a pretty good acreage of wheat sowed this fall. The apple crop is pretty good. Wheat is about \$1.27 per cwt.

# Novo Helps Build Chicago's New Speed- way

Novo  
at  
Work

Automobile records were not the only things smashed on this most modern of all speedways. A new record was hung up for high-speed construction work. Work on this two-mile track was begun May 8th and completed in forty-two days—forty of which were rainy. Millions of feet of lumber were used; tons of steel; and carloads of cement. Novo Engines were used!

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Million-dollar contracting firms select NOVO because of one reason only—a NOVO brings better returns, dollar for dollar, than any other engine made.

This same kind of cold-blooded reasoning has put thousands of NOVOS at work on farms sawing the wood, grinding the feed, running the ensilage cutter, the separator, the water and lighting systems, washing clothes, etc., etc.

Have you seriously considered how reliable power—the only kind NOVO gives—relieves farm work of much of its drudgery and uncertainty, besides making the farm show a bigger balance on the right side of the ledger at the end of the year?

### Advantages of NOVO for Farm Work

Light weight, almost unbelievable simplicity, easy portability and *Guarantee Bond against damage from freezing* are points of NOVO superiority no farmer can afford to overlook.

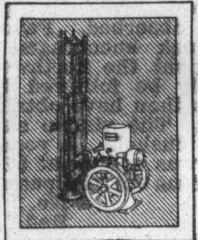


Fig. 1456, Novo Jr., 1 H.P. or 1 1/2 H.P. Novo Engine attached to wind mill pump.

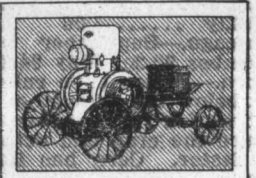


Fig. 1476, 12 H.P. and 15 H.P. Novo Engine mounted on all steel team truck.

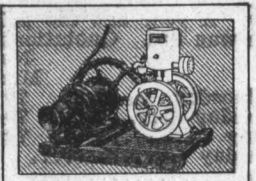


Fig. 15137, Novo Handy Hoist.

# NOVO

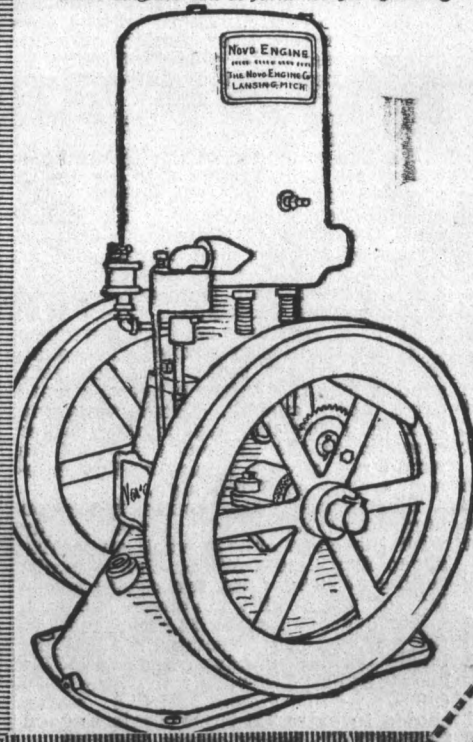
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# Markets.

## WEATHER FORECAST.

For week beginning Wednesday, September 8, for the region of the Great Lakes: Overcast weather and showers Wednesday, and probably Thursday will be followed by fair weather and moderate temperature until about the twelfth, when showers are again probable.

## GRAINS AND SEEDS.

September 7, 1915.

**Wheat.**—Considering the factors active in the wheat market, prices are holding within a moderate range, and the decline is not so rapid as might be expected at this season and its big crop. Cash wheat does not appear to be plentiful, and to meet immediate needs available grain is being readily absorbed. Favorable weather last week encouraged threshing all throughout the northwest, which will probably be followed by heavier deliveries than have obtained so far this season. The visible supply increased 656,000 bushels. A year ago No. 2 red wheat was selling at \$1.22 per bushel. Quotations for the past week are:

	No. 2	No. 1	Dec.
Wednesday	1.07	1.04	1.04
Thursday	1.09½	1.06½	1.06
Friday	1.09	1.06	1.04½
Saturday	.....	.....	.....
Monday	.....	.....	.....
Tuesday	1.06	1.03	1.01

Chicago.—September wheat 92.4c; December 90.2c; May 94.2c per bu.

**Corn.**—Prices have ruled about one cent below the average of a week ago. Last week's fair weather did much to mature the crop and acted as a bearish factor. Corn has improved considerably during the past fortnight and in many sections a very heavy crop will be harvested with normal weather prevailing. The eastern demand for the cereal has been a little slow. A year ago the price for No. 3 corn was 82c. Quotations as follows:

	No. 3	No. 3
	Mixed.	Yellow.
Wednesday	79	81
Thursday	79	81
Friday	79	81
Saturday	.....	.....
Monday	.....	.....
Tuesday	79	81

Chicago.—September corn 71.3c per bushel; December 51.7c; May 58.7c.

**Oats.**—With heavy receipts at primary elevators, oat values show greater depreciation than prices for corn and wheat. A large portion of the receipts is of inferior grades. Liverpool market was lower on Tuesday than Saturday. American visible supply increased 2,872,000 bushels last week. A year ago standard oats were quoted at 52½c per bushel. Quotations are as follows:

	Standard.	White.
	No. 3	No. 3
Wednesday	40	38½
Thursday	40	38½
Friday	39	37½
Saturday	.....	.....
Monday	.....	.....
Tuesday	37½	36½

Chicago.—September oats 36.2c per bu; December 35.6c; May 38.1c.

**Rye.**—This market is quiet with cash No. 2 3c lower at 92c per bushel; September 90c.

**Beans.**—Prices steady. There has been much damage by rains and fungus. Detroit quotations are: Cash \$3 per bushel; October \$2.80. Chicago trade is quiet and steady. Pea beans, hand-picked, choice, are nominal at \$2.85@3; common \$2.62@2.80; red kidneys \$3.25@3.50. At Greenville the elevators quote \$2.60.

**Clover Seed.**—Improved weather set prices back last week but rains since have encouraged buying again. Prime spot \$9.35; October \$9.70; alsike \$9.25. Timothy Seed.—Prime spot \$3.30.

## FLOUR AND FEEDS.

**Flour.**—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$5.90; seconds \$5.60; straight \$5.20; spring patent \$6.60; rye flour \$6.20.

**Feed.**—In 100-lb. sacks, jobbing lots are: Bran \$25; standard middlings \$29; fine middlings \$32; cracked corn \$34.50; corn and oat chop \$31.50 per ton.

**Old Hay.**—Market is firm at steady prices. Carlots on track at Detroit are: No. 1 timothy \$24@25; standard \$23@24; No. 2, \$22@23; light mixed \$23@24; No. 1 mixed, \$18@19; No. 1 clover \$14@15.

**New Hay.**—No. 1 timothy \$18@19; standard timothy \$17@18; light mixed \$17@18; No. 2 timothy \$16@17; No. 1

mixed \$14@15; No. 2 mixed \$12@14; No. 1 clover \$12@14.

Chicago.—Demand good and supply light. New timothy \$13@18 per ton. Straw.—Rye straw \$7.50@8; wheat and oat straw \$6.50@7 per ton.

## DAIRY AND POULTRY PRODUCTS.

**Butter.**—In brisk demand at firm prices. Consumption is large. Offerings light. Extra creamery 24½c; firsts 22½c; dairy 21c; packing stock 18c per lb.

**Eggs.**—Market is firm at prices 1½c above last week. Quotation now is 26c per pound.

Chicago.—Advanced 1 cent. Extra creamery 25½c; extra firsts 24½@25c; firsts 23@24c; seconds 21@22½c; packing stock 19@20c per lb.

**Poultry.**—Demand is good and supply light. Prices unchanged. Live.—Broilers No. 1, 17@17½c; No. 2, 14½@15c; heavy hens 15c; others 12@14c per pound; ducks 14@15c; geese 10c.

Chicago.—Demand good. Fowls good stock. Irregularity in shipment makes great variation in prices. Fowls, good weights 13@14c; others 10@12c; spg chickens 16@16½c; ducks 12½@14c; geese 8@12c; guinea hens \$2.75@3 per dozen.

**Eggs.**—Prices steady with receipts falling off. Canned firsts sell at 23c; current receipts 21½c.

Chicago.—Up a fraction and firmer. Miscellaneous lots, cases included 17@21½c; ordinary firsts 20@21c; firsts 21@22c.

**Veal.**—Quoted steady at 14@14½c for fancy, and 13@13½c for common.

## FRUITS AND VEGETABLES.

**Apples.**—Supply good. Fancy \$2.25 @2.50 per bbl, and 75@80c per bu; common \$1@1.50 per bbl and 40@50c per bushel.

**Pears.**—Market is fair for good stock, good Bartlett's bringing \$4.75@5 per bbl.

**Potatoes.**—But few Michigan tubers coming. Jerseys are quoted at 63@65c per bushel. At Chicago Michigan whites are selling at 45c per bushel in carlots. At Greenville 30c per bushel is being paid.

**Peaches.**—Markets active, although supply is ample. Island peaches bring \$1.50 for A's; \$1.25@1.35 for A's; 90c@1 for B's.

## DETROIT EASTERN MARKET.

Buyers were anxious for produce Tuesday morning, which enabled the farmers to sell out readily. Potatoes 75c; tomatoes \$1@1.50; cabbage 60c; lettuce 60c; apples 80c@1.25; cucumbers \$1.50@3.25, depending on the size and quality; onions, yellow 75c per bu; silver 10c per qt; eggs 30c per dozen; prices for loose hay range from \$15@24.

## LIVE STOCK MARKETS.

### Buffalo.

September 6, 1915.

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

Receipts here today as follows: Cattle 152 cars; hogs 80 d. d.; sheep and lambs 37 d. d.; calves 1,100 head.

With 152 loads of cattle on the market here today and 18,000 reported in Chicago and lower, all the best cattle sold 10@15c per cwt. lower, while the medium kind sold from 15@25c lower. We had too many cattle for the market today, and it being Labor Day we did not have buyers enough to take the cattle. There will be several loads left over tonight unsold. There seems to be plenty of cattle in the west now and they are coming in pretty freely. We do not look for much improvement in the medium cattle from now on.

We had a moderate supply of hogs today, all light grades sold strong to a shade higher, and the mixed, medium and heavy grades fully 10c higher than the close of Saturday. Quite a string of medium and mixed sold at \$8.40@8.50; choice heavies from \$8@8.15; yorkers and pigs generally at \$8.60; roughs \$6.25@6.50; stags \$4.50@5.50. Everything sold at the close and late trade was strong. The quality of the hogs today was not very good, while the extreme heavies were extra good quality. Hogs weighing less than 200 lbs. are coming rather common at the present time and we would not advise buyers to buy common trashy stuff too high.

The market was active today on lambs and sheep, with prices steady with the close of last week on lambs, sheep firm; most of the choice lambs selling at \$8.90. Look for steady prices last of week with moderate receipts.

We quote: Lambs \$8.90@9; cull to fair \$7.50@8.80; yearlings \$7@7.35; bucks \$3@5; handy ewes \$5.75@6; heavy ewes \$5.50@5.65; wethers \$6.25@6.50; cull sheep \$3@4.75; veals, choice to extra \$11.75@12; fair to good \$8.50@11.50; heavy calves \$5@8.50.

## Chicago.

September 6, 1915.

Cattle. Hogs. Sheep.

Received today..15,000 28,000 10,000  
Last week.....43,517 108,753 85,599  
Same wk 1914..46,902 103,947 135,511

There was a good call for cattle on Monday, and steers ruled steady to strong. Butcher stock ruled firm on the good kinds but slow on weak on the plain grades. Prime steers reached \$10.35, averaging 1450 lbs. Calves were steady and best sold at \$12. Only 2,000 range cattle, mostly Canadians, were offered and steady prices prevailed. Hogs were steady to 5c lower at the start and finished fully 10c lower on all classes. Price range was wide, with weighty kinds below top grade being neglected. Sales were at \$6@8.15, against last Saturday's top of \$8.20. Average weight of hogs last week was 244 lbs. Sheep and lambs ruled steady to strong and the trade was active. Native lambs reached \$8.65 and western topped at \$9. Range wethers sold at \$6 while most native ewes landed at \$5.25.

Prices widened last week between prime heavy steers and the light plain fleshed classes. Best kinds showed 25c advance over the previous week's finish and as much as 40@50c gain from the recent low spot. The plain kinds went at 10@15c higher. She stock sold irregularly higher and the bulk made gains of 15@25c. Even canner and cutter stock showed slight improvement. Bulls made an advance of 10@15c in the week. Calves have changed little. Range cattle were less numerous than expected. Western offerings closed 10@15c higher. Prime 1,437-lb. native steers reached \$10.35 against \$10.15 the preceding week and animals landed at \$8.40@10; best yearlings \$10.25; common to fair kinds \$6@7.75 and canner stuff \$5.50 and lower. Only a few heifers sold higher than \$8.50 and the bulk went at \$6@7. Extra cows sold at \$7.75 and higher; fair to good do. \$5.25@6.25; canner grade \$3.75@4.25; good bologna bulls \$5.50@5.75 and a common light grade \$5.25, good to prime corn-fed butcher bulls \$6.75@7.25; best vealers \$11.50@12; fair do. \$8@10; extremely weighty lots landed at \$6@7.25, according to the quality.

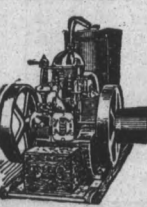
Hog prices have fluctuated greatly the past week. Top light grades reached a new high point of the year while the 350 to 375-lb. stock showed a decline of 25@40c per cwt. within the past week. Quality has fallen off and there is marked increase in the number of grassy offerings. Pigs are in good demand and many showed at least a 25c advance within the week. Shippers were seldom after offerings weighing 300 lbs. and heavier. Until Germany is able to buy our lard again the sellers and buyers alike admit that there is little chance for the big hogs to sell on a profitable basis. Average weight of hogs at Chicago in August was 246 lbs., or 8 lbs. heavier than the previous month and only 2 lbs. lighter than a year ago. When the week closed hogs sold at \$6@6.50 for heavy packers, \$6.75@7.50 for the heavy shipping kinds, \$7.40@7.95 for light bacon lots, \$8@8.15 for light shipping and \$7.25@8 for pigs.

Ewes and lambs declined about 50c last week, while yearlings and bucks showed at least 25c depreciation. Native ewes were in good supply and a fair amount of range wethers, but yearlings were scarce. Both native and western lambs were rather numerous compared with the previous week although fewer than a year ago. Saturday close on best lambs made \$9.05; ewes \$5.35; wethers \$5.90; yearlings \$7; bucks \$4.50.

That stock feeders feel resentful of a \$6@6.25 market for heavy packing hogs is demonstrated by the recently materially lessened receipts in the Chicago stock yards. Wide fluctuations have taken place in the middling class of mixed hogs, with only moderate changes in the best and the commonest droves much of the time. The pig crop of the country is remarkably free from disease as a general rule, and therefore very few pigs are moving to market.

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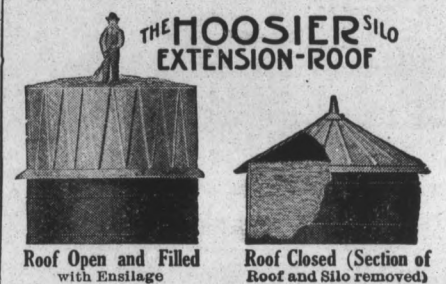
# \$-BEANS-\$

The Michigan Bean Growers' Association

Proposed Plan to Determine and Maintain a Fair Price for Beans.

1st.—The U. S. Department of Agriculture will make the crop estimate for beans which will be available September 10.—2nd.—The Michigan Bean Growers' Association will meet at Flint, Michigan, September 16th, 1915. Representatives from county organizations will meet with a committee appointed by The Michigan Bean Growers' Association, and endeavor to agree on a price basis for the 1915 crop of beans and will hope to establish an advancing scale of prices covering the months when beans are marketed. For example, if beans were to start at \$2.00 with a 10c advance each month to cover the cost of shrinkage, interest, insurance, etc., May beans would be \$2.80. (Mark these figures are only by way of illustration). War conditions with a report of peace would be an occasion for the speculator to demoralize the Bean Market. With a fair volume of beans moving and not dumping the crop on the market, there is every reason to feel a price maintenance that will realize to the farmer a 25 per cent increase over an average of past years. Michigan produces 75 per cent of the total white bean crop of the U. S. and co-operation in trading can be accomplished and a mutual benefit secured. This is an opportunity for the grower to have a hand in naming a price for his product. The Flint meeting will be open to every bean grower; in counties not organized interested growers should come.

MICH. BEAN GROWERS' ASSOCIATION,  
Jas. N. McBride, Sec'y. Frederick W. Swan, Pres.



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## THIS IS THE LAST EDITION.

The first edition is sent to those who have not expressed a desire for the latest markets. The late market edition will be sent on request at any time.

## DETROIT LIVE STOCK MARKETS.

## Thursday's Market.

September 9, 1915.  
Cattle.

Receipts 1923. There was a heavy supply of live stock on sale at the local yards again this week, especially in the cattle division where the quality was on the common order, there being a large number of light stuff and common cows in the receipts, which were draggy but the general market held about steady with the close last week and the market Thursday held steady. Nothing doing in stockers and feeders or milch cows yet. Best heavy steers \$8@8.25; best handy weight butcher steers \$7.25@7.50; mixed steers and heifers \$6.50@7; handy light butchers \$6@6.50; light butchers \$5.50@6; best cows \$5.50@6; butcher cows \$5@5.25; common cows \$4.25@4.75; canners \$3@4; best heavy bulls \$5.50@5.85; bologna bulls \$5@5.25.

Bishop, B. & H. sold Sullivan P. Co. 3 cows av 925 at \$5; to Parker, W. & Co. 4 canners av 850 at \$4; to Trumbull 2 bulls av 1105 at \$5.50, 1 do wgh 650 at \$5, 1 do wgh 730 at \$5, 2 do av 735 at \$5, 2 do av 1020 at \$5.50; to Breitenbeck 26 butchers av 870 at \$6.60, 1 canner wgh 920 at \$4, 1 cow wgh 990 at \$5.50; to Kamman B. Co. 28 butchers av 827 at \$6.75; to Mich. B. Co. 24 do av 814 at \$7, 3 do av 617 at \$6.50; to Mason B. Co. 1 bull wgh 950 at \$5.50, 12 butchers av 675 at \$6, 2 steers av 1040 at \$7.50; to Trumbull 2 bulls av 660 at \$5, 6 do av 850 at \$5.25, 2 do av 1450 at \$5.85; to Sullivan P. Co. 1 do wgh 1370 at \$5.75; to Hammond, S. & Co. 18 steers av 875 at \$7, 4 butchers av 1080 at \$6, 6 do av 1010 at \$7.50; to Newton B. Co. 4 do av 1150 at \$6; to Parker, W. & Co. 3 canners av 810 at \$4; to Sullivan P. Co. 1 do wgh 950 at \$4, 4 do av 1059 at \$5.50, 11 butchers av 807 at \$6.40, 14 steers av 1056 at \$7.65, 5 do av 864 at \$6.60; to Ratner 5 cows av 1116 at \$5.75; to Grant 29 butchers av 714 at \$5; to Thompson Bros. 6 steers av 1100 at \$7.85, 8 do av 800 at \$6.50, 3 cows av 980 at \$5.60; to Mason B. Co. 7 steers av 780 at \$6.50, 13 do av 970 at \$7.60; to Sullivan P. Co. 9 do av 935 at \$7.30, 11 cows av 1096 at \$5.50.

Roe Com. Co. sold Sullivan P. Co. 5 heifers av 530 at \$5.50, 6 cows av 930 at \$4.80; to Goodwin 1 do wgh 1200 at \$5.75; to Mason B. Co. 15 steers av 935 at \$6.65, 2 heifers av 765 at \$5.75, 1 cow wgh 800 at \$4.50; to Rattkowsky 4 butchers av 495 at \$6, 2 cows av 900 at \$5.25; to Kamman B. Co. 1 bull wgh 990 at \$5.50, 1 do wgh 920 at \$5.50, 1 do wgh 1280 at \$5.50, 3 do av 1017 at \$5.75; to Sullivan P. Co. 6 steers av 1140 at \$7.60, 20 do av 862 at \$6.25, 6 do av 666 at \$6.25, 7 do av 1007 at \$7.25, 7 do av 914 at \$7.25, 1 cow wgh 1250 at \$6; to Hammond, S. & Co. 16 steers av 1009 at \$7.40; to McNabb 16 do av 1286 at \$7.50; to Sullivan P. Co. 1 cow wgh 1250 at \$6; to Merritt 9 butchers av 714 at \$6.35, 8 do av 790 at \$6.35, 8 do av 820 at \$6.35; to Rattkowsky 2 cows av 935 at \$5.25, 1 do wgh 870 at \$4.75, 3 do av 940 at \$5.75.

Veal Calves. Receipts 539. The veal calf trade was dull and 50c@1 lower than last week, due to there being no Jews on hand, this being their New Years. Heavy grades were very dull and sold low. Best brought \$11@11.50, with once in a while an extra fancy one at \$12; mediums \$8@10; common and heavy \$5@7.50; the close was dull.

Sandel, S. B. & G. sold Parker, W. & Co. 15 av 160 at \$11; to Lowenstein 6 av 140 at \$12; to Sullivan P. Co. 5 av 185 at \$11.50, 13 av 170 at \$11.50, 3 av 175 at \$12, 1 wgh 250 at \$10; to Rattkowsky 2 av 350 at \$5.50; to Sullivan P. Co. 17 av 150 at \$11, 1 wgh 260 at \$9, 3 av 200 at \$11.50; to Burnstine 4 av 140 at \$11.50; to Nagle P. Co. 2 av 190 at \$11.

Sheep and Lambs. Receipts 6190. The sheep and lamb trade held about steady from start to finish. Swift & Co. were heavy buyers and were the means of keeping prices up. Without them they would have been much lower. Best lambs \$8.40@8.50; fair do. \$7.25@8; light to common do. \$6@7; fair to good sheep \$4.75@5; culls and common \$2.50@3.50.

Roe Com. Co. sold Barlage 26 lambs av 80 at \$8.25, 34 do av 75 at \$8.50, 6 sheep av 85 at \$4, 34 do av 120 at \$4.50; to Newton B. Co. 45 lambs av 80 at \$8.25, 44 do av 77 at \$8, 4 sheep av 90 at \$5.

Hogs. Receipts 5830. There was nothing doing in hogs until late in the day; prospects are steady to 5c higher, or pigs \$7.95@8.05; heavy \$7.50@7.75; mixed \$7.75@8.

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30x3	\$ 9.40	\$10.55	\$2.20	\$2.50
30x3½	11.90	13.35	2.60	2.90
32x3½	13.75	15.40	2.70	3.05
34x4	19.90	22.30	3.90	4.40
34x4½	27.30	30.55	4.80	5.40
36x4½	28.70	32.15	5.00	5.65
37x5	35.55	39.80	5.95	6.70

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**BIG BARGAIN SALE OF BARRED ROCKS.**—200 yearling hens that have laid 140 eggs each since Jan. 1st, 1915 to Aug. 1st, 1915 an average of 20 eggs per hen per month. Prices 6 hens \$10, 12 hens \$18, 20 hens \$25, 50 hens for \$60. They are pure bred, large and closely related to our first winners at Chicago, Cincinnati and Indianapolis shows. Suitable males to go with them at \$2 to \$5 each. 1500 young birds growing. G. EARL HOOVER, R. 7, Matthews, Indiana.

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**RHODE ISLAND REDS and PLYMOUTH ROCKS.**—Whites 5 to 12 lbs. according to age \$2 to \$5; P. R. hens weight 5 to 9 1/2 lbs., eggs 15 for \$1.00; P. R. eggs \$5 per 100. Mammoth Bronze Tom Turkeys, 8 to 38 lbs. according to age \$8 to \$25, 10 eggs \$3. A. E. Cramp ton, Vassar, Mich.

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**R. C. and S. C. RHODE ISLAND REDS** from prize color. JENNIE BUELL, Ann Arbor, Michigan.

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**Slaughter Sale of Barred & White Rocks** Cocks \$3.00 to \$5.00. Hens \$1.00 to \$3.00. Young stock after September 1st. Riverview Poultry Farm, Box 798, Union, City, Mich.

**SILVER Laced Golden and White Wyandotte Eggs** for hatching. Ten cents each or 30 for \$2.50. I pay parcel post charges. C. W. BROWNING, Portland, Michigan.

**S. W. C. LEGHORNS** Large, heavy laying two-year old breeding hens. \$55 per 100. EVERFRESH EGG FARM, Ionia, Michigan.

**White Wyandotte Eggs**—50c for 15, \$4.00 for 100. My two best pens \$2.00 for 15, \$3.75 for 30. DAVID RAY, 202 Forest Ave., Ypsilanti, Mich.

**White P. Rocks, Pekin and white runner ducks,** White guineas, eggs and day old ducks and chicks, H. V. HOSTETLER, St. Johns, Michigan.

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**FOX, COON, SKUNK AND RABBIT HOUNDS** Broke to gun and field. Prices right. Fox and Coon hound pups \$5 each. Stamp for reply. H. C. LYTLE, Fredericksburg, Ohio.

**HOUNDS FOR HUNTING**—Fox, Coon and Rabbits, all ages. 500 ferrets, send 2 cent stamp. W. E. LECKY, Holmesville, Ohio.

# Care of Hens During the Molting Period

I HEARD a farmer say the other day, "Cut down the feed now during molting because we're getting no eggs." Common sense indicates that the hens should be well fed and given a variety to get them through the strain of molting with as little damage as possible. It does not pay to starve hens or feed lightly at any time. Fat hens, well fed, molt earlier than poor ones. At our place hens are fed enough to keep them fat and we get a fair egg yield through the molt, and when winter comes they are in good condition for winter laying. Sunflower seed fed in small quantities each day is beneficial at this time and we mix a small amount of oil meal with bran and feed in hoppers to hasten molting.

#### Molting Less Severe in Small Breeds.

Some hens in a flock molt as rapidly they become almost bare. Others molt gradually, when a feather falls there is always a new ones to take its place and you can scarcely see the change. As a rule the smaller breeds feel the molt less severely than the larger breeds. Fowls of any breed that have a wide range suffer less severely from its effects than those confined in yards where we must supply nature's wants.

Poultry when thin of feathers are very sensitive to atmospheric changes. They need a dry shelter where they can retreat on windy, rainy days. Their quarters should be watertight and roosts so arranged that drafts cannot blow directly upon the half clothed birds. Anything that adds to

the comfort of the hens helps to bring them to a paying condition for winter. Under the best of conditions the process of shedding feathers is very exhausting. While the majority of the hens in a neglected flock may pull through successfully, many will contract colds and become so reduced in flesh that it will take months to build them up again, laying will be delayed and the hens will be in poor condition for the breeding season.

#### Male Birds Molt Slowly.

Hens will go through the change of plumage earlier and in less time when separated from the male birds. The

keep them apart from the hens until molt is completed; they do well in small quarters if kept clean and dry.

Stimulants and tonics are not needed as long as molting fowls are well fed and cared for. We must see that their roosting places are clean and free from lice and that drinking water is fresh and clean. We like to cull out the weaklings and old stuff at this season then we have more room and time to care for hens that are growing new jackets.

Indiana.

FRANCES WOOD.

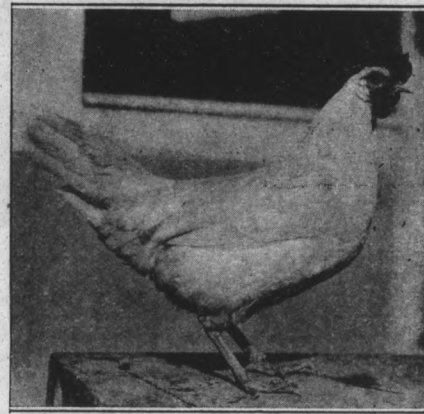
#### PURCHASE NEW STOCK IN THE FALL.

In introducing new blood into the flock through the purchase of either males or females, it is always advisable to purchase the new birds during late summer or early fall. When this is done one can be quite sure of getting early-hatched cockerels or pullets as no breeder would think of disposing of his late-hatched stock at this time, as the birds are not yet fully grown. If, however, the purchase is delayed until just before the breeding season, as is frequently done, one cannot tell the early-hatched from those hatched several months late, as all are fully grown or nearly so.

Another advantage of purchasing birds during the late summer or early fall is that the birds will have time to become accustomed to the changed environments and the changed manner of feeding.

Indiana.

T. Z. RICHEY.



Well-bred Stock is Profitable.

cock's long feathers are slow growing—takes longer for them to molt than the hens. And we notice the old male birds are often ill natured and mistreat the hens when eating. Best to

## Managing the Bee Business for Profit

WE had sixty-five swarms of long-tongued red clover Italian bees at the time the photo on this page was taken. We started in with common bees, then improved the strain by buying good queens, paying as high as \$5.00 for one, then used her daughters to re-queen the other colonies. Half of our hives are double-walled chaff and the rest single-walled, but all are kept painted; the roofs are red rope roofing paper which has proven satisfactory. We have stored the bees during the cold weather, in the cellar of our home, which is ventilated and partitioned off for them, but it means so much work to do this, so this fall all the bees will be moved over into chaff hives and kept in sheds out doors.

#### Spring Management.

Early in the spring we look them over and those needing feed are attended to. We keep all laying queens' wings clipped and the grass mowed with a lawn mower around all hives, so it is a very easy matter to find the queen when the bees swarm, and put her in a little cage made out of wire netting in front of the hive or among the flying bees, who will never leave without her, unless they have a young queen, which is also rarely the case.

If we want to increase the swarms

we move the old hive back with entrance turned half way around, and place a new hive on the old stand. This new hive contains four frames with starters and division board; the rest of the space is filled with a chaff cushion. The queen is placed in the new hive in her cake and the cluster of bees shaken in front. They will run in as soon as they find her, and generally go to work. We have on this new hive the zinc honey board and holder of sections. As soon as the bees quiet down we liberate the queen. Those bees which are at work in the fields on returning will go into this hive and in a few days we have nearly all the workers, and the old hive is moved to a new stand and all queen cells except one cut out to prevent further swarming.

#### Strengthening Swarms.

Sometimes when the after swarms are small we put several together, keeping one queen. If we do not want more swarms we put the queen back in the old hive and destroy all queen cells. When a swarm goes out with a young queen, as they sometimes do when the young queen goes out to mate and they do not seem inclined to cluster, we spray them with a force pump and that generally brings them down. When they have clustered we

find the queen, who will be running around on the outside of the bunch, put her in a cage and then put the bees in a hive.

Heretofore we have run our apiary principally for comb honey. My husband gets out all hives, sections, holders and fences himself during spare time. He has a buzz-saw which is run by a two and a half horsepower gasoline engine. We use full sheets of foundation in the sections, which are placed in holders. We have these ready for use a long time before the time for swarming, generally two holders of 24 sections for each hive.

#### Selling the Honey.

Before selling our honey every section is cleaned of propolis and graded carefully. We have no trouble getting a good price for all we can produce. One year we shipped over 1,000 lbs. to a firm in Columbus, Ohio, packed so carefully that not a single section was broken in transit. My husband stamps his name and address on all sections. We use 4x5 plain sections. We always have some extracted honey, and when we sell that it is also labeled. I think a neat label attracts the eye and it is also a guarantee that the article is good, for on one would care to put his name on an inferior article.

MRS. H. HAYNES.

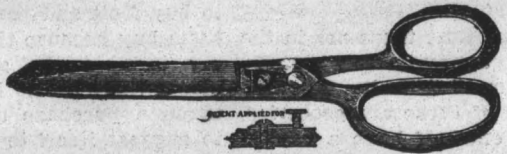


The Well Managed Apiary of Sixty-five Swarms, Belonging to Harvey Haynes, of Branch County.



# PLEASE TAKE NOTICE!

Any One of These Articles Free for a Small Club or at a Low Cost.



## Patent Tension Shears

Good quality of material, eight inches long, with patent adjustable spring tension bolt, preventing the blades from spreading, and giving a clean cut the full length. We have sent out thousands of these with excellent reports from users and they have been one of our most popular premiums. Shears alone, Free for sending a club of two subscribers to the Michigan Farmer.

The Michigan Farmer, one year \$ .50  
Tension Shears, value..... .50  
Or with the Michigan Farmer 3 years \$1.20; 5 years \$1.70.

OUR PRICE  
**BOTH 70c**  
POSTPAID.

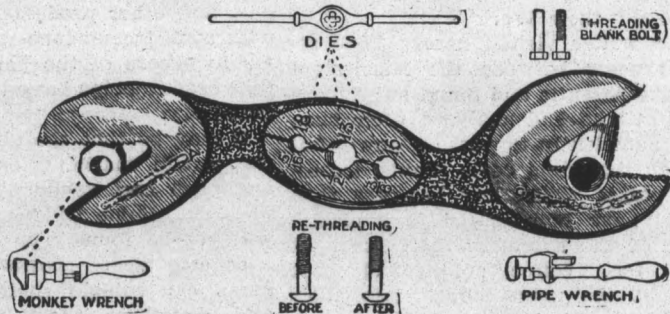


## BOYS WATCH.

Every boy, young or old, would be proud to carry one of these watches. It is 16 size, with a nickel case. Stem set and wind. Regular watch movement with hair spring. Guaranteed by the makers and repaired free of charge for one year, if given ordinary care. Any boy who really wants a watch can easily earn one in one afternoon.

The watch alone free for sending three subscriptions to the Michigan Farmer.

The Michigan Farmer, 1 year \$ .50  
Boys Watch, value 1.00  
OUR PRICE  
**BOTH \$1.25**  
POSTPAID.



## Farmers Ideal Combination Wrench

Six Handy Farm tools in one. A pipe wrench, nut wrench, a screw driver and three dies for cleaning up and rethreading rusted and battered threads. Dies fit all standard bolts used on standard farm machinery. Requires no adjustment, never slips. Will work in closer quarters than any other wrench. Every farmer should carry one of these handy little wrenches on a binder, reaper, mower, etc. They are light, strong, compact and easily carried in the hip pocket.

The Michigan Farmer, one year \$ .50  
Combination Wrench, Value .50  
Or with the Michigan Farmer 3 years \$1.35, 5 years \$1.85.  
Wrench alone free for sending a club of two subscribers to The Michigan Farmer.

OUR PRICE  
**BOTH 85c**  
POSTPAID.

## Gleason's Veterinary Hand Book and System of Horse Training.



Practically two books in one.  
Part One: The Discovery and Practice of Veterinary Science, Diseases of Horses, Cattle, Sheep, Poultry, Swine, Dogs and Birds, and their Remedies.

Part Two: System of Horse-training Devised and Practiced by Prof. Gleason. This System was investigated by the United States Congress and ordered for use in the United States Army. The book has 500 pages, is bound in Heavy Paper Covers and Illustrated.

The Michigan Farmer, 1 year \$ .50  
Gleason's Horse Book, value .50  
Or with the Michigan Farmer 3 years \$1.30; 5 years \$1.75.

OUR PRICE  
**BOTH 80c**  
POSTPAID.

Book alone, Free for sending a club of two subscribers to the Michigan Farmer.

## Ropp's New Commercial Calculator and Short-Cut Arithmetic

This Calculator is the latest edition and is absolutely up-to-date. It will prevent mistakes, relieve the mind, save labor, time, money and do all of your figuring easily, quickly and accurately.

We believe this Calculator to be the most complete and convenient book for practical use ever published. It contains short-cuts, hundreds of simple rules and original methods for easy and rapid calculation, and millions of accurate answers to business examples and practical problems.

If you prefer the simplest, shortest and easiest way to do your work you need this book. It enables you to become quick at figuring. The usefulness of the table is that the complete answer is seen at a glance, without having to find and read several partial answers.

This book is 6 1/2 inches long and 3 3/4 inches wide, has 160 pages, with cloth binding and title in black ink.

The Michigan Farmer, 1 year \$ .50  
Ropp's Calculator, value .50  
Or with the Michigan Farmer 3 yrs. \$1.25; 5 yrs. \$1.75.

OUR PRICE  
**BOTH 75c**  
POSTPAID.

## No Keys—Merely Press the Buttons

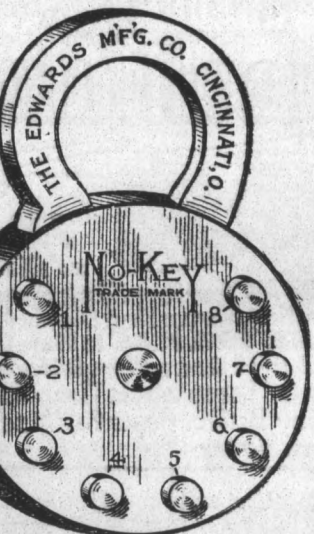
Here's a lock that requires No Key—no knobs to turn—no clicks to count. To open it, just put your fingers on the buttons—the right buttons, and pinch—just a little bit. It flies open at once. But if you don't know the right buttons, you cannot open it—and you cannot pick it, for there's nothing to pick. Opening the No-Key Padlock when you know the combination is just as simple as turning on the electric light.

## The Only Practical Keyless Lock

Is indispensable to the owner of an automobile, motorcycle, boat or bicycle. It is the most convenient and practical padlock to lock speed and spark levers, tool boxes, to remove gloves or wash greasy extra tires, garages, etc. No need hands—no use for matches as the lock can be operated as quickly and easily in the dark as in the light.

It is the best lock ever devised for locking the stable, the machine and tool house, or any of the out-buildings. There are no bothersome keys to mislay or forget, to send for or go after, to take from your pocket, to look for on a key ring among numerous other keys, or to hide away for others to find and to use.

The Michigan Farmer, 1 year \$ .50  
No Key Padlock, value 1.00  
Or with the Michigan Farmer 3 yrs. \$1.75; 5 yrs. \$2.25.



## Myers' "Awl for All"

LOCK STITCH SEWING AWL, with straight and curved needles. Makes a lock stitch with one thread and one operation. For harness, sacks, canvas or any heavy sewing. Regular price of this awl is \$1.00.

The Michigan Farmer, one year \$ .50  
Myers' Lock Stitch Awl, value 1.00  
Or with the Michigan Farmer 3 years \$1.40; 5 years \$1.80.  
Free for a club of two subscribers to the Michigan Farmer.  
Send your order to the Michigan Farmer, Detroit, Mich.

OUR PRICE  
**BOTH 90c**  
POSTPAID.

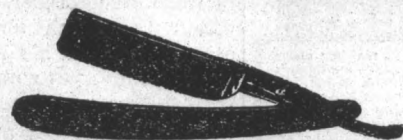


## "Presto" the "All-in-One" Razor Strop

This strop is made from the finest horsehide leather, tanned by special processes, then chemically treated with "all-in-one" solution. This preparation is so thoroughly incorporated in the leather than it is guaranteed not to peel, wear, scrape or wash off. Any man can strop a razor with as keen an edge as can the most expert barber. A few strokes on the sharpening side, followed by a like number on the finishing side does the trick. The lot we have purchased are "Extra Strong" and it requires but little stropping to bring a dull blade to a hair-splitting edge.

The Michigan Farmer, one year \$ .50  
Presto Razor Strop, value 1.00  
Or with the Michigan Farmer 3 years \$1.50, 5 years \$2.00.  
Strop alone, free for sending a club of two subscribers to the Michigan Farmer.

OUR PRICE  
**BOTH \$1.00**  
POSTPAID.



## A Genuine High Grade Razor.

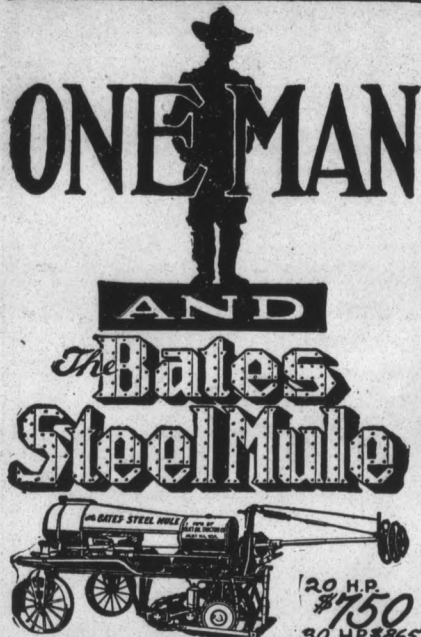
Not a cheap razor such as is generally used as a premium. It is made of best steel, ivory handle, hollow ground concave blade; honed and stropped ready for use. Guaranteed to give satisfaction.

The Michigan Farmer, one year \$ .50  
Extra Fine Razor, big value at.....1.00  
Or with the Michigan Farmer 3 years \$1.50; 5 years \$2.00.  
Razor alone, Free for sending a club of two subscribers to the Michigan Farmer.

OUR PRICE  
**BOTH \$1.00**  
POSTPAID.

Address all orders to  
**The Michigan Farmer, Detroit, Mich.**





**Will Do All Your Farm Work, Plowing, Cultivating, Harvesting, Discing, Etc. The BATES STEEL MULE Is More Than A Tractor. It Does More Different Kinds Of Farm Work Than Any Tractor Built. Pays For Itself In One Year.**



One Man Plows 10 Acres a Day



One Man Harvests 40 Acres a Day



One Man Drills 50 Acres a Day



One Man Discs 35 Acres a Day



One Man Mows 35 Acres a Day



One Man Cultivates 31 Acres a Day

**Its CRAWLER Always Gets A Foothold—And Besides, Packs The Ground Less Than A Man On Any Kind Of Soil.**



**Write For All The Facts Now. JOLIET OIL TRACTOR CO. 692 BENTON ST. JOLIET ILL.**

## Get A Money Making SANDWICH Hay Press

—the famous motor press that is making clear profits of \$10, \$15, \$20 a day for shrewd farmers everywhere. Makes its own power (4, 6, or 8 H. P.) from simple gas engine on same truck. Both Press and Engine made in our own factory. You can

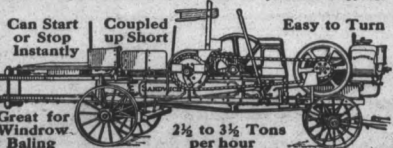
### Break All Baling Records

in your neighborhood with the fast working Sandwich Motor Press. Sure certain operation—solid salable bales. Friction clutch right on press. Heavy "can't slip" steel chain belt. Simple self feeder and block dropper. Engine with Magneto. We make Horse and Belt Power Presses too.

### Get Our Book

—"Tons Tall"—packed from cover to cover with valuable hay baling facts. Show in actual figures the big profits you can make with a Sandwich Press. A postal brings a copy FREE. Write NOW! Address

SANDWICH MFG. CO., 5140AK ST., SANDWICH, ILL. Box 514, Council Bluffs, Ia. Box 514, Kansas City, Mo.



Great for Windrow Baling 2½ to 3½ Tons per hour

**Be Sure To Write Tonight!**

## THE CONSUMER'S DOLLAR

Continued from Page 222)

products are both cheap and good. Large selling organizations realize this condition and the necessity for educating the public as to what and when to buy. The advertising campaign started recently by the north-western apple shippers is designed to teach the public when to buy their leading varieties of apples in order to get them when they are cheap and of the best quality. These growers have realized that if their rapidly increasing output is to go into consumption at profitable prices for the grower they must educate people to buy advantageously and intelligently if people are to eat more apples and more people eat apples.

### Assisting the Dealer.

The shippers of oranges are making every effort to supply the retailer with sales helps, to give him material with which to trim his windows, to show him how to arrange his fruit in an attractive way, and how—if he will work on a reasonably small margin—he can dispose of his fruit with such rapidity that he will always have only fresh perishables. Few retailers make volume of business their chief aim and their overhead costs always remain high.

The average retailer is slow to take advantage of these efforts on the part of the shipper. The grower has realized that only by helping the retailer can he help himself, but the average retailer is reluctant to believe that such advances on the part of shippers will work to their mutual advantage.

As a general thing the average retailer prefers to handle two boxes of apples at a profit of one dollar each than to handle five at a profit of fifty cents each and he stubbornly refuses to improve his policy. This means that fewer people can enjoy apples and that the supply will not go into consumption as rapidly as it should nor with the returns which the grower has a right to expect. And even the retailer himself is not receiving benefit. The grocer is cautious about buying more perishables than his accustomed trade will move off and chooses to buy the usual quantity and hold it at a wide margin of profit rather than take the risk of buying on a low market and working up a demand for the goods.

### Make Fruit the Goat.

While the retailing price on canned goods and staples is usually more or less under the influence of the manufacturer who allows the grocer only a small profit, in fruits and produce the retailer readily sees an opportunity to quote the highest price which competition will permit. The general business depression throughout the country this year tempted the groceryman to try to derive a larger proportion of his profits from perishables after he found that he could not move his regular grocery stock at the fixed prices of the manufacturer. Under this condition the much abused middle-man often conducted his business at an actual loss and yet complaining that the fruit did not move as it should.

### Good Business Sense Needed.

While the demand for fresh fruits and produce has unquestionably decreased this year because of the country's low buying power, the retailer, by keeping his prices above what is reasonable is making much larger profits than were before possible because of the low cost prices. And it is likely that many jobbers' salesmen are telling the retailer how much profit he can make on a box of oranges, or of apples to make a sale, rather than looking ahead and showing him how on a small margin he may build up a lively demand, effect a rapid turn-over and have a more attractive stock by making more frequent purchases. Such methods mean that the retailer without increasing

his own profits, stagnates the markets and deprives people of commodities which should be within their reach. Many salesmen, blind to the future, overstock a retailer so that the resultant loss discourages him from handling fruit.

### Our Grocery Business.

The chief weakness in the present retailing system is the incompetency of the men engaged in it. The average retailer is the poorest sort of a business man, or, more correctly, no business man at all.

At the present time there are in the United States approximately 300,000 retail stores handling fruit. Approximately 200,000 of these are groceries. Of the latter, one-half have a capital of less than \$1,000; 56,000 have a capital of from \$1,000 to \$3,000; 28,000 have a capital of from \$3,000 to \$5,000. Over 25 per cent of the grocers go out of business each year and new ones take their places. At the present time probably 60 per cent of the grocers of this country are bankrupt and would have to close their stores should the wholesale dealers shut off their credit.

The grocery business is not as attractive as it was at one time. This means that the better men gravitate toward other vocations. Few grocers ever amass any great wealth. Most of them are poor. In modern times the percentage of grocers who occupy high positions in their community life is small. With the lowering of the type of manager and clerk the efficiency has decreased.

### Comparatively Few Grocerymen Know their Work Well.

The writer visited nearly 3,000 retail grocers between the Mississippi and the Atlantic and found but a mere handful who had analysed their business sufficiently to possess any information regarding costs profits, losses, and points which any business man would have had figured to a nicety. Most of the average dealers thought that tea, coffee, spices and meat brought the most money into their cash drawer but were completely baffled when questions regarding percentage of profit or markup, cost of doing business and other factors were mentioned. A few said emphatically that there was not money to be made any more in perishables because every sort of store was handling them.

### Producer will Force New Conditions.

The present retailing system is on the verge of a transformation which will be no less important to both producers and consumers than was the co-operative selling agency to the wholesale marketing field. The superficial clamor of the consuming public has failed to bring about the results desired. But the producer, himself, is coming to see the importance of the retailing system on his own success and it will be from that source that a solution may be expected.

During the first of the year the Yakima Valley Fruit Growers' Association unanimously passed the following resolution:

"Resolved, that this meeting express its hearty approval of every effort which has been made in the past to build its own marketing agency whereby the products of our orchards are brought direct to the wholesalers and the retailers of the country, and to secure for these products the widest sort of distribution, and

"Resolved, that we instruct our representatives to do everything in their power to hasten the time when all of our products shall be offered direct to the trade without the intervention of brokerage firms, commission men and commission houses."

### Can Producers Support a Retailing System?

The expression of such sentiment has been particularly frequent on the part of other producers during the past season when most markets suffered from the country's low buying

power. Such ideas, probably hastily conceived, are only the forerunners of forces which will transform the retailing system and reorganize it upon new principles to both producer's and consumer's advantage.

It is fundamentally unsound for any organization handling perishables to attempt to maintain its own retailing complex organization or take the risks involved. To sell through fewer retailers would curtail consumption. People do not hunt and shop around to buy fruit and perishables. Most of them buy because they see fruit at every turn in the street. The more places there are to buy apples the more times a purchase of apples is going to suggest itself to the consumer and the more apples there will be eaten.

If more stores would emulate that type which we termed the popular market a great stride in the improvement of the retailing system would have been made. These stores aim at volume. By carrying their business on a cash or cash-on-delivery basis they reduce costs and losses. By refusing to make over a specified percentage of profit (and that a very low one) on any commodity and by making every commodity earn its space they secure an enormous trade. A public market store of this type in Providence, R. I., does a three million dollar business every year.

### A Genius May be Needed.

But these stores are few and the number is not increasing sufficiently to materially improve the situation.

The acreage of lemons, grape fruit, oranges, apples, peaches, grapes, melons, and other products is increasing with such tremendous rapidity and so far in excess of the population gains that drastic steps have become almost necessary.

It may be that the chain stores, or the public markets, or the huxters and push cart vendors can solve the problem. Some believe that a genius will yet be found who can work out a scheme where growers of like products can mingle their commodities and distribute them through their jointly-owned retailing system. Perhaps the public may be induced to change its mind and shun expensive service. Or, what is more probable and more practical, growers and grower's organizations will come to consider the jobber and retailer as their salesmen—salesmen who share the risks of distribution. Producers will aim to increase the number of retailers and not to eliminate them. They will take them into their confidence, co-operate with them. Give them not only good products and dependable service but teach them better business methods and they will advertise to move the perishables from the retailer's store.

After all it is the retailer who sells the bulk of the farmer's products. If he is a good business man he will sell what the people want in the kind of store and in the manner that people want them sold. Poor goods, dishonesty, and an over-supply clog the marketing channels. You can sell goods to any man once. But he won't take any more until those are gone. Show him how to create a demand. Help him sell. That means a re-order for you.

### FEEDING LAMBS DIFFICULT TO SECURE.

The Chicago quarantine regulations have prevented the sales of feeder lambs or sheep in that market, and Omaha has been getting most of the trade, a fair to good class of feeder lambs selling there for \$7.50@8.15, with an \$8.30 top a short time ago. Feeding yearlings and old sheep are very scarce. It is almost certain that there will be a greatly inadequate supply of feeding lambs and sheep this year and that high prices will prevail. Lambs have been selling on the Chicago market of late higher than a year ago, and the same holds true of yearlings, wethers and ewes, although the advance is wholly disproportionate to the great reduction in the supply.



## Grange.

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

### THE GRANGE AND CO-OPERATION.

One of the chief functions of the Grange is to create a greater interest in general agriculture, promote agricultural interests and instruct the farmer in the most modern and economical methods of conducting farm operations. It is not the farmer who makes two blades of grass grow where but one grew before, that is the best farmer, or the greatest benefactor to his race, but the one who grows the extra blades at the least expense and leaves the soil in a better state of fertility than when he took it. It is not to be understood that the sole function of the Grange is that of imparting instruction, or conveying knowledge, but it has a much higher motive—that of developing a higher type of citizenship. Literally speaking, the Grange does not teach agriculture nor agricultural methods, but teaches men and women. Agriculture is only a means to an end, the tool used to sharpen afford to finance such a gigantic and the individual.

Agriculture is the foundation upon which rests all industrial and commercial structures. All wealth either comes out of the soil or from beneath the soil. The farmer is therefore the most important factor in developing the prosperity of the state or nation, and ought to be the chief concern of the government. He feeds and clothes the world. When crops fail all must suffer with him. Those who attack his interests injure themselves. Should the foundation give way, the house cannot stand. Every human being engaged in a legitimate business should be the farmer's friend. But important as the farmer is, he is under no obligation, either legally or morally, to feed and clothe the world without just compensation for his labor. He has the natural right to name the lowest price at which his products shall sell when placed on the market. This right is claimed by every man who makes an article of commerce. The power to fix prices determines what the profits shall be, and who shall get them. If gamblers, speculators and commission men fix the price of farm products, the profits derived therefrom will go to them. This is good for them, but bad for the farmer and the consumer, as it tends to impoverish the community in which the products were procured, as well as the community where they are consumed.

Good prices and good times are inseparable, just as low prices and hard times go hand in hand. In all the annals of the world there is not to be found a single exception to this rule. We seek to make good times permanent by establishing good prices for farm products. Good prices and good marketing facilities are more essential to successful farming than soil fertility. It is a self-evident fact that the farmer who farms his farm has a better right to fix the minimum price on the fruits of his labor, than the speculator who farms the farmer. The chief difference between the farmer and the trust magnate lies in the fact that the trust magnate works every body for himself, and the farmer works himself for everybody.

(To be continued).

### COMING EVENTS.

Washtenaw Pomona Grange will meet with Ypsilanti Grange, in the Masonic Temple, Tuesday, Sept. 14. A well arranged program is prepared and will include memorial services, a play, "The Ten Virgins," and an address by Mrs. O. J. C. Woodman, state speaker, on the subject, "Temperance," besides the regular music and recitations.

## Farmers' Clubs

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

### Associational Motto:

"The skillful hand with cultured mind is the farmer's most valuable asset."

### Associational Sentiment:

"The Farmer: He garners from the soil the primal wealth of nations."

### SEED CORN DAY.

In view of the backward condition of the corn crop in that state, the Agricultural Extension Division of the University of Minnesota has issued an appeal to the Farmers' Clubs of the state to carefully consider the seed corn question at the next meeting of the Club, or at a special meeting called for the purpose if need be. The plan suggested for adoption is the setting apart of a day to be known as Seed Corn Day, on which date all Club members will select from their own fields, or from some field of matured corn in the neighborhood upon arrangement with the owner, a sufficient amount of seed corn for next year's planting. It is suggested that the day be rounded out by a general picnic or meeting, in connection with which a boys' and girls' seed-selection contest might be carried out. In this way a most enjoyable day might be spent by the members, each one of whom would also make sure of sufficient seed corn for next year's planting.

This suggestion would be as practical for Michigan Clubs as for those of Minnesota. This is a kind of work which is in line with the practical suggestions made in this department last week in the article urging upon Club members the importance of broadening the practical work of the local Clubs.

### CLUB DISCUSSIONS.

**Quantity vs. Quality.**—The Conway Union Farmers' Club was entertained at the home of Mr. and Mrs. James Wilkinson, Friday, August 27. First subject, "which pays the better, quantity or quality of crops on the farm, and which gives the better results?" was opened by O. E. Carr, who said he was better satisfied with a good quality; great prospects for corn this year if it can get ripe. Sumner Grant opened the discussion and thought quality pays best; he aims to raise good quality of crops, gives better results in the long run. J. B. Rambo would select good seed, work and prepare a good seed bed and the result will be both quality and quantity.

**Farm Tractors.**—George Stow told of what he saw at the tractor show, first giving an outline of the trip by auto to Chicago, left machine and went by rail from Chicago to Champaign, seat of Illinois State University, where tractor demonstration was held. Thirty companies were represented, about 100 machines, besides several companies exhibiting plows and other equipment. Tractors of two, three and four wheel type, also one, two and four-cylinder machines were exhibited. Thorne Snyder gave a brief description of the plowing. Each company had a narrow strip of land on which to demonstrate; about 10,000 people witnessed the plowing, but on account of unfavorable weather no plowing contest was held to determine the best machine as to fuel consumption, etc.

**The Family Horse.**—"Which should be given the first place on the farm, the automobile or the old family horse?" Mrs. Snyder said they had but one old horse left but it was afraid of autos, but thought it nice to have a safe horse on the farm for any member of the family to drive. Discussion led by Mrs. N. Franks. A family horse is much needed, especially for younger members of the family to go on errands, etc. The question box was well filled, much interest shown, and many helpful hints gleaned. The next meeting will be with Mrs. Joseph Franks in Fowlerville.—Mrs. George Stow, Cor. Sec.

# GLASTENBURY HEALTH UNDERWEAR



## FOR MEN

**Safety First, Last and All the Time**—against Sudden Chills, Colds, Pneumonia and Rheumatism.

Famous over half a century for its superior qualities.

Every garment shaped to the figure and **guaranteed not to shrink.**

**Glastenbury Two-Piece, Flat Knit Spring-Needle Underwear** is made in fifteen grades, several weights of fine wools, worsted and merino.

See special feature of **adjustable drawer bands on**

Natural Gray Wool, <b>winter weight</b> .....	per garment	\$1.50
Natural Gray Wool, <b>winter weight</b> (double thread).....	per garment	1.75
Natural Gray Worsted, <b>light weight</b> .....	per garment	1.50
Natural Gray Australian Lamb's Wool, <b>light weight</b> .....	per garment	1.75
Natural Gray Worsted, <b>medium weight</b> .....	per garment	2.00
Natural Gray Australian Lamb's Wool, <b>winter weight</b> .....	per garment	2.50

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Write for booklet—sample cuttings. Yours for the asking.  
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**Glastenbury Knitting Company, Glastenbury, Conn.**

## WEST MICHIGAN

# STATE FAIR

Grand Rapids, September 20 to 24

GRAND \$10,000.00

# AVIATION MEET



American, French, German and Italian Air Pilots  
in a Thrilling, Spectacular

## "Battle In the Clouds"

See the Sensational Aerial Warfare Every Day

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The "Joy Zone" Daylight Fireworks Aeroplanes Auto Show  
Day and Night Auto Races Horse Races Wild West Show  
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Live Stock and Dairy Show, Poultry Show, Dog Show,  
Agriculture and Horticulture, Farm Machinery  
and Implements.

# West Michigan State Fair

Grand Rapids, September 20 to 24



## Dip Your Hogs—Spray the Pens TO PREVENT DISEASE

Remember 1914? The stock diseases that swept over and ravished farms everywhere? I wonder how much longer farmers are going to try raising healthy stock without disinfecting, dipping, common, everyday cleanliness. The man who dips his hogs, sprays his pens, stables, troughs, etc., destroys germs and keeps the air pure and sweet with Dr. Hess Dip and Disinfectant, need have little fear of disease. Here are a few pointers about

### Dr. Hess Dip and Disinfectant

One Gallon Makes 70 to 100 Gallons Solution

It is both a stock dip and disinfectant, saving the expense of buying two preparations. It is uniform in strength—non-poisonous and non-irritating. It kills lice on farm stock and disease germs; cures parasitic skin diseases. It is a sure remedy for scab and sheep ticks. It is a reliable disinfectant for sinks, drains, troughs, garbage cans, outhouses, etc. Good alike for home and stable. Sold under a money-back guarantee. Put up in pints, quarts, half-gallons, gallons and barrels.

DR. HESS & CLARK, Ashland, Ohio

Dr. Hess Fly Chaser doesn't gum, color or blister. Makes stock comfortable.



1 gallon  
can \$1.00

Smaller pack-  
ages as low as  
25c (except in  
Canada and  
far West).

## Veterinary.

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

Advice through this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also name and address of writer. Initials only will be published. Many queries are answered that apply to the same ailments. If this column is watched carefully you will probably find the desired information in a reply that has been made to someone else. When reply by mail is requested, it becomes private practice, and a fee of \$1.00 must accompany letter.

**Wounded Udder—Nervous Mare.**—I have a cow that tore two of her teats two months ago, since then she has not done well and our local Vet. removed one of the teats, also gave me medicine to dry her, boils have appeared on different parts of udder. I also have a mare 11 years old that is of a nervous temperament and when driven perspires quite freely. F. B., Mancelona, Mich.—Apply equal parts of powdered alum, oxide of zinc, boric acid and charcoal to wounds on udder twice a day. Give her a ½ oz. of Donovan's solution of arsenic three times a day. Your mare is perhaps in a normal condition, but one of the kind that becomes easily excited and perspires readily. I suggest that she be handled quietly, kindly and if heavily coated, clip her.

**Indigestion.**—I have a two-year-old heifer that has belched up food occasionally for the past 30 days, but she appears to be well. V. E., Levering, Mich.—Give her 1 oz. doses of hypophosphite of soda with her feed three times a day, or dissolve it in a quart of water and give it as a drench and in a week or ten days if she shows improvement gradually reduce dose of medicine.

**Sore Teats.**—Kindly advise treatment for cow with sore teats. This same cow has had two different attacks of garget since she came fresh and is now not giving much milk. H. D., Pewamo, Mich.—Apply one part oxide of zinc and four parts vaseline to sore teats twice a day. Give her a teaspoonful of powdered nitrate of potash at a dose in feed twice a day.

**Spasm of Larynx.**—Recently I lost by death two shoats that weighed nearly 100 lbs. each. I fed them just plain swill, a fit of coughing and choking set in which lasted about 30 minutes, then the hog was dead. The last one that died showed a little different symptoms and I opened them, but failed to find anything wrong. D. O'C., Cloverdale, Mich.—Your hogs die the result of spasm of larynx or a closing of throat which is perhaps caused by feeding cold drinks. If you meet with another case rub throat with spirits of camphor every hour or two, and give spirits of camphor in small doses, every 30 minutes.

**Barren Sows.**—I have two Chester-white sows 11 and 14 months old, that do not come in heat. W. E. S., Mt. Clemens, Mich.—Give each of them 10 grs. ground nux vomica and 60 grs. of powdered capsicum at a dose in feed twice a day.

**Limberneck.**—I would like some information on a poultry disease called limberneck. Our chickens are affected. It seems to affect them when they are about only half grown. Their necks are limber as a cord, they have no control of head, which hinders them from eating or drinking, and even walking. They travel in a circle until they topple over and starve to death in the course of two or three days. We have lost ten fine pullets, have some sick now, and would like to know cause as well as cure for this disease. Mrs. G. E., Jackson, Mich.—Limberneck is usually caused by eating decayed flesh or other kinds of food containing ptomaine. It is popularly believed that eating maggots will cause this ailment, but it is not the case. It is the decomposed meat containing ptomaine of some kind that causes this peculiar condition of fowls. If fowls could vomit their life might be saved after eating, but when food is once taken into the crop, it usually remains there unless taken out artificially or digested. If taken in the first stages, opening the crop and removing its entire contents, then stitching up the skin and crop, a whole lot of cases will recover. In mild cases a dose of castor oil or epsom salts will often work very well, and I have known good results to follow giving a small dose of camphor and a dessertspoonful of kerosene oil, also fairly good results may be obtained by giving a dessertspoonful of peroxide of hydrogen in an ounce or two of olive oil. You should change your fowls' feed and their run. This will perhaps remove the cause and prevent further loss.

**Kidney Disease.**—I have a four-year-old colt that has kidney trouble several times a week and these spells last about one day; he perspires freely and I believe it is on account of his suffering pain. What had I better give him? E. V., Camden, Mich.—I am inclined to believe that the sick spells you speak of are perhaps attacks of acute indigestion and, of course, the kidneys are always inactive while pain lasts. Mix together equal parts acetate of potash, ground ginger, gentian and charcoal, give a tablespoonful at a dose in feed two or three times a day.

**Hernia.**—Have a two-month-old filly that has a breach about the size of a small hen egg which I noticed only a few days ago. I have applied a bandage and will continue using it until I hear from you. B. N., Charlevoix, Mich.—Unless the rupture causes pain you had better leave the filly alone until autumn, then have her operated on by a skilled Vet. and she will get well. Bandaging and using a pad is proper treatment; however, if the hernia is not extensive, it is perhaps unnecessary.

**Weakness.**—We have a 12-year-old horse that was brought from Ohio early last spring, which appears to be weak and often stops, acting as though he wanted to urinate. A. M., McBain, Mich.—Give him 1 dr. of ground nux vomica, ½ oz. of ground gentian and 2 drs. of acetate of potash at a dose twice a day.

**Chronic Cough.**—My horses had distemper last spring; since then they are inclined to cough when exerted. R. F. F., Whittemore, Mich.—Mix together equal parts of powdered licorice, ginger, gentian and charcoal, and give a tablespoonful at a dose two or three times a day.

**Fistula.**—We have a colt ten weeks old that has had a running sore on side of head between eye and ear since it was a week old. Some days it discharges very little, other days not so much. B. V. D., Allendale, Mich.—Perhaps the diseased bone should be curetted, then apply one part carbolic acid and 19 parts water, or apply one part iodoform and seven parts powdered alum daily.

**Ulcerated Cornea.**—We are having trouble in our herd of cattle in the form of a growth in the eye which starts with a small pimple on the eye ball and gradually forms pus. Whatever it is, it usually produces blindness as it covers the entire eyeball. F. S., Flint, Mich.—If there is any pus on eye, apply one part peroxide of hydrogen and four parts water to clean eye ball, then blow on some calomel once or twice a day; this should clear the eye ball. Another very good lotion is made by dissolving 80 grs. of borate of soda, 80 grs. of boric acid in half a pint of water and applying this to the eye two or three times a day.

**Congestion of Udder.**—I have a cow that has been fresh twice and is soon to come fresh again. Both times her udder has been caked very bad and I thought perhaps you could tell me what I had better do. F. M., Belleville, Mich.—It is possible that your cow should be partially milked twice a day before she freshens; however, this is only justifiable if the udder is congested and inclined to be inflamed. Apply one part fluid extract phytolacca, one part fluid extract belladonna and four parts olive oil once or twice a day. Feed her nothing but grass, and if possible prevent her from bruising udder.

**Warts.**—Since last spring my yearling heifer has had a great many warts on face and several parts of the body. L. G., Park Lake, Mich.—Apply a saturated solution of salicylic acid in alcohol every day or two, and occasionally apply olive oil to warts.

**Sweeney.**—I have a three-year-old colt that has been sweeney ever since last spring, but is not lame. N. A. B., Wayne, Mich.—Clip hair off and apply one part powdered cantharides and four parts fresh lard twice a month. Walking exercise or moderate work will not do any harm if colt is not lame.

**Pinworms.**—I have a horse that is troubled with pinworms and is inclined to rub his tail. M. C. G., Wayland, Mich.—Put 1 oz. of coal tar disinfectant in three pints of tepid water and wash out rectum every day or two, and apply one part bichloride of mercury and 500 parts water to itchy scalp of tail once a day.

**Contagious Abortion.**—I have three choice cows and for the past two years have lost their calves between six and seven months. Is there any cure for them and what is it, and what shall I do? O. H. S., Robinson, Mich.—Your cows suffer from contagious abortion and you have doubtless repeatedly read in this paper treatment for this ailment. Your cows will perhaps prove unprofitable for dairy purposes. The proper time to treat aborting cows is when they calve and not after they are pregnant.

## AUCTION SALE

Complete Dispersal at Lamb, Michigan

Wednesday, September 15, 1915

Of the Following Property:

Registered cow, 5 yrs. old, by Jubilee's Stockwell, just fresh.  
Registered cow, 4 yrs. old, by Noble Mon Plaisir, just fresh.  
Registered cow, 3 yrs. old, by Combination's Premier, due Sept. 18.  
Registered cow, 3 yrs. old, by Noble of Oaklands, fresh July 8.  
Purebred heifer, 1 yr. old, by Majesty's Western King.  
Purebred heifer, 9 mos. old, by Viola's Houpla.  
Purebred heifer, 2 mos. old, by Jubilee's Flying Fox.  
Purebred heifer, 3 weeks old, by Jubilee's Flying Fox.  
Registered bull, 2 yrs. old, a grandson of Champion's Flying Fox.  
7 high grade cows fresh or due soon.  
5 high grade heifers 1 year old.

The above cattle are bred for milk and butter production and represent Home Farm, Tiffin, Ohio; Elemendorf Farm, Lexington, Kentucky, and Oakcroft, Jackson, Michigan.

4 good mares. 3 yearling colts.

7 Berkshire sows with litters or due soon.

All farm implements, etc.

Cause of sale; have rented farm. Usual terms. Sale starts at 10 o'clock sharp. Write for further particulars.

Maplewood Farm, E. D. DeGraw, Manager

**Michigan Livestock Insurance Co.**  
Capital Stock—\$100,000. Surplus—\$100,000  
Home Office—Saginaw, Michigan.  
**Only Home Co. in Michigan.**  
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to represent a reliable concern canvassing among farmers in your own neighborhood or elsewhere. No experience necessary. Liberal pay, and supplies furnished free to right parties. Reference required. Address,

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Detroit, Michigan

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Give the roots a chance

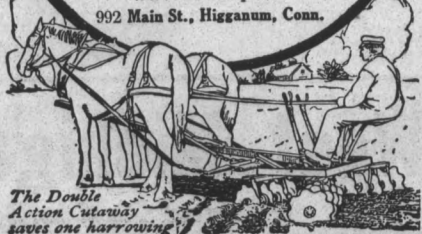
You can go deep without bringing up trash, stones or manure. You can at the same time pulverize and level. For thrifty crops rely upon the forged sharp, penetrating disks of the

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Disk Harrow—Single or Double Action—light in draft and built for a lifetime. Reversible. If your dealer has not the genuine Cutaway, write to us direct. Be sure to write us for our new free book, "The Soil and Its Tillage."

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## BREEDERS' DIRECTORY

## CATTLE.

Oct. 21 Howell, Mich. Oct. 21

Big Sale of  
Registered Holsteins

100 choice animals, 15 daughters of 8 30-lb. bulls, granddaughters of these and fine cows in calf to them and other bulls the best in Livingston County. Catalogs Oct. 10th.

Three Auctioneers { Col. D. L. Perry, Columbus, Ohio.  
Col. J. E. Mack, Ft. Atkinson, Wis.  
Col. H. W. Ellis, Fowlerville, Mich.  
A. R. EASTMAN, Secretary.

## ABERDEEN ANGUS

If you are in need of an extra good bull or a few choice young cows or heifers, we have them for sale. Our herd is headed by the Grand Champion Black Monarch 3rd. We invite you to come to our farm and see them. They are bred right and priced right. U. L. Clark, Hunters Creek, Mich. Sidney Smith, Mgr.

## ABERDEEN-ANGUS

HERD ESTABLISHED IN 1900. TROJAN-ERICAS and BLACKBIRDS only. Young bulls and Percheron stallions for sale. Also breeders of Percheron, Hackney and Saddle Horses. WOODCOTE STOCK FARM, Ionia, Mich.

AYRSHIRES—One of the foremost dairy breeds. The most economical milk producers. Calves for sale. White Leghorn cockerels; Duroc Jersey swine. Michigan School for the Deaf, Flint, Michigan.

THE VILLAGE FARM,  
Grass Lake, Michigan,  
GUERNSEY CATTLE.

MILO D. CAMPBELL CHAS. J. ANGEVINE

BEACH FARM  
GUERNSEYS

Combine the blood of the following great producing sires and dams—

Masher Sequel	57 A. R. Daughters
Galaxy's Sequel	37 A. R. "
Glenwood Boy of Haddon	26 A. R. "
May Rose King	21 A. R. "
Dairymaid of Pinehurst	210 lbs. fat
Dolly Bloom	536 "
Imp. Itohen Daisy	714 "
Selma of Pinehurst	762 "
Stanford's Princess	725 "

Bulls for sale only.  
A Dairy Show Every Day.  
CAMPBELL & ANGEVINE, Coldwater, Mich.

For Sale—Reg. Guernsey Cattle and BERKSHIRE SWINE either sex.  
JOHN EBELS, R. 10, Holland, Michigan.

GUERNSEYS—REGISTERED  
BULL CALVES

Containing blood of world champions.  
HICKS' GUERNSEY FARM, Saginaw, W. S. Mich.

GUERNSEY BULLS FOR SALE, ready for service from A. R. Dams. If you want the right kind write for price and breeding. BYERS & BARNES BROS., Coldwater, Michigan.

REGISTERED Young Guernsey Bulls, great grandsons of Gov. Chene, Serviceable age nicely marked, exceptional breeding. A vonsdale Stock Farm, Wayne, Mich.

FOR SALE A choice lot of Registered Guernsey cows, heifers and bulls of May / Rose breeding. H. W. WIGMAN, Lansing, Michigan.

HEREFORDS;  
Two last Oct. bull calves for sale. Big fellows. ALLEN BROS., Paw Paw, Michigan

## Top Notch Holsteins!

Young bulls that will add most desirable qualities to registered herds or transform grades into near full bloods in appearance and production. The bull is fifty per cent or over of the herd.  
MEPHERSON FARMS CO., Howell, Michigan.

Do You Want A Bull?  
Ready For Service.

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

EDWIN S. LEWIS, Marshall, Mich.

Espanore Farm,  
LANSING, MICHIGAN.

Home of the great Holstein bull "Pledge Spofford Calamity Paul"—sire of a 35-lb. cow and three over 30 lbs. If you are looking for a bull calf of this kind of breeding write for prices and pedigrees.

CHASE S. OSBORN,  
ADAM E. FERGUSON, } Owners.

I don't want to sell anything but  
HOLSTEIN BULLS

and I have some bull bargains. Don't buy a bull until you know I have not got what you want. Come and see bulls.  
L. E. CONNELL, Fayette, Ohio.

## HATCH HERD

## YPSILANTI, MICHIGAN

Registered Holstein-Friesian sires, grandson's of World's greatest dairy sire, out of choice A. R. O. dams and King Pontiac Jewel Koradyke: Brother of K. P. Pontiac Lass 44.15: average record of 50 dams in his pedigree 31.25 in 7 days: average per cent of fat three nearest dams 4.37; of his own dam 4.53. Sires in first three generations already have over 600 A. R. O. daughters. A few females bred to "King". Prices reasonable.

## The Two Greatest Bulls

## KING OF THE PONTIACS

## DE KOL 2d's BUTTER BOY 3rd

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

## BIGELOW'S HOLSTEIN FARMS,

BREEDSVILLE, MICH.

FOR SALE—REGISTERED HOLSTEIN BULL born Feb. 25, 1914. Mostly white. Dam has A. R. O. record, also Chester White Pigs. CHARLES I. COOK, Box 438, Fowlerville, Michigan.

REGISTERED Holsteins—Herd headed by Albino Bonte Butter Boy. His dam has A. R. O. records as follows: at 2 yrs. milk 430, buter 18.55; 4 yrs. milk 604.8, butter 27.03; at 6 yrs. milk 620, butter 28.55 lbs. W. B. READER, Howell, Mich.

## Brookwater Durocs

Duroc-Jerseys with individuality and blood lines that insure good results. Something considerably better.

BROOKWATER FARM, R. 7, Ann Arbor, Michigan.

## High Class HOLSTEINS

My herd is headed by Smithdale Alcartra Pontiac, whose dam is the famous Alcartra Polkadot. Have few young bulls and females for sale at reasonable prices. Will buy a few heifers about 15 months, not bred. Farm 1/2 mile from court house. SETH B. RUBERT, Howell, Mich.

Registered Yearling Holstein Bull now ready for service. Mostly white, beautiful individual, 30-lb. breeding. \$100 brings him right to your town with all papers. Safe arrival guaranteed. HOBART W. FAY, Mason, Mich.

HOLSTEIN BULL CALVES—Don't buy until you write us. No better breeding in Michigan. Long Beach Farm, Augusta, Kalamazoo Co., Mich.

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LAPEER, MICHIGAN  
Breeder of High Grade Holstein Cattle. Lists and prices upon application.

\$80 Gets a 5 mos. old HOLSTEIN BULL CALF whose sire is full b.o. to a former World's Champion 3-yr. old. Elmer E. Smith, Redford, Mich.

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

Holstein-Friesian Breeder—The best families of the breed represented. D. D. AITKEN, Flint, Michigan.

Yearling Reg. Holstein Bull. A sister by the same dam holds world's milk record and making nearly 1000 lbs. butter in a year. DEWEY C. PIERSON, Hadley, Mich.

\$40.00 DELIVERED  
Handsone Holstein bull calf, 1/2 white. By 24-lb. butter bull. Registered and all papers. ROUGEMONT FARMS, Detroit, Michigan.

\$75—buys registered high bred Holstein bull calf 8 months old. Sire, Pontiac Koradyke Burke. Dam Lady Beets Dekol Morecades. 15.83 butter at 26 months old. RIVERVIEW FARM, Vassar Mich.

## HOLSTEINS AND GUERNSEYS

Our Holsteins combine the blood of Belle Koradyke and DeKol 2nd. Our Guernseys are strong in Lady Guernsey, Glenwood Boy of Haddon, and Stanford's Glenwood of Pinehurst blood. Some one bull calves of both breeds for sale. Boardman Farm, Jackson, Mich.

REGISTERED HOLSTEIN BULL, calved Jan. 2, 1914. Send for description. W. C. TAYLOR, Milan, Mich.

HOLSTEIN CATTLE and Duroc Jersey Swine. Choice pigs of both sex now ready for ship. Prices reasonable. E. R. CORNELL, Howell, Michigan.

\$600 Buys ten high grade richly bred Holstein Friesian heifers. Some fresh soon. B. B. REAVEY, Akron, Michigan.

Maple Lane Register of Merit Jersey Herd. Tuberculin tested by U. S. Government. For sale bull calves and heifer calves from R. of M. dams and grand dams, and Hood Farm Sire. IRVIN FOX, Allegan, Michigan.

THE WILDWOOD Jersey Herd. Registered Jersey Cattle of Quality. Herd headed by Majesty's Wonder 30711, one of the best sons of Royal Majesty. The daughter of Majesty's Wonder are mated to a son of Majesty's Oxford King. Herd tuberculin tested. We have for sale a few choice young bulls for fall service from high producing cows. Alvin Balden, Capac, Mich.

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

Jerseys. Bulls ready for service, extra quality sired by Jacoba's Fairy Emonon. No. 107111 from high producing dams. SMITH & PARKER, Howell, Mich.

FOR SALE—High class Jersey Bull Calves from Register of Merit ancestry. WATERMAN & WATERMAN, Meadowland Farm, Ann Arbor, Mich.

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

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

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Registered Bulls, Cows and heifers Scotch-topped roans, reds and whites for sale. Farm at L. S. & M. S. Depot, also D. T. & L. E. Y. BIDWELL STOCK FARM Box B, Tecumseh, Mich.

Shorthorns For Sale, farm 1/2 mile east of Davis crossing on A. A. R. R. W. B. McQUILLAN, Chilson, Liv. Co., Michigan.

Milking Shorthorns 1 bull 3 months old \$125, 2 cows. DAVIDSON & HALL, Tecumseh, Michigan.

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

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

Dairy Bred Shorthorns of best Bates Strains. Young bulls 7 months old for sale. Price \$100 each. J. B. HUMMEL, Mason, Mich.

## HOGS.

## Durocs &amp; Victorias

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

FOR SALE—Berkshire hogs, both sexes and different ages. Bred gilts for fall farrowing. Poll Angus Bull calf, not registered. Price right. Chase's Stock Farm, R. 1, Mariette, Mich.

Berkshires. Two fall gilts bred for Aug. & Sept. farrowing and a choice lot of April gilts for sale. A. A. PATTULLO, Deckerville, Mich.

BERKSHIRES—Some choice brood sows and spring pigs, either sex, also one stock boar for sale cheap. I. M. LEWIS & SON, Akron, Mich.

Royalton Bred Berkshires—Boar pigs ready to ship last of July at 12 weeks weeks age with registry papers. Write for pedigree and prices. D. F. VALENTINE, Supt., Temperance, Mich.

For Sale Duroc Jerseys Bred Gilts for Sept. farrow. Carey U. Edmonds, Hastings, Mich.

HAMPSHIRE Swine—Breeding stock of all ages from most popular strains. Write for breeding. Inspection invited. Floyd Myers, R. 9, Decatur, Ind.

WEST WINDS HAMPSHIRE SWINE. Booking orders for sow pigs immediate shipment. No males to offer. E. P. Hammond, owner, N. A. Wiser, manager, Pontiac, Mich.

WOULD like to hear from those desiring to start a herd of thoroughbred Chesters. Prices attractive. F. W. ALEXANDER, Vassar, Michigan.

## Big Type, O. I. C.'s and Chester White Swine.

400 fall pigs either sex, special prices for the next 30 days, also bred gilts and service males and we are booking orders for spring pig, all our stock is good enough that I will ship O. I. C. D. and reg. free in the O. I. C. or Chester White Assn. We won more prizes than all other breeders put together, at Ill. and Wis. State Fairs. Write for Show record.

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Cass City, Michigan.

O. I. C.'s—Sows bred to farrow last of June and July. Prices reasonable. G. P. ANDREWS, Dansville, Michigan.

O. I. C.—Gilts bred for Aug. and Sept. farrow. Will take orders for March and April pigs. H. W. MANN, Dansville, Michigan.

O. I. C. SWINE—Are you on the choice bred sow to farrow the last of Aug. or fore part of Sept.? If you are, write me, I have them. A. J. GORDEN, R. No. 2, Dorrr, Michigan.

O. I. C.'s—8 last fall gilts bred to farrow last of Aug. and in Sept. Big growthy stock, also last Spring pig and one last fall boar. 1/2 mile west of depot. OTTO B. SCHULZE, Nashville, Mich.

O. I. C. Pigs, 8 to 10 Weeks Old \$10. Pairs not registered free. C. J. Thompson, Rockford, Mich.

O. I. C. Choice Gilts bred for Sept. farrow. ALVIN V. HATT, Grass Lake, Michigan

O. I. C. GILT BRED SPRING PIGS ready to ship. H. J. FERLEY, Holt, Michigan.

O. I. C.'s—Bred sows, bred gilts, spring pigs both sex. Service Boars. Price low. A. R. GRAHAM, Flint, Michigan.

O. I. C.'s. Registered Boars 5 months old, big boned kind. ROBT. BLOW, Route 2, Dryden, Michigan.

REGISTERED O. I. C. BOARS & GILTS High class fall pigs at reasonable prices. J. CARL JEWETT, Mason, Mich.

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

FOR SALE—Fancy bred gilts, fall males, spring pigs of the large, smooth kind. Price to sell. JOHN McNICOLL, Station A, R. 4, Bay City, Mich.

Capitol Herd Duroc Jersey Swine. Established 1888 Spring pigs for sale, satisfaction guaranteed. Express prepaid. J. H. Banghart, East Lansing, Mich.

DUROC JERSEYS—Spring pigs either sex. Gilts bred for Sept. farrow to a son of Voltaire Grand Champion at Internat'l Stock Show Chicago. F. J. Drott, R. 1, Monroe, Mich.

Duroc Jersey Bred Gilts. Special prices on some first-class gilts for 10 days. W. C. TAYLOR, Milan, Michigan.

Duroc Jersey—March pigs either sex, sired by a son of Voltaire Grand Champion of 3 State Fairs and Chicago Show in 1912. E. H. Morris, Monroe, Mich.

THIS  
**O. I. C.**  
SOW WEIGHED 932 LBS.  
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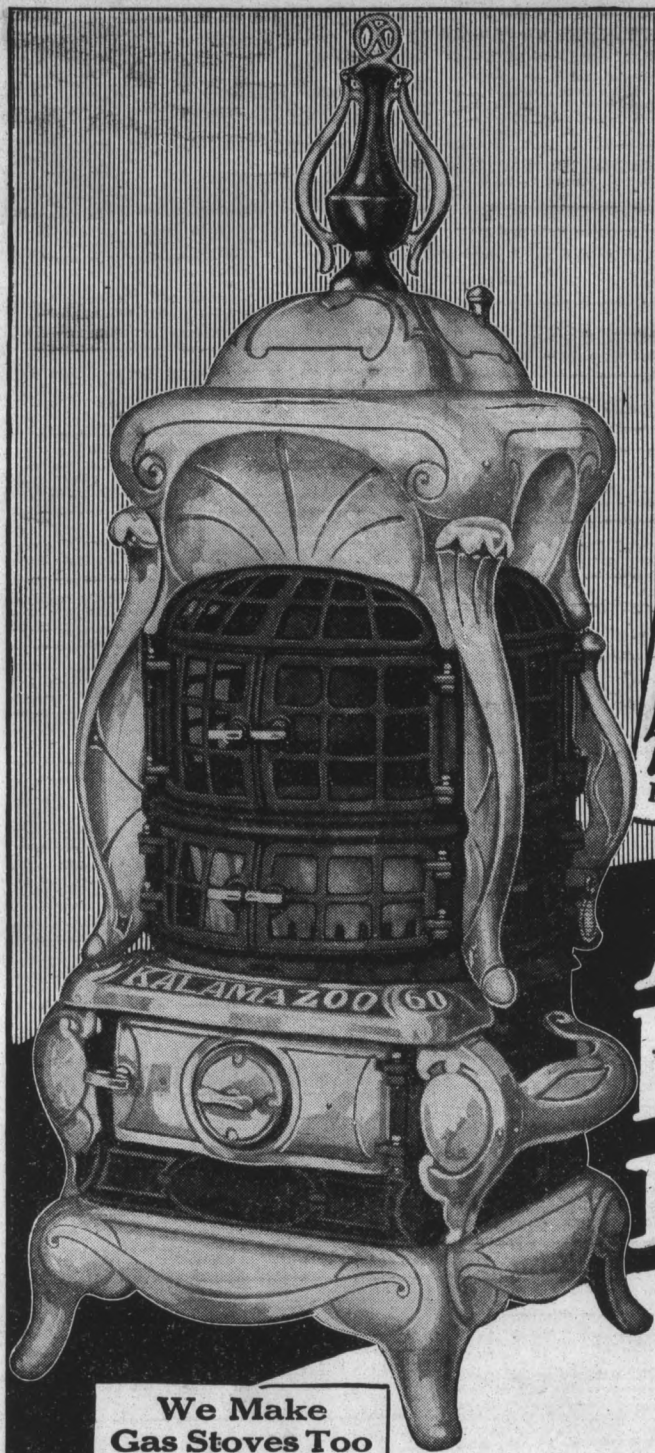
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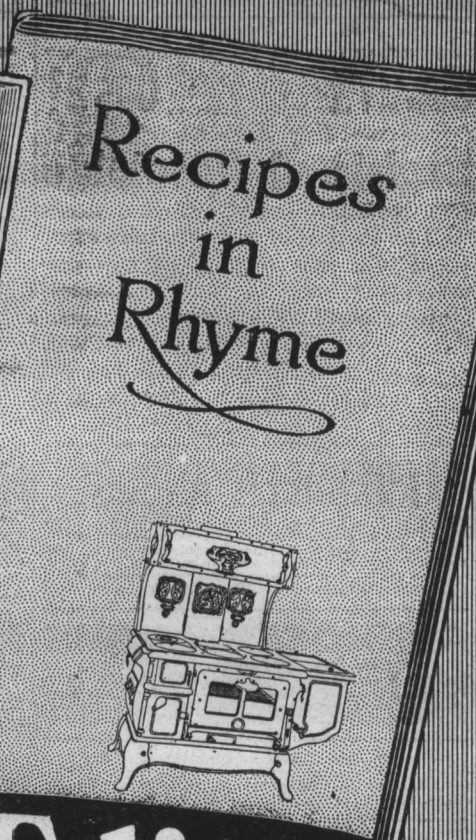


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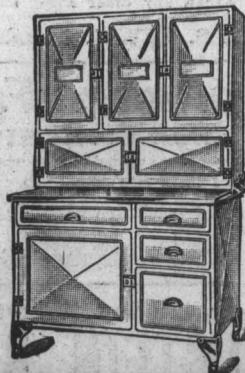
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