

MICHIGAN FARMER

AND LIVE STOCK JOURNAL

PUBLISHED WEEKLY

ESTABLISHED 1843.

VOL. CLIV. No. 17
Whole Number 4094

DETROIT, MICH., SATURDAY, APRIL 24, 1920

\$1.00 A YEAR
\$5.00 FOR 5 YEARS

Farmers Consider Dairy Crisis

Michigan Dairymen Protest Against Federal Action

At the general session of the meeting of the milk producers of the Detroit area, held in the Board of Commerce building, Tuesday afternoon, President Hull gave a brief address explaining the situation now confronting the producers of this district. "Probably there has never been a time since the dairymen of this area organized," said Mr. Hull, "that there have been so many things in the air that are of so great interest to all of us. You probably all know that the Fair Price Commission, and I want to put especial emphasis on the word fair, has said that after April 15 the price of milk to the consumers in this district shall be fourteen cents per quart.

"What does this mean? It means that a few men met in the city some few days ago, and in the most autocratic manner ever known have set a price on what you do and what your family do. How they arrived at their fair price, we do not know, but we are told that they 'figgered it over.' When Secretary Reed and myself heard of this arbitrary action we immediately got in touch with Judge Connolly and requested a hearing. We asked him if he proposed to set a price on the farmers' milk without giving any sort of consideration to the cost of producing it. We asked him if he thought that the distributors in the city of Detroit should have any profit. And he replied that he thought, considering the risks they assumed and the unpreventable losses that it would be only fair for them to have a twenty per cent profit. We asked him if he thought that the farmers assumed any risks and had any losses. He said he thought they did and that they ought to have a profit of twenty per cent. We said, 'Judge, you are a man after our own heart.' But I do not want any of you gentlemen before me to feel too sure about getting that twenty per cent profit for your milk.

"There has never been a time in the history of the dairy industry when it cost so much to produce milk as it does today. We are fortunate that the Michigan Agricultural College has been gathering production cost figures and we are fortunate in having as capable a man as Professor Anderson as a witness for us. Now, I want twenty-five of you men who are here to stay over and tell, at the hearing this evening,

how much it is costing to produce the facts just as they are so that we are happening about us today are merely child's play compared with what will happen if you and I as citizens do not do our duty and hold things where they should be. We can do these things without striking, for striking is dangerous business. And let none of us get excited and want to become martyrs, for today we would be cheered, but in two years when we came out we would be jail birds. Two years is a long time and people forget. If you asked me what I should do I would say that, individually, I would quit milking my cows. That would be better than going to jail.

What Milk Commission Has Done

FOLLOWING the appointment of the Federal Fair Price Committee and its initial hearing on the Detroit milk situation, as reported in our last issue, the Detroit Area Milk Commission met on April 3, to consider what action it should take in these circumstances. After careful deliberation the following communication was addressed to the chairman of the Federal Committee:

HON. WM. F. CONNOLLY,
Chairman, Federal Fair Price Committee:

In view of the inquiry instituted by your committee, as a legally constituted authority, into the matter of milk prices in the city of Detroit, the Detroit Area Milk Commission deems it to be its duty to address this communication to you.

This commission, as you know, is an extra legal body, acting without authority of law or other authority except that vested in it by petition of the milk producers and distributors in the Detroit market milk area and the common consent of the consuming public of this city, through representation on the commission.

The members of this commission undertook the work asked of it reluctantly as a war emergency duty, and then only after a member of the commission, then State Market Director, had taken the matter up with the Food Administration and been advised by Judge Lamb to take care of the emergency locally, if possible. Since it was called to this service as a war emergency in the autumn of 1917, this commission has continued to serve in the same capacity by repeated annual request of milk producers and distributors in the Detroit market milk area and with the acquiescence of the consumers of this city. Its personnel is as follows:

J. Walter Drake, Chairman, selected by Detroit Board of Commerce.
Mrs. Frederick Ray, Pres. Detroit Federation of Women's Clubs.
Frank X. Martell, selected by Detroit Federation of Labor.
Fred M. Warner, Ex-Governor of Michigan.
Fred L. Woodworth, State Food and Drug Commissioner.
I. R. Waterbury, Member of State Board of Agriculture.
James N. McBride, former State Director of Markets.
A. C. Anderson, Professor of Dairy Husbandry, M. A. C.

In its work the commission has considered its first duty to be to safeguard and insure an adequate present and future milk supply to the people of the city of Detroit, and as a means to that end has made a careful investigation and study of production and distribution costs, and has undertaken to keep the price of milk to consumers at the lowest point compatible with those legitimate costs. Its acts, and the information on which these acts were based are a matter of record, which record, together with a mass of data which may be valuable to you, will be made available to you if you so desire.

In view of the above noted legal status of the two bodies, this commission has no desire to add complications to an already delicate, if not critical situation, and is reluctant to continue its sittings if your committee desires to function in this capacity. In that event this commission feels that you should be advised of the fact that contracts made and now in force providing for a supply of market milk for the city of Detroit are based on the premise that this commission would continue to act throughout the year.

If it is in accord with the wish or judgment of your committee, this commission will be glad to be relieved of the onerous task which has been imposed upon it and which it has assumed solely as a public duty, and will be glad to be advised of your desires in the matter.

THE DETROIT AREA MILK COMMISSION.
Detroit, Mich., April 3 1920.

Later Action by the Commission

On April 13, the Milk Commission again met to consider its further duty in the matter, its conclusion (Continued on page 683).

are happening about us today are merely child's play compared with what will happen if you and I as citizens do not do our duty and hold things where they should be. We can do these things without striking, for striking is dangerous business. And let none of us get excited and want to become martyrs, for today we would be cheered, but in two years when we came out we would be jail birds. Two years is a long time and people forget. If you asked me what I should do I would say that, individually, I would quit milking my cows. That would be better than going to jail.

"Let us do everything we can to convince people of the facts and put up such a case that they can't give us an unjust decision. There is no question but that prices have gone down in some sections due to the closing of condensing plants, but that does not affect us much here. We will have a surplus at times to deal with, but it should be taken care of in a sound businesslike way. We should advertise and create a greater demand for our milk instead of cutting down the price. That is the only way to insure a steady supply. We have accomplished much in the last two years, but we have only begun our work. If we are going ahead and take business chances we have got to take some losses as well as the good things. I don't know what we may have to do. Our whole system of distribution is too expensive and I am not sure but that we have got to solve some of the distribution problems by cooperation. The thing that we have got to do is to make things so that in some way the folks on the farms get more than thirty-three per cent of the consumer's dollar."

Secretary Reed made an eloquent plea for the milk producers to stand together and act sanely during the impending crisis. He urged the need of remaining loyal to the organization and to one another until the farmer is recognized as a factor in the commercial life of the country. We are going on to face the enemy and do what we believe is right. We would be poor soldiers, indeed, if we should fall back after the first volley had been fired at us.

"I can't conceive," said Mr. Reed. (Continued on page 686).



The Michigan Farmer

Published Weekly Established 1843 Copyright 1920

The Lawrence Publishing Co.

Editors and Proprietors

432 LaFayette Boulevard Detroit, Michigan
TELEPHONE CHERRY 8384

NEW YORK OFFICE—331 Fourth Ave.
CHICAGO OFFICE—111 W. Washington Street
CLEVELAND OFFICE—101 1-1013 Oregon Ave., N.E.
PHILADELPHIA OFFICE—261-263 South Third St.

M. J. LAWRENCE President
F. L. NANCE Vice-President
P. T. LAWRENCE Treas.
J. F. CUNNINGHAM Secy.

I. R. WATERBURY Associate Editors
BURT WEBB
ALTA LAWSON LITTELL
W. MILTON KELLY

I. R. WATERBURY Business Manager

TERMS OF SUBSCRIPTION:

One Year, 52 issues \$1.00
Two Years, 104 issues \$1.50
Three Years, 156 issues \$2.00
Five Years, 260 issues \$3.00
All sent postpaid.
Canadian subscription 50¢ a year extra for postage.

RATES OF ADVERTISING

50 cents per line agate type measurement, or \$7.00 per inch (14 agate lines per inch) per insertion. No advance for less than \$1.50 each insertion. No objectionable advertisements inserted at any time.

Member Standard Farm Papers Association and Audit Bureau of Circulation.

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

VOLUME CLIV. NUMBER SEVENTEEN

DETROIT, APRIL 24, 1920

CURRENT COMMENT

Why Your Paper Is Late

THE difficulty in the handling of outgoing mail has made it impossible to get your Michigan Farmer to you on Saturday each week. This week the handicap of the switchmen's strike, which has made the normal distribution of electric current in Detroit an impossibility, due to the shortage of coal, is certain to make your paper late, if it does not prove an insurmountable obstacle in getting it to you at all, so please be patient with us.

The white paper situation is also still a very difficult problem which will be further aggravated by the strike. Every effort humanly possible will be made to give our readers the best possible service, during the period of abnormal difficulties.

The Detroit Milk Situation

REPORTS of the delegate meeting of the Michigan Milk Producers' Association, the meeting of the Detroit Area Milk Commission and the rehearing on the milk situation before the Federal Fair Price Committee will be found elsewhere in this issue. These reports should be read and analyzed by every dairyman contributing to the Detroit fluid milk supply.

Unjust as this disturbance of the price for market milk by the federal committee may seem at this time, when producers' costs are higher than ever before may be, it will be the part of wisdom for every producer in the Detroit area to continue to ship his milk as usual, since every resource will be exhausted by the officers of the milk producers' organization to get a just price for the product, by action of the committee if possible, and by recourse to the courts if this cannot be accomplished.

There is a very reasonable doubt whether arbitrary action under the Lever act, a war-time measure, will be approved by the courts, when it is invoked under present conditions to force the sale of a product which has advanced in price less than any other essential foodstuff. This advance has been only twenty-five per cent during the past two years in the case of milk, as compared with a hundred per cent or more for other food commodities and still greater advance in the cost of other necessities. When it is conclusively shown, as it can and will be shown, that producers have not been getting full cost of production at pres-

ent prices, simple justice can scarcely fail to prevail.

In any event producers should continue to carry out their contracts and deliver their milk as usual, pending the final settlement of the controversy.

A Last Chance for Sugar Beets

WHILE previous efforts have failed to secure a settlement of the sugar beet controversy, there is still hope that some settlement may be secured in time to permit the planting of a normal crop of beets in Michigan this year. The plan for a settlement by a board of arbitrators composed of the circuit judges of the beet-growing

counties, which was first advanced through the Michigan Farmer, and accepted by the directors of the growers' organization, apparently met with no response from the sugar manufacturers. After this plan failed to get results, Governor Sleeper was urged to call the contending parties together for a conference, and a current press report indicates that such a call has been issued.

The beet planting season is close at hand. This is a last chance to reach a settlement of this problem, and it is to be hoped that the negotiations which may result from getting the parties together may result in a fair settlement of the issue, as was the case two years ago.

Washington News Letter

INFORMATION I am receiving indicates that the American Federation of Farm Bureaus is making a rapid growth. The membership is increasing by the thousands, and the organization is doing effective work for the protection and betterment of the farmers. The Washington headquarters of the Federation is at 1411 Pennsylvania avenue, with Gray Silver, of West Virginia, in charge.

In discussing the railroad situation, Mr. Silver says it emphasizes very forcefully the highway question. The road bill introduced in the senate by Senator Charles E. Townsend of Michigan, and known as the Townsend bill provides for a city to city system of automobile roads. This, according to Mr. Silver, does not meet the present situation. Far more than pleasure riding automobile city to city roads, the country needs the farm to town highways. The Federal Department of Agriculture is promoting such a system in the interest of both the producers and consumers.

The railroad strike is going to emphasize the importance of market highways, and will no doubt be the means of developing an agitation for better marketing roads. The people of the cities will have to aid in the development of the farm to town road system, or go hungry. It is no longer safe to depend wholly upon the railroads to supply the cities with foodstuffs.

The products of the soil built our railroads and must build our highways. For the good of all the people the government cannot afford to be stingy with the public highways. Every farm is entitled to a good road to town, and the farmers, usually slow in asking for appropriations, are justified in demanding sufficient appropriations to construct and maintain these roads.

The costs of road construction are high, but Henry Shirley, a highway authority, estimates that with the exception of wheat, every farm crop will build more road per bushel, pound or ton than before the war, the relative cost of road building being less than it was four years ago.

The widespread railroad strike has brought to the people of the cities a serious food problem. But Mr. Silver points out that the present results of the strike in shutting off the supply of food, are small compared with the food shortage next fall that will be inevitable as a direct result of tying up the railways this spring. The Long Island potato growers were unable to get their seed from Aroostook county, Maine, early in the season, owing to the car shortage. They appealed to Mr. Silver, who was able to get from the American Railway Association the promise of one hundred additional cars a day until the Maine potato crop could be moved to destination. The strike came on, the railroads could not meet this agreement, and the Long Island growers are without their seed at planting time. The strike has prevented the delivery of fertilizers, farm implements and seeds all over the

country, and this will undoubtedly cause a serious shortage of food next fall, with another boost in the high cost of living and the probability of more strikes to secure increased wages to catch up with living costs.

Mr. Silver predicts that the Capper-Hersman bill will be reported out of the committee this spring. The Federation of Farm Bureaus Washington headquarters is receiving many letters from farmers, strongly demanding the enactment of this bill. One county agent, writing to Mr. Silver from Oklahoma, says:

"It seems to me that conditions are such at this time that congress must do something for the farmer, and the agricultural interests of the country, or the farmers will be forced to go out of extensive business. No industry can survive producing at a financial loss, and that is just what the farmers are strictly up against now, and they are quitting by the thousands. Our county put out 137,500 acres of wheat in 1918. The 1919 sown acreage is less than 8,000 acres by actual data gathered. To illustrate the feelings of the farmers: About four weeks ago I visited a farmer who put out eighty acres of wheat in the fall of 1918. Last fall the same farmer put out six acres." The inability of the farmers to compete with the railroads, mines and factories in securing labor, according to this man, is a leading factor in the decreased acreage of wheat.

Some farmers are wondering why a bill so strongly backed by the farm organizations and consumers' associations, as the Capper-Hersman bill, can be held up and smothered without the senate having a chance to vote on it. Senator Capper explains this, by saying that "the bill has been lodged for months in the judiciary committee, where it was in turn referred to a sub-committee. This sub-committee refuses to report the measure to the full committee and thus balks its report to the senate. The judiciary committee is made up of lawyers. The bill was referred to this committee on the ground that there was a question about its constitutionality. What has happened is that lawyers on the committee are blocking its report under the claim that it is class legislation."

Opposition of the National Grange and other influential farm organizations to compulsory military training and service has been effective in securing the defeat of this proposed measure, at least for a time. Voluntary training has been substituted in its place and will undoubtedly be the policy of the country. The new plan provides a military training of four months for all young men between the ages of eighteen and twenty-one years, who volunteer to take such training. That attempts in the future will be made to have the country adopt the universal compulsory military training system, was indicated by the predictions of senators that the voluntary plan would be the means of develop-

ing a stronger public sentiment in favor of compulsory training.

Congress is devoting considerable time to investigating the various war-time activities, and as a result is finding much evidence of waste and loot. The war and navy departments are coming in for a full share of censure for their wasteful extravagance, and the committee on public information, of which George Creel was chairman, is charged with having done things that were open to criticism. The congressional investigation committee found that thousands of dollars in checks sent in as subscriptions to the "Official Bulletin" were strewn about in Creel's records, and that it will take a long time to get these matters straightened out in an intelligible form. "There is no doubt," the committee reports, "that a certain clique both in and out of the army and navy had their preparations well advanced to cover the country with an all-enmeshing chain of newspapers and magazines for the purpose of spreading and fastening their military and internationalist doctrines upon the United States. Even the wet propagandists got a good start in army publications. Articles and editorials boosting the liquor interests appearing before the committee suggested that further discussion of this subject was not essential to army vocational training or the operation of army hospitals." The "Official Bulletin" cost the government \$680,000 for printing during its brief existence under government control.

The folks on the farms who were urged to buy Liberty Bonds to the limit will no doubt be interested in knowing where their money went to. But some of the farmers I meet in Washington, coming from different parts of the country, are inclined to question whether congress might not better spend its time enacting useful and much needed constructive legislation, rather than spending its efforts in investigating conditions that are past, and the money gone. They say that the Capper-Hersman farmers' collective bargaining bill, the Anderson-Gronna packer control legislation, and the French Truth-in-Fabric bill are either one of more importance just now than any investigation that congress might make of war-time mismanagement and extravagance. They also say that they are more interested in profiteering that is going on now than in the profiteers of 1918.

Echoes of the Hoover food administration are still being heard on the floors of congress. Senator Capper has introduced a bill to reimburse wheat growers for losses they claim to have suffered through government control, which he estimates at \$240,000,000. This bill will naturally have strong support from the big western wheat-producing states.

Washington is wrestling with a pure-milk problem, the district health department demanding more stringent milk regulation to keep impure milk out of the city. The public health officer favors a provision in the law requiring annual permits for milk dealers and dairymen, and in cases where tuberculosis is known to exist in herds testing every six months until the disease is eradicated. A section of the milk bill under consideration does not require tubercular tests for cows producing milk to be used in the manufacture of ice cream. Dr. Fowler, author of the bill, claims that it is unnecessary to apply the tuberculin test for milk used in ice cream, as the bacteria is destroyed in process of manufacture.

An investigation of the high prices of shoes is now being made by a sub-committee of the senate committee on manufactures. The committee is finding much evidence to convince them that there has been a lot of profiteer-

(Continued on page 673)

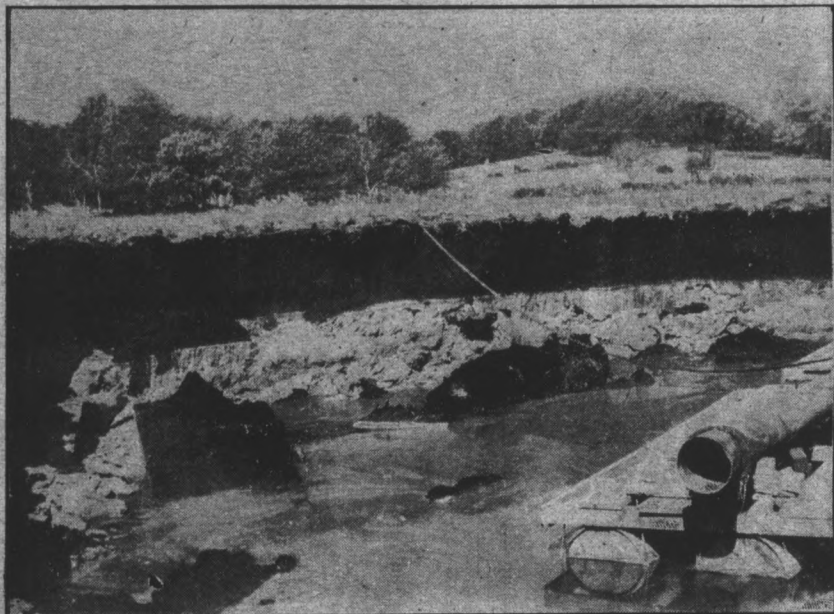
Marl for Soil Improvement

By W. W. Weir

MARL is a name given to earthy or less potash. This can be used as a deposits, usually more or less friable in character, and containing carbonate of lime in greater or less amounts. In most cases beds of marl are found in marshes underneath peat or muck, or they may constitute the floor of shallow ponds, lakes or bays. In color, marl may vary from pure white to a very dark gray. Marl is not to be found in every marsh, pond or shallow lake—all depending largely on the character of the drainage waters that drained into the low areas years and years ago, and that are draining into them even during our age. Some beds of marl are only very thin strata while other beds may be ten, twenty and more feet in length.

Origin of Marl.

Usually the discovery of a bed of marl excites much interest and curiosity, especially as regards its formation. Sometimes a bed of grayish-white clay is mistaken for marl. Many marl beds were formed thousands of years ago and others are being formed in our age and generation. The carbonate of lime in the marl already formed came originally from limestone.



This Picture Shows a Bed of Marl Under a Four-foot Layer of Peat.

The waters from rains dissolved the limestone and carried it in solution into the low areas, and there it accumulated. Through the activities of tiny shell animals, certain water plants, and probably certain bacteria, which inhabit shallow bodies of water, the carbonate of lime in solution was caused to settle out—sometimes forming a deposit containing more or less sand and mud when sediments are carried in by flood waters. In shallow lakes or ponds located in limestone areas it is common to observe the deposition of carbonate of lime by water plants. A small, shallow lake less than half a mile from the writer's home is a splendid example of present-day marl formation. Many of the "round marshes" in New York are other good examples. One investigator has reported that one of the water plants, the chara, under favorable conditions may deposit an inch or more of carbonate of lime in a single season.

Other Kinds of Marl.

Occasionally a deposit of lime carbonate very similar in appearance to marl may be found on hillsides in a limestone country. This may be observed, for example, in southwestern Wisconsin. Such deposits are formed through the action of seepage waters passing through much decomposed limestone.

In New Jersey the term marl is applied to greensand material which contains some lime carbonate and more

or less potash. This can be used as a source of potash in fertilizers.

Deposits of shells partly disintegrated and decomposed and more or less cemented together in a mass are to be found in some sections. These deposits are commonly called "shell marl." An oyster-shell marl bed in northern Georgia and the shell-marl beds in Florida are good examples.

Marl for Soil Improvement.

The carbonate of lime in marl is the same material, chemically as limestone and air-slaked lime. Marl, therefore, can be used in the improvement of acid soils. The marls which contain seventy-five to ninety-five per cent carbonate of lime (on the dry basis) are worth considering, provided of course, it can be easily obtained. It is well, therefore, to have marl beds analyzed to determine their value as carriers of lime. Some excellent marl beds are accessible and near railroads. Other beds have been plowed through in the digging of large, drainage outlet ditches, and thousands of tons of good marl have been dumped in the form of large ditch banks. The questions naturally arise, "What about the use of this ma-

terial for soil improvement?" and, "Cannot this material be prepared economically and placed on the market to compete with other agricultural lines?" A few years ago we came face to face with these questions in Wisconsin. It was during those years when it was difficult for farmers to see very much value in a common rock that has simply passed through a pulverizer. It was then when we realized that agricultural lime should be a cheap material in order to induce farmers to consider it for soil improvement. Limestone we have in abundance, ranging from hard and dense rock to soft and thoroughly crumbled limestone easily obtained. Central and northern Wisconsin represent broad expanses of acid soils in which no limestone occurs as country rock; so that practically all agricultural lime for this vast area must necessarily be secured from the eastern, southern and western portions of the state, especially if pulverized limestone is to be used. It was reasonable to assume that the more sources of agricultural lime that could be developed within short distance of the large acid area of Wisconsin, as well as in proximity to other areas of soils poor in lime, the cheaper the material could be obtained. This led to the consideration of utilizing some of our good marl deposits, some close to railroads and others some little distance from them. For example, a deposit of pure, (Continued on page 684)

Fight Film To Save Your Teeth

All Statements Approved by High Dental Authorities



It is Film that Ruins Them

This is why brushed teeth discolor and decay. And why old methods of cleaning have proved so inadequate.

Your teeth are covered with a slimy film. It clings to them, enters crevices and stays. That film is the cause of most tooth troubles.

The tooth brush does not end it. The ordinary dentifrice does not dissolve it. So, month after month, that film remains and may do a ceaseless damage.

That film is what discolors—not the teeth. It is the basis of tartar. It holds food substance which ferments and forms acid. It holds the acid in contact with the teeth to cause decay.

Millions of germs breed in it. They, with tartar, are the

chief cause of pyorrhea. Also of many other troubles.

Dental science, after years of searching, has found a way to combat that film. Able authorities have proved the method by many careful tests. And now, after years of proving, leading dentists all over America are urging its daily use.

Now Sent for Home Tests

For home use this method is embodied in a dentifrice called Pepsodent. And a 10-Day Tube is sent without charge to anyone who asks.

Pepsodent is based on pepsin, the digestant of albumin. The film is albuminous matter. The object of Pepsodent is to dissolve it, then to day by day combat it.

The way seems simple, but for long pepsin seemed impossible. It must be activated, and the usual agent is an acid harmful to the teeth. But science has discovered a harmless activating method. And millions of teeth are now cleaned daily in this efficient way.

Let a ten-day test show what this new way means. The results are important, both to you and yours. Compare them with results of old-time methods and you will then know what is best.

Cut out the coupon now so you won't forget.

Pepsodent PAT. OFF.
REG. U.S.

The New-Day Dentifrice

Now advised by leading dentists. Druggists everywhere are supplied with large tubes.

See What It Does

Get this 10-Day Tube. Note how clean teeth feel after using. Mark the absence of the slimy film. See how teeth whiten as the fixed film disappears. Learn what clean teeth mean.

Ten-Day Tube Free

THE PEPSODENT COMPANY,
Dept. 417, 1104 S. Wabash Ave., Chicago, Ill.
Mail 10-Day Tube of Pepsodent to

Name

Address

Only One Tube to a Family

R. K. TIRES Are Tough Ones!

Rebuilt tires, with twice as much fabric as an ordinary tire—double tread and chain stitched so tough they like the rough roads in preference to the easy ones. Guaranteed to do all an ordinary tire does—and then some! They'll make good if you give them a chance to show you!

The following are the little prices of our guaranteed tires:

Size Non-Skid	Price	Size Non-Skid	Price
30x3	\$7.00	34x4	\$11.50
30x3 1-2	8.50	34x4 1-2	13.50
32x3 1-2	9.00	35x4 1-2	14.00
33x4	11.50	36x4 1-2	14.50

2 percent off for cash with order,
10 percent deposit required with all C.O. D. orders.

R. K. Tire Company
837 No. Broad St., Dept. C, Phila., Pa.
Send for descriptive booklet and price list.
Good Territory Open for Live Agents.

I Can Ship Your Engine

When You Want It—Save You \$15 to \$500.
Any Style—Stationary, Portable or Saw Rtr. Any Size—2, 3, 4, 6, 8, 12, 16, 22 or 30 H.P. Cash or Easy Terms. B.O.S.C.H. Ignition on order. Catalog FREE.

WITTE ENGINE WORKS
2194 Oakland Ave. 2194 Empire Bldg.
Kansas City, Mo. Pittsburgh, Pa.

ORNAMENTAL FENCE

6 Cents per Foot and up. Costs less than wood. 40 designs. All steel. For Lawns, Churches and Cemeteries. Write for Free Catalog and Special Prices.

Kokomo Fence Machine Co., 47 North St., Kokomo, Ind.

BINDER TWINE

Get our astonishingly low price to Granges, Equity Unions, Farm Bureaus, etc. Farmer agents wanted. Free samples.

THEO. BURT & SONS, Box 46, MELROSE, OHIO

Mention The Michigan Farmer When Writing Advertiser



Almost Blind from poor light at home!

WHO is to blame? Whose fault is it when children's eyes are so weak that they need glasses? Who is responsible if the child goes blind and spends the remainder of its burdensome days in total darkness?

Ask any oculist. He'll tell you that 90% of the weak eyes and 60% of other eye troubles can be avoided by good lighting. And good lighting costs less than doctor's care, hospital bills or an operation.



Carbide Lighting and Cooking Plants

have been supplying users with ideal, eye-sight-preserving light for twenty years. The light from the gas generated by a Colt Plant is the nearest approach to sunlight—clear, white, mellow and restful.

With a Colt Carbide Lighting and Cooking Plant on your farm you can have convenient light in every room in the house at a snap of the finger, in your barn and other out-buildings—no matches needed. The farmwife can have gas for cooking—convenient, cool in summer and always ready to be used.

More Colt Carbide Lighting and Cooking Plants are in satisfactory service to-day than ever before. More than 300,000 homeowners are enjoying the comforts and convenience of carbide lighting.

Easy to install, economical to maintain, needing very little attention of any kind and no expert attention whatsoever, Colt Carbide Lighting and Cooking Plants often are used for years and years without requiring one cent's worth of repairs.

Consider better lighting for your home. Investigate why Colt Carbide Lighting and Cooking Plants have continued to increase in the number used. Learn why they are more popular to-day than ever, even with owners who have had them for years. Do this and you will determine to install a tried and tested system of lighting instead of an expensive experiment.

J. B. COLT COMPANY
288 Fourth Avenue, New York

C-12

Dyed Her Faded Skirt, also a Coat

"Diamond Dyes" make shabby
apparel just like new—
So easy!

Don't worry about perfect results. Use "Diamond Dyes," guaranteed to give a new, rich, fadeless color to any fabric, whether wool or silk. Linen, cotton or mixed goods.—dresses, blouses, stockings, skirts, children's coats, draperies,—everything!

A Direction Book is in package.

To match any material, have dealer show you "Diamond Dye" Color Card.

Dairymen Face Federal Committee

THE officers of the Michigan Milk Producers' Association, and the milk distributors were granted a rehearing by the Federal Fair Price Committee in the matter of retail milk prices in Detroit, which hearing was held in the Federal Building on Tuesday evening, April 13. But three members of the committee were present, Chairman Connolly being absent from the city. The producers were given the first opportunity to be heard. Prof. A. C. Anderson, of M. A. C., was asked by President Hull to present the experiment station figures on the cost of milk production. Professor Anderson had these figures, together with data regarding milk prices and distribution costs in fluid milk markets throughout the United States in documentary form, with copies for each member of the committee and supplemented these data sheets with oral explanations. He was proceeding with an analysis of the situation in and about the city of Milwaukee, where milk is retailed at a lower price than in any other city in the country, explaining the nature of the farming country close to the city which is adapted to dairying and not to general farming, commenting on the fact that the city supply is derived from nearby territory where it is hauled directly from the farm to the distributing plant and analyzing the business of the Gridley Dairy Company, the principal distributors of the city to show that their margin of profit was smaller than would suffice in a similar business in a large and growing city like Detroit where expansion must be continuous.

The apparent attitude of a majority of the members of the committee was demonstrated. Acting Chairman Cusick, of the committee, asked the witness regarding the comparative prices paid producers in the Milwaukee and Detroit areas. The answer was that it was less in the Milwaukee territory. On being asked how much less the witness said he had comparative prices for only one month, and indicated that an intelligent reply would necessarily have to be based on the figures for a year, which he did not have, but which he would secure for the committee if they so desired. On his refusal to make an estimate without exact knowledge the witness was charged with evasion and excused by being told that he could "go, and take his sheets with him."

Another member of the committee asked President Hull if he had any producers who could give testimony of a practical nature, and indicated his belief that experiment station figures were always high. Several witnesses were introduced to show the high costs of feeds and labor, and two witnesses who had kept careful cost accounting records showed their costs to have been \$4.05 and \$3.93 per cwt. respectively, covering periods of ten months to a year.

Testimony of some distributors was also taken in the matter of distribution costs and statements were presented showing the profit per quart in the distribution of milk to be around one-fourth cent per quart under prices which have recently obtained, a little less in some cases and a little more in others. The distributors were asked if they would open their books to the committee and expressed their willingness to do so.

President Hull and the distributors' attorney appealed to the committee for the further consideration of their action, which affected the lives of ten thousand farmers as well as the future milk supply of the city of Detroit.

The committee seemed impressed with the undoubtable fact that their

action in fixing the price had been taken without sufficient consideration and there was apparently an inclination on the part of some of its members at least, to reopen the matter. But action was held in abeyance until the return of Chairman Connolly, and the order stood as issued. Milk was sold at fourteen cents per quart by distrib-

tors on Thursday, and producers were given formal notice that their price must be reduced accordingly.

Preparations are, however, being made to institute injunction proceedings restraining the committee from enforcing its order, and important legal developments may be expected in the near future.

The Rural Credit Bill

By John R. Rood

ON February 21, of this year, a bill was introduced in congress by Representative Louis T. McFadden, of Pennsylvania, in which every farmer is interested. It provides for the establishment under United States supervision and support, of a national "Rural Credit Society" with a central office at a place to be fixed by commissioners provided for in the bill, with branches, one in each state, and with as many local "Communes" in each state as may be organized.

The bill also provides for a "Liberty Insurance League" with local offices to do agricultural insurance.

In his address in introducing his measure the author of the bill announced that it was proposed to furnish for the farmer the personal credit enjoyed by the merchant in conducting his business, and adapted to the needs of credit for the raiser of stock, and the producer of crops.

The thirty and sixty-day credit granted on commercial paper by the established commercial banks is manifestly wholly inadequate for the farmer. If the farmer asks credit to finance putting in a wheat crop, when the paper becomes due he has nothing with which to pay it. If the paper ran a year he could sell his crop and pay the note with the proceeds. The time allowed the merchant to turn over his stock is wholly inadequate to enable the farmer to turn his crop or stock.

On the other hand, the plan of the National Farm Loan Banks is not adapted to this purpose, and is based only on real estate security. The plan of such loans is to run for a period of five to forty years, and be paid out in forty yearly payments. This plan is admirably adapted to financing the purchase or improvement of a farm, but is wholly unsuited to the needs of the live stock feeder, breeder, and the cropper, who would furnish only a personal property security, and who ordinarily desires to pay in about six months to two or three years.

Personal property loans are generally regarded by banks as accompanied by the greater risk of any class of loans; and for this reason they are generally refused by commercial banks and are handled only by pawnbrokers, industrial banks, etc., at prohibitive rates of interest.

In some parts of the country there are banks that have assumed that class of business; and the cashier of a large bank in a western state told the writer a short while ago, that his bank had invested nearly seventy-five per cent of their assets in live stock loans for a number of years past, and explained that his bank had not yet lost a single loan. This banker said that he regarded live stock as the best security to be had, and for the following reasons:

1. As soon as the stock is purchased and the loan made, the buyer begins feeding the stock, and every day the margin of security is increased by the growth of the stock.

2. There is no class of property that is so quickly and so readily converted into money as live stock. It is saleable any day.

3. The loans are made on the repute of the feeder for integrity, knowledge of his business, and his experience; and he buys only because he believes he would make a profit by the process; and the loan is made by the banker because he also has that belief.

4. Loans are never made unless the borrower has put some real money into the stock himself, which he stands to lose unless the bank is paid.

The scheme of the author of the bill for the Rural Credit Society is patterned very much after the plan of the Federal Farm Loan Banks, each local chapter standing liable for all the loans made to its members, to the extent of the stock of the local branch; and in addition the stock of the state branch is ultimately liable on all loans in the district if not otherwise collectable.

Since these credit banks are forbidden to take money on deposit and would finance their loans only by sale of their paper and by use of the capital invested in the stock, they would not be competitors of the commercial banks, to any considerable extent.

The details of the plan are too great to be stated in an article like this; and to pass on the wisdom and adaptation of the plan in all details to be worked, would require more knowledge of banking than the writer possesses; but it is believed that the plan in general has great merit; and that such a bank would put the cropper and stock-raiser, who would borrow on this personal property security, on a par with the merchant in getting banking support. A word by the reader of this article to his congressman concerning this bill would do no harm. Try it.

PROBABLY POISONING.

My chickens have been well all winter, but the other day one of the nicest red-combed ones was drooping her feathers and standing by herself. We placed her in a pen by herself and noticed that the droppings had a milky appearance. In about four hours she put her beak down and soon was cramped and dead. Upon dissecting her the intestines were found enlarged and seemed to be filled with blood but the heart and liver were in fine shape. What disease was this, and what conditions would cause it?

Livingston Co. Mrs. C. E. H.

When an apparently healthy hen dies with symptoms you have mentioned it is apt to result from poisoning. In cases of arsenical poisoning the liver may appear normal while the intestines show inflammation and traces of hemorrhage. Salt poisoning might result in similar symptoms. Potomac poisoning is usually the result of eating decayed meat or fish and occurs most frequently when the birds are on free range and find such material where its presence is not known by the poultry owner.

Possibly no more of the flock will show signs of sickness but it might pay to inspect their range and be sure that the hens do not have access to any material which might poison them.

R. G. K.

Pulling Together

BYOND question, the cooperative movement that swept Michigan in an irresistible wave, some years ago, and which is still active everywhere, is one of the most revolutionary and significant factors in modern agricultural life. The opponents of the innovation were numerous enough, in the initial stages of the movement, and although many have been silenced by the signal success of cooperative associations, plenty of adverse critics may still be found. To meet wordy arguments with wordy arguments may be well enough, but few are convinced thereby. The advocates of cooperation are answering their critics with something stronger than words—they are answering with deeds. Many of these cooperative organizations are able to produce the goods, thus silencing those who predicted failure and confusion.

Among the successful cooperative organizations of southern Michigan, the Coldwater Cooperative Company holds a high place. This is one of the pioneer companies of this section. For six years the company has been doing a successful business, constantly enlarging its sphere of usefulness, and annually increasing its business. Like all cooperative associations in these parts, the Coldwater company began with the shipping of live stock—an undertaking that has been conducted successfully from year to year. Last year, business amounting to a half million dollars was done along this line.

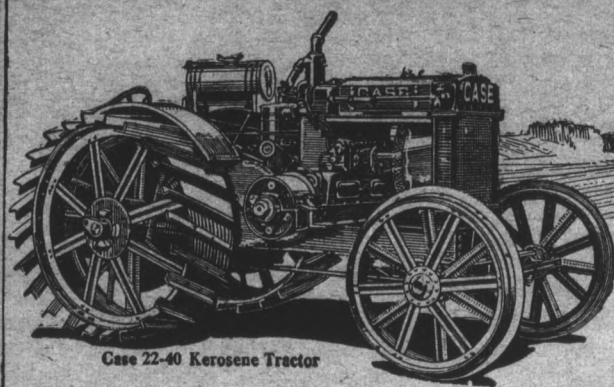
Shipping live stock is not, however, the only shipping business carried on by the company. Practically all kinds of farm products are now handled. All kinds of grain, clover seed, potatoes, cabbage—these are some of the things successfully handled.

The company now owns a good-sized warehouse and a three-car grain elevator, with provisions for greater capacity when needed. The shipping of grain is comparatively a new thing with this company. When asked by the writer, Charles T. Bishop, secretary-treasurer, made the following interesting reply:

"Will state that when we started to take in rye, the local mill was paying \$1.35, while we paid \$1.60. When we began taking in wheat, the local mill was paying \$2.12 to \$2.15. We started in paying \$2.35 for No. 2 wheat and three cents more for No. 1. Then the local mill raised the price to \$2.40, and the price today, for No. 1, is \$2.43, and three cents less for No. 2. We will let you be your own judge as to whether or not the company is handling grain successfully. I might state that we buy this wheat and pay the grower at the time the grain is delivered to us. This seems to us to be the only feasible manner in which to handle the grain proposition."

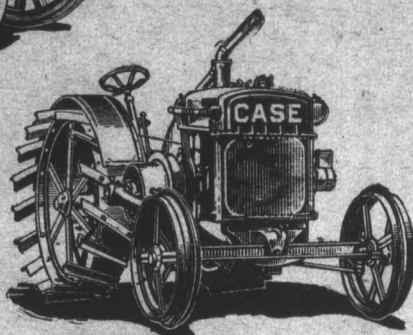
It is scarcely necessary to comment on the above pertinent quotation. Mr. Bishop's statements prove conclusively, one thing, however. It proves that the farmer's contention that he is not receiving his just share from the fruits of his time and labor, may be startlingly true. The discrepancy between the price paid by the cooperative company and that paid by local millers, is even greater than most people would suppose possible. Plainly, all grain growers in the vicinity of Coldwater, whether they are members of the cooperative company or not, will profit greatly, from the fact that the "coops" are handling these products.

The Coldwater company's experiment in the shipping of grain, reveals the same amazing conditions noted in the live stock business a few years ago. The local middleman is not in business for his health, merely. His elimination at this end of the line solves to a considerable extent, the question of more equitable prices for the producer. And this gives oppor-

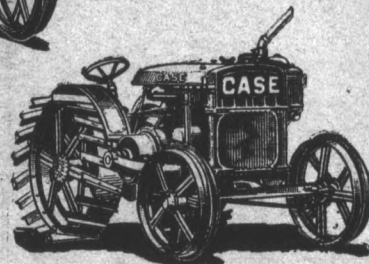


Case 22-40 Kerosene Tractor

To avoid confusion, the J. I. CASE THRESHING MACHINE COMPANY desires to have it known that it is not now and never has been interested in, or in any way connected or affiliated with the J. I. Case Plow Works, or the Wallis Tractor Company, or the J. I. Case Plow Works Co.



Case 15-27 Kerosene Tractor



Case 10-18 Kerosene Tractor



Look for the EAGLE Our Trade Mark

We Could Build Case Tractors Cheaper— But They Would Cost You More

Built into every Case Kerosene Tractor is a high degree of immunity from frequent repairs, replacements and undue wear. These items and the delays they cause are expenses you must add to the first cost of any tractor designed and built less excellently than the Case.

It would cost us less to use iron castings in many places instead of the drop-forged steel we do use; but it would cost *you* far more for replacement of broken and worn out parts.

We could save a lot by using cast-iron open gears instead of cut steel gears running in oil-tight housings; but later on, you'd pay many times the difference for extra parts, and lose still more by delay.

Thus, all through, in design, material, workmanship and equipment, we build Case Kerosene Tractors

the best that they can be built instead of building cheaply and "passing the buck" to you.

Case Kerosene Tractors are built in a standardized design of three sizes: 10-18, 15-27 and 22-40 h.p. respectively. Your proper choice depends only on your power requirements. They are uniform in dependability, durability and simplicity of operation and adjustment.

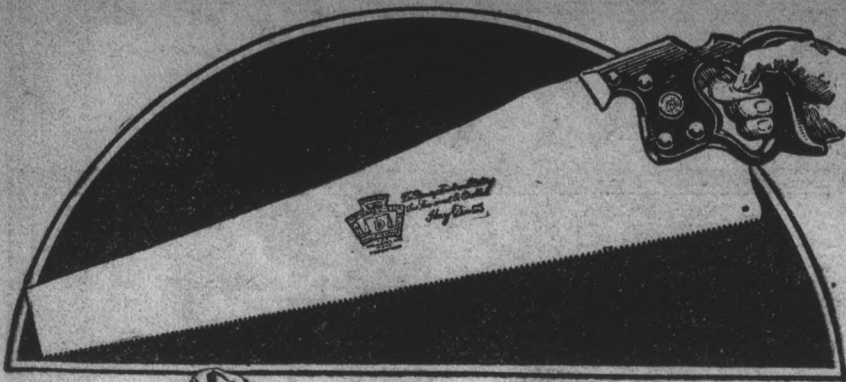
Back of Case Kerosene Tractors is the great line of power farming machinery built by the J. I. Case Threshing Machine Co. Of this line, each unit is unexcelled in its class; within this line is equipment for keeping a Case Kerosene Tractor profitably employed throughout the year. Write for free catalog descriptive of Case Tractors, and listing our great line of tractor drawn or driven machinery.

J. I. CASE THRESHING MACHINE CO., Inc.

Dept. AG-4, Racine, Wis., U. S. A.

Making Superior Farm Machinery Since 1842

CASE
TRADE MARKS REG. U. S. PAT. OFF. AND IN FOREIGN COUNTRIES
KEROSENE TRACTORS



Every Farm Needs The Saw Most Carpenters Use

Time and money are lost when cattle stray through broken fences, when barns and housings for live stock are in bad repair.

The wise farmer tries to keep his buildings and fences in good condition. Sometimes he uses poor tools and makes up for their shortcomings by the extra work of his muscles. That is mistaken economy.

The best saws—Disston Saws—are cheaper than time and labor, especially today, and the farmer who puts a high value—a true value—on his time will get a Disston Saw.

Disston Saws are made of strong, tough, finely-tempered Disston-made Steel. They stay sharp and hold their set. The hardest wood seems comparatively soft if you saw it with a Disston.

Get a Disston Saw. Good dealers everywhere sell them. Send for a free copy of our booklet, "Disston Saws and Tools for the Farm." It's a good book for all farmers to have.

HENRY DISSTON & SONS, Inc., Philadelphia, U. S. A.



"America's Largest and Longest-Established Makers of Hand Saws, Cross-Cut Saws, Band Saws, Circular Saws, and Tools."

Canadian Distributors: Henry Disston & Sons, Ltd., Toronto, Canada

New York
Chicago
Cincinnati

San Francisco
Boston
Seattle

New Orleans
Memphis
Vancouver, B. C.

Bangor, Me.
Portland, Ore.
Sydney, Australia

DISSTON SAWS AND TOOLS

Improved Ohio Farms For Sale

THE Miami Conservancy District, which is a political subdivision of the State of Ohio, offers several hundred of the best farms in the state for re-sale.

This surplus acreage includes farms that range from ten acres to any size you might desire, located right in the heart of Ohio—the fertile corn raising Miami Valley.

Each farm is under cultivation and is a big profit-paying, prosperous business. Some of these farms raise corn year after year with no artificial fertilizer or crop rotation.

This farm land is all within a thirty mile radius of Dayton, with easy access to quick, profitable markets by rail, interurban or highway.

For booklets giving complete information address "Farm Division".

THE MIAMI CONSERVANCY DISTRICT
DAYTON, OHIO



Winter Problem solved by the Hive with an Inner Overcoat. Wintered 100% perfect, no loss of bees, winters of 1916-17, 18-19, 20. The Inner Overcoat did it. Send for free 48 page catalog of bee keepers supplies. BEES WAX and OLD COMB WANTED A. G. WOODMAN CO., Dept. M. F., Grand Rapids, Michigan

Mention The Michigan Farmer When Writing to Advertisers

tunity to state plainly, an argument widely used against the farmer, whenever the problem of getting the producer and consumer closer together, is discussed.

Opponents of cooperation contend that the consumer can not benefit from the system. They point to the fact that farmers will not sell products, even to local consumers, for less than the retail price charged by local middlemen. They say farmers will demand as much for potatoes or apples or berries, when sold direct to the consumer, as the local dealer charges who reaps the middleman's profit from the transaction. They point out that the same attitude will be taken by the producer, under the cooperative system, and that he alone, and not the consumer, will benefit. With too many illustrations of the foregoing accusation, in his home community, the writer declines to comment at present, on this argument of the foes of coopera-

tion. Admitting, however, that these cooperative companies are primarily for and in the interest of the farmer is it not true that their ultimate and lasting success must depend on the attitude of consumers? With producer and consumer in close league, the middleman must go. But before this can be accomplished, both producer and consumer must be assured of benefit from the change.

The Coldwater Cooperative Company, the success of which has occasioned this article, welcome all inquiries advanced for the purpose of furthering the cooperative movement. The company has learned from experience, valuable information concerning cooperative methods. The officers of the company are as follows: President, G. S. Coffman; vice-president, W. C. Kempster; manager, Robert S. Brewster; secretary-treasurer, Charles T. Bishop.

J. A. KAISER.

Crops to Grow in Place of Sugar Beets—By Professor J. F. Cox

WITH the planting season coming on with a rush and no agreement having been reached between the Sugar Beet Growers' Association and manufacturers, which insures a reward which is satisfactory in the growers' estimation, a great number of growers are considering carefully the crop which will occupy the ground which would have been planted to beets under contract arrangements, meeting their approval.

In view of the great demand for sugar, the excellent adaptation of Michigan conditions to the production of this crop, and the high development in skill in production achieved by Michigan growers, it is undoubtedly with considerable regret that many Michigan growers turn to other crops. It is hoped that even at this late date an agreement can be achieved between growers of the association and sugar manufacturers which will be satisfactory to both parties and insure the usual acreage of beets on Michigan beet soils, and a sufficiently large harvest to keep Michigan beet factories in profitable operation.

The sugar beet business, if it is to thrive in Michigan, must be on a basis which is profitable to both grower and manufacturer, and if this basis cannot be achieved the industry is doomed to wane and other crops will take the place of beets—a most regrettable circumstance, for Michigan has taken pride in this splendid crop and profitable industry.

If by planting time, adequate rewards, in the estimation of beet growers, to encourage production, are not assured the problem of what crops which are best to grow in place of beets may be uppermost in the minds of the members of the Beet Growers' Association. Since beets are usually grown in a definite rotation, the first crops to be considered are other cultivated crops, such as corn, beans and potatoes, which occupy a similar place in the rotation.

Corn a Logical Crop.

Corn will do well on ground formerly given over to beets. Good beet soils are usually excellent corn soils. Fall plowing and early spring plowing of land is the usual custom in preparing for beets, and fits the ground very well for corn. Any extra production of corn is not likely to influence the market to an appreciable extent, and a greater production than usual on the farm is readily taken care of by feeding out more stock or by direct sale. Care should be taken to secure varieties such as the Pickett, Golden Glow, Folks' White Cap, and Early Silver King, or local varieties known to be safe, which will ripen well if grain corn

is desired, or in Menominee county the earliest strains of Golden Glow, such as Wisc. No. 25.

Red Kidney Beans.

Beets are produced for the most part on the strong loams, silt loams, and clay loams, of the regions south and east of the Saginaw Bay and in the Thumb region of Michigan and in Menominee county on the upper peninsula. This same area, excepting Menominee county, is the leading bean-producing area of Michigan, and beans, under ordinary conditions, would fill out a large part of any acreage not taken up by beets. Present market conditions, however, are not normal in regard to beans. The competition of the Japanese beans, particularly of the Kotonashi type, has discouraged an expansion of the bean acreage. It would not, apparently, be advisable to grow a larger acreage than normal of the white pea bean; however, attention is called to the fact that Red Kidney beans are selling at a much higher price than white pea beans. While the Japanese can grow these beans, up to the present time they have not been furnishing Red Kidneys in any great amounts, but have been seriously competing with the White Navy bean by shipping over immense supplies of the Kotonashi, which is very similar, in fact, practically identical to our white pea bean. An increased acreage of Red Kidneys appears warranted.

Potatoes Not Well Adapted.

Owing to the rather heavy nature of most beet land no very great acreage of beet soil should be given over to potatoes. On the more loamy type a good yield and a good quality of potatoes can be secured. As in the case of beans, a few may do well with potatoes, but a large new acreage would be unsafe.

The advantage of the above crops is that they occupy the same place in our rotations as sugar beets and can be followed by small grains seeded to clover, as is usual in the sugar beet regions.

Oats and Barley.

Those who do not grow beets in a regular rotation may find small grains, such as oats, barley, or spring wheat, good crops to grow. Beet ground is well adapted to a high production of any of these crops, and should be in condition to receive them. Spring wheat has not been proven to be a dependable crop in south-central or southern Michigan, but in the best regions of Menominee county and in the northern part of the beet section or the lower peninsula, including such counties as Isabella, Midland, Bay, Huron, Sanilac and Tuscola, excellent (Continued on page 668).



Insulation - the most important thing inside your Battery

Insulation is the material between the positive and negative plates, which keeps them from short circuits and thus safeguards the satisfactory performance of your battery.

Insulation, if it's *Willard Threaded Rubber Insulation*, keeps right on doing this important job to the very end of the battery's life—but if it is ordinary wood insulation it usually wears out before the plates do and has to be pulled out and thrown away and *you* have to foot the bill.

It is absolutely a fact that nobody had ever devised a really bomb-proof,

good-for-life automobile battery insulation that would last as long as the plates, till Willard invented Threaded Rubber and put it between the plates of the Still Better Willard Battery.

Therefore seeing it's the one most important thing inside your battery, drop in and see me next time you're in town and let's talk this question of *insulation* over in more detail.

Willard Service

REMEMBER!

Batteries may be starved to death.
Batteries may die of thirst.
Batteries may be injured by over-heating.

Batteries may freeze to death in winter.
Any battery will ultimately wear out.

Willard Service can help you avoid all but the last.

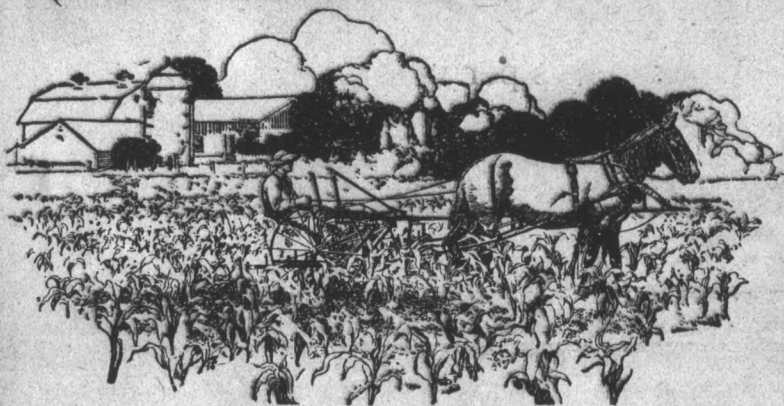
Getting Maximum Returns

THE PROFITS you get from your corn crop depend as much on the yield as on the price you receive per bushel. You can't control the price very well, but you can govern the yield to a considerable extent—and because you naturally want to get maximum returns from the seed you plant, you will do everything within your power to insure a big yield.

For instance, when it comes to the very important matter of cultivation, you are not going to endanger your crop by using a cheap, flimsy cultivator that misses many weeds and, because of its loose, bored bearings, wobbles so that it dodges into a corn hill every now and then, uprooting the young stalks.

You can hold an International riding cultivator close against the corn rows with ease—it is steady and the wheels track straight, because they are furnished with adjustable bearings so that any play from wear can be taken up very readily. And there are no weeds left behind an International.

See the International dealer the next time you are in town and ask him to show you his line of International Corn Cultivators.



INTERNATIONAL HARVESTER COMPANY
CHICAGO OF AMERICA U.S.A.

Blight and Rot Cause more Damage than Bugs

Potato blight is a fungous disease that attacks the vines and may kill them in a few hours. It causes rot, either in the ground or in the cellar. Blight is a more serious enemy than bugs. It shortens the growing season, cuts down the yield and causes heavy losses by rot. It is easy enough to kill bugs with a poison, but a fungicide is needed to prevent blight. You can do both by spraying with

Pyrox
TRADE MARK REGISTERED

This combined poison and fungicide prevents blight and kills bugs with the same application. It keeps the vines green and healthy and prolongs the growing season right up to frost. Pyrox is a smooth, creamy paste, ready to use by mixing with cold water. It sticks like paint. Respraying is required only to cover new growth.

See your local dealer about Pyrox. Have him reserve enough for you. Write today for our "Vegetable Growers' Spray Manual."

BOWKER INSECTICIDE COMPANY

43-E Chatham St., Boston, Mass.
1006 Fidelity Bldg., Baltimore, Md.
716 Conway Bldg., Chicago, Ill.

MICHIGAN LIVE STOCK INSURANCE COMPANY

INDEMNIFIES Owners of Live Stock—Horses, Cattle, Sheep and Hogs
Against Death by Accident or Disease
308 Davidson Building, Bay City, Michigan

Keeping Down Apple Scab

MICHIGAN orchardists are getting from fifteen to fifty bushels of apples per tree, which brings from \$1.50 to \$3.50 per bushel from sprayed orchards, while unsprayed trees often fail to bear; and if they do produce a crop it is small in quantity and it will sell for less than one-half of the above prices.

This is because spraying keeps the leaves healthy, enabling the trees to form large fruit spurs, and by covering the fruit with a fungicide, such as lime-sulphur solution or Bordeaux mixture, the attack of apple scab and other diseases is prevented.

Apple scab is most prevalent in wet seasons, as the spores require water for germination. Serious losses from this disease often occur even when the trees are sprayed, due to the fact that at some time during the season too long a period is allowed to pass without spraying the trees. This has been especially true when there have been frequent showers during the first half of May or in July and August, when little spraying has been done.

The character of the weather cannot be forecast for any considerable time, and as the sprays are of a preventive nature, it is important that the spraying be done just before a rain, or at any rate near enough to the rainy period so that the foliage and fruit will be covered. If this can be done there will be little danger of attack by fungi, since the spores of fungi cannot germinate where there is even a thin film of a fungicide.

According to the condition of the weather there is danger from the attack of the fungi from the time the first leaf-buds open until the fruit has been harvested, and even after the apples are in barrels the scab spots may enlarge.

In ordinary seasons we can figure that a thorough application of lime-sulphur solution to the leaves and fruit will only protect them from attack for

two weeks; and if the weather is dry, its effects may last for three or four weeks. From this, it can be seen that in order to hold apple scab (pear scab is a nearly related disease and the following holds true with it also) in check we should make the first application as soon as any green growth shows on the trees, and repeat every two or three weeks up to the first, or even the middle of August in wet summers.

What is known as the "pre-pink" spray, or early cluster-bud, should not be omitted. Use one gallon of lime-sulphur to forty gallons of water, and repeat in ten or twelve days if the buds have not opened. Spray again



St. Clair County Maple Syrup House.

as soon as the fruit has set, and continue the applications on winter apples until August first, or even later. At no time should more than four weeks elapse without spraying and it should not be delayed more than two or three weeks in wet seasons. In most, if not all of the applications, an arsenical should be used.

By following these suggestions and spraying the trees thoroughly, from ninety-five to ninety-nine per cent of the fruit will be free from apple scab and worms.

L. R. TAFT,
State Inspector of Orchards.



Crops to Grow in Place of Sugar Beets

(Continued from page 666).
yields are frequently secured with spring wheat. All of these crops, oats, barley and spring wheat, are very likely to meet a dependable demand. Barley and oats make excellent feeds. The barley crop, in particular, can be disposed of by feeding to hogs, sheep and cattle.

Alfalfa and Clover.

Alfalfa and clover are both crops which may be well seeded down on any Michigan land and not specially needed for other crops. If the sugar beet market is off, from the farmer's standpoint, what better thing could be done with land, formerly given over to the production of beets, than to seed to alfalfa, using a light seeding of oats or barley as a companion crop? Not only will the alfalfa furnish excellent returns, either as a feed crop or a money crop, but when the land is broken, after several years in alfalfa, greater crops of corn, beans, beets, and other crops result.

Much the same can be said for clover. There is at present a shortage of clover hay and seed. In getting land

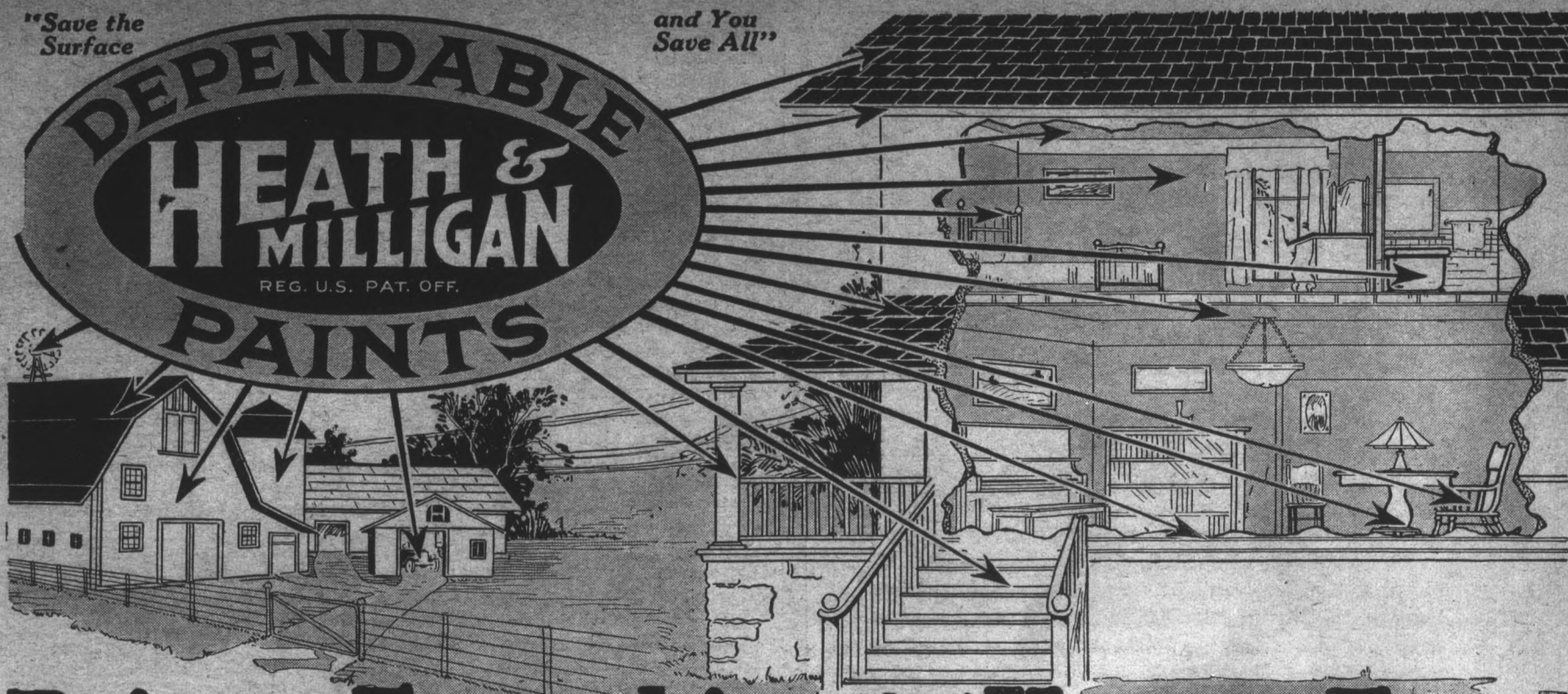
in small grains seeded with clover, both from the standpoint of the general balance of the crops market, and in improving the land, which has been, in many instances hard run by several years of meeting war demands, sure benefits are to be derived.

The suggestion is made that north-ern-grown alfalfa seed be planted,

properly inoculated, and ground lime-stone or sugar beet lime applied to the land.

If clover is seeded, red clover or a mixture of red and alsike is recommended. In view of the scarcity of red clover seed and its high price many may find it practical to plant a mixture of red and alsike clover in the proportion of four pounds of red and two pounds of alsike. Alsike seed being much smaller, goes twice as far, while the cost per pound is about the same. Sugar beet soils is very well adapted to alsike clover. On sugar beet land, which is not very well drained, alfalfa should be avoided and alsike seed used instead, or a mixture of alsike, red clover, and timothy, using two pounds of alsike, four pounds of red, and from two to four pounds of timothy per acre. The abnormally strong demand for clover seed will very likely continue for a number of seasons, hence red clover with small grains at the rate of eight to ten pounds per acre, or alsike alone, using four to six pounds per acre to be handled for seed are much needed crops.

It is to be sincerely hoped that price arrangements and labor conditions at planting time, are such that Michigan farmers will be encouraged in growing the beet crop, and that there will be no need, from the market standpoint at least, of using land which would be planted ordinarily to sugar beets, for any other crop.

"Save the
Surfaceand You
Save All"

Paint for Everything *about the* Home and Farm

WHEN you are ready to paint, remember that there are more than 50 distinct Heath & Milligan Products, a suitable one for each kind of surface around the farm and home. They will all prove to be the cheapest in the end for you to use. Will cost less per year of service.

If you would like to know more about these Dependable Paints, return the coupon below for a copy of our FREE BOOK, "How to Paint," anything and everything from the front gate to the back fence. This book will save you a good many hours of time and worry.

"How To Paint" Tells

How to renew old furniture. What to do with bare floors.
How to treat cement. How to refinish your car.
How to prevent rust on metal. How to treat plastered walls.
How to prime new wood. How to beautify your rooms.

Paint Headquarters

To get accurate, up-to-date information about your paint problems, to be certain of durable results, go to the Heath & Milligan dealer in your locality before you buy. His store is paint headquarters. Our trade mark (shown above) makes it easy for you to find him. Look for it.

Some of Our Dealers—Is Yours on this List?

The small figures after the dealer's name in this list, signify the number of years that he has acted as our dealer in his locality.

MICHIGAN DEALERS

Allegan, The Grange Store
Amasa, Amasa Co-Operative Store
Au Gres, Cole Sproule Hdwe. Co.
Battle Creek, Wayne D. Marsh
Bay City, Ig. Andrzejewski
Bay City, H. & H. L. Eickemeyer
Bay City, The Jennison Hdwe. Co.—33
Bay City, M. G. Kabat
Bay City, E. E. Mannassa
Bay City, Mich., E. A. Mutart
Bay City, Wilton & Mack
Benton Harbor, George C. Bridgeman
Berrien Springs, H. K. Graham
Bessemer, Bessemer Lumber Co.
Bloomington, Harrison & Spayde
Buchanan, Runner Bros.
Caro, F. A. Riley
Cedar, Ward & Culver—18
Cedar Springs, John Beucus
Charlevoix, Charlevoix Hdwe. Co.
Cheboygan, Geo. W. Thompson
Coldwater, Kerr Bros.
Covert, Chas. Gunsaul
Covington, August Hotala
Dowagiac, L. A. Conklin
East Saugatuck, John Lubbers & Co.
East Tawas, A. J. Merschel
Edmore, E. L. Bates
Edwardsburg, Mich., H. L. May Co.

Elk Rapids, M. E. Butts
Ewen, O. Udall
Gladstone, Northw'trn Co-op-
eration & Lumber Co.
Gladwin, Rogers & Neely
Glen Haven, D. H. Day—35
Graafschap, (R. D. from
Holland) Tien & Rut-
gers Co.—35
Grandville, C. L. Thomas
Hale, H. E. Nunn
Hand Station, John L. Thies
Harbor Springs, C. D. Lane
Hartford, M. A. Engle
Hastings, Hastings Lum-
ber & Coal Co.—7
Hessel, Fenlon Bros.
Holland, Scott Lugers
Lumber Co.—25
Iron Mountain, John Strong
Ironwood, Olson-Bergquist
Ishpeming, Ishpeming Co-op.
Society
Jamestown, Nick Van Haits-
ma
Lake City, R. M. Bielby—21
Laurium, J. Vivian Jr. & Co.
Leslie, Holiday Lumber Co.
Levering, Wm. DeKruif Co.
Ludington, H. Abrahamson
Manton, Chas. H. Bostick—20
Marcellus, C. R. Miller
Marshall, F. G. Seaman & Co.
McCords, R. E. Colby
Mt. Pleasant, Breidenstein &
Kane
Napoleon, L. M. Godfrey
Niles, H. T. Richter

Northport, Kehl Mercantile
Co.
Nunica, E. S. Baldus
Omer, Mich., J. K. Mead
Ontonagon, Casper Roosen
Otsego, A. E. Wilson
Overisel, Willis G. Hulsman
Pentwater, Sands & Maxwell
Lumber Co.
Piquette, Chas. Hebard &
Son
Portland, Builders' Lumber &
Supply Co.
Prescott, The Eymmer Co.
Remus, A. J. Huber—20
Roscommon, Rutledge Bros.
St. Johns, Van Sickle &
Glaspie
Sand Lake, Sand Lake Phar-
macy
Skanee, Axel Erickson
Stanton, M. H. Bachman
Sturgis, Tobey & Jackman
Suttons Bay, L. R. Sogge
Three Rivers, T. J. Reed Es-
tate
Trout Creek, Trout Creek
Mfg. Co.
Turner, Turner Hdwe. Co.
Wakefield, Myers Co.
Walloon Lake, Masters &
Haas Boat Co.
White Cloud, E. H. Lemire
Whittemore, M. O. Collins &
Son

ADJACENT INDIANA DEALERS

Butler, G. F. Gengnagel & Son
Culver, J. O. Ferrier & Son
Gary, D. Ward
Elkhart, Wm. H. Theis
Hebron, Maxwell Implement
Co.
Kendallville, A. R. Otis—21

LaCrosse, Maxwell Imple-
ment Co.
Nappanee, Dunham &
Love—12
New Carlisle, Zeck Bros.
Valparaiso, Maxwell Imple-
ment Co.
Wanatah, Scholz & Boehlke
Westville, Westville Hdwe.
Co.
Whiting, Tom Smelser—30



FREE "HOW TO PAINT" BOOK

HEATH & MILLIGAN MFG. CO.,
1831 Seward St., Chicago, Ill.

I plan to paint or varnish as checked below:
Please send complete information.

- | | |
|---|--|
| <input type="checkbox"/> House | <input type="checkbox"/> Interior Woodwork |
| <input type="checkbox"/> Barn | <input type="checkbox"/> Furniture |
| <input type="checkbox"/> Porches | <input type="checkbox"/> Cement |
| <input type="checkbox"/> Interior Walls | <input type="checkbox"/> Farm Implements |
| <input type="checkbox"/> Floors | <input type="checkbox"/> Automobile |

Also send me copy of your Free Book, "How to Paint"

My dealer is.....

Address.....

Name.....

Town.....R. F. D.....

State.....

Heath & Milligan Mfg. Co.
Chicago, U.S.A.

DEALERS!

If you want your store to
be Paint Headquarters,
arrange to have your name
listed like these.



Easy For The Boys

With farm help scarce, boys must now do work formerly done only by men. James Equipment makes chores easy.

336-page book on barns and labor-saving barn machinery sent on request.

James Mfg. Co., Inc. Atkinson, Wis. Elmira, N.Y. Minneapolis, Minn.
The James way
 Labor Saving Equipment for the Dairy Barn

"For the money they save us"



THOUSANDS of engine owners have eliminated the item of spark plug cost from their up-keep by the use of Splitdorf Spark Plugs. The main reason is that "The Plug with the Green Jacket" is insulated with East India Ruby Mica that never chips, cracks, or breaks. Each one is absolutely guaranteed against breakage.

There is a type best suited for every engine. Write for booklet designating the type for your car, tractor, or truck engine.

SPLITDORF ELECTRICAL COMPANY
 98 Warren Street, Newark, N. J.

TRADE
SPLITDORF
 MARK

Established 1858

For Sale Cleveland tractor, Oliver two bottom plow, Cultivator, Tandem disc harrow, used less than ten days. Price \$1550. Guaranteed same as new. Address Box B 424, Michigan Farmer, Detroit, Mich.

Mention The Michigan Farmer When Writing Advertisers

Sudan Grass Seed \$17.00

Street Clover, \$40.00; Sheep and Hog Rape, \$18.00 per 100 lbs. HAROLD G. FRANK, HEATHERNAO RANCH, Sterling, Mich.

The Public Auction Sale

By J. H. Brown

HAVING decided to quit farming, the undersigned offers for sale, and so forth.

In our own city daily paper we have printed eighty-three of these farm auctions during the last six weeks. Not all of them have had the same heading as above, but a good many have and it shows a serious situation.

Some of the auction sales show that tenants have made enough working one or more various farms for a number of years past and have now bought a farm of their own. Still others have been paying installments on a small farm bought several years ago and they now will quit working large farms on shares and go onto a small farm where they hope to be able to do the most of the work themselves and be more or less free from the hired man luxury.

In fact, these tenant farmers have done pretty well working others' farms for quite a long term of years. They have saved and planned for a small farm of their own in the sweet by and by and that little place of their own is in sight now.

These tenant farmers have been of a class that is an honor to our country. From henceforth they will be land owners and first-class citizens. We know this is true, for we have lately made quite a thorough investigation at the request of the editors of the Michigan Farmer. We might mention a score of farmers in our home sec-

cially after lunch, if the hot coffee and fried holes were a plenty and all the should be.

It's been that way every winter and spring in this and in other necks of the woods ever since Alcibiades started the auction fad in old Athens, Greece, about four hundred and twenty years before Christ. Alci. was a barker and more or less tricky. He also had a confirmed itching spell during which he picked up, gathered, acquired and took possession of, various sundry gimeracks, waterworks and farm machinery fashionable to those days in the history of our already notorious mundane sphere. Alci. tried to auction off his old truck to the neighbors, after running an advertisement in the classified column of the Nightly Athenian and on handbill plastered on the marble columns of the Parthenon. He offered for sale, it is reported, a lot of old truck that ought not to have pulled the wool over the eyes of the excited bidders. But the bit, nevertheless, and bought a piece of the horn of the Ram of the Golden Fleece, a portion of the stern pinched off the Argonauts' cruiser "Argo," one of Socrates hemlock recipes and a couple water screws that formerly belonged to Archimedes. The ball bearings on the lower end of both these screws were badly worn, but some farmer bid 'em off to fix up his home waterworks. Alcibiades was a sharp cuss. Besides helping to invent auc-



A Typical Farm Auction Scene.

tion whom we personally know who have passed from the classification of a tenant farmer to the much-to-be-desired one of farm owner.

And so these auctions, so many hundreds of them in almost every section of the country, do not all show abandonment of farms. It means in some cases that the sale of farm implements, live stock, and so forth, is held to get rid of a lot of stuff that may have been owned by the tenant and the owner of the farm, and the auction sale is looked upon as the quickest and best means of settling up before moving day.

There are other sales that mean exactly what the newspaper advertisement and printed handbills say: "Having decided to quit farming, the undersigned offers for sale" a whole lot of stuff. He is sick of farming and few of us can blame him. He is getting old, has not a single boy left at home to help him, help is worse than scarce, the farm doesn't pay anyhow, and he's going to quit the roost for keeps. So he sells out everything from the cur-

comb in the barn to the old washtub in the woodshed that his grandmother used before the Civil War. And some-est neighbor to bid off the stuff under the excitement of the hour, and espe-

he one day went out on the back lawn and cut off his own dog's tail so the neighbors might have something to talk about during a dull spell in early spring.

And since that time farm auctions have been the rage every spring. They got into Michigan in an early day along with the fever and ague, and ox teams, grub hoes, and so forth. And we will have 'em with us every spring to come until the last auctioneer orator dies without any progeny or trailer to fill his bill.

There are many farmers who think it is a great chore to have to go from one to seven miles to vote on town meeting day in April. But they never grumble over the ordeal of walking, wading or driving several miles in the mud and wet to attend a farm auction. And some of them go to a dozen or more every spring. And this spring we suppose there is at least one farmer in Michigan who has already attended his twenty-fifth (more or less) auction since New Year's Day.

The accompanying picture shows a typical auction on a farm in Kalamazoo county. It was a cold, raw day in early March, but a good crowd was on hand and every last thing on the place almost was sold before milking time.

Steels

Make the Maxwell Thrifty

SEVERAL million dollars have been expended to provide more elegance, more refinement, more comfort to the current Maxwells.

It is in ever so many ways a superior appearing car; superior, too, in action.

But not a single pound of weight has been added to burden the work of its great engine!

Therefore, despite the many processes of improvement, it doesn't cost a penny more to run a Maxwell than it did a year ago.

The underlying principle of every Maxwell is to give economic transportation.

This means light weight. But it means strong steels, as well.

It is no easy trick to provide both lightness and strength in metal.

Such a rare combination means high cost steels.

And you would find, if you compared a Maxwell with *any* car, that it equaled that car pound for pound in fine metals.

How such steels affect your pocketbook is obvious.

1. They are light in weight and hence give more mileage on a gallon of gasoline.

2. As they are fine steels they give *long* and *uninterrupted* wear.

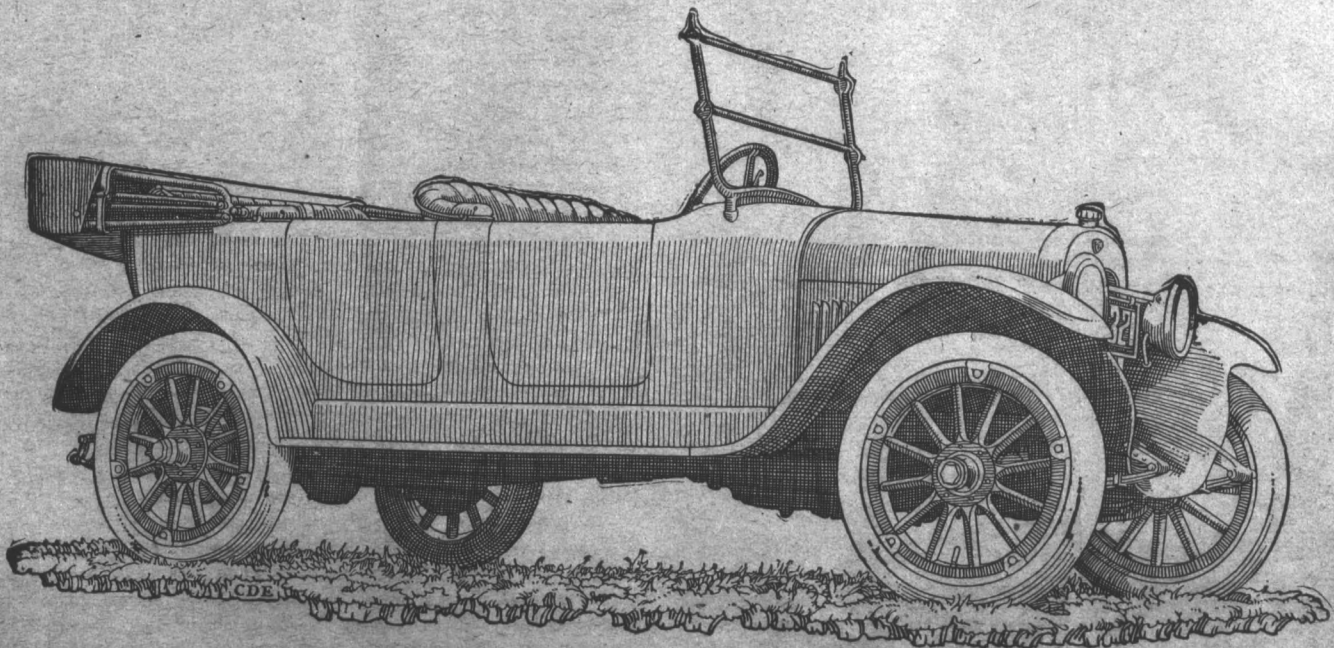
Which are but two of many reasons for that definite tendency of world-wide friendship towards Maxwell.

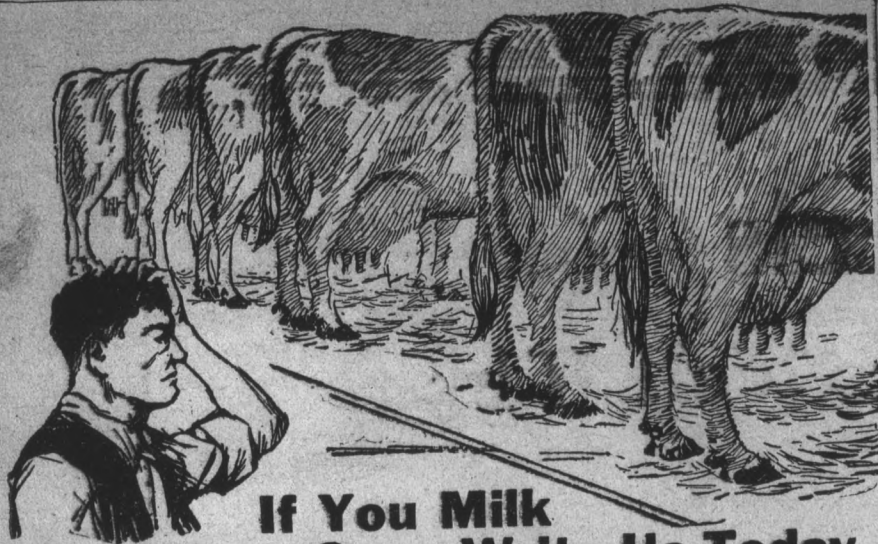
In six years nearly 400,000 have found their answer to the motor car question in a Maxwell.

This year 100,000 Maxwells are being produced.

This will supply but 60% of the demand.

MAXWELL MOTOR COMPANY, INC.
DETROIT, MICHIGAN





If You Milk 6 or More Cows Write Us Today

You can make milking the easiest job on your farm with a mechanical milker—you can double your dairy dollars in saving time and labor. All these are facts we want to send you—facts you need to make the most money from your herd. It's all made possible with the

UNITED MILKER

With the "See-Thru" Teat Cup

The milking machine that more closely imitates the sucking calf (nature's way) than any milker made and you can see at all times when teats are milking. It milks with a smooth, uniform action. Cows like it and give down their milk freely. Suction is soothing and gentle. It's a milker that's positively safe, sanitary—no metal touches the teats or udder. It's simple and light in weight—a boy or girl can handle it easily. It takes little power—costs little and up-keep is trifling. Write us at once for full particulars.



UNITED ENGINE COMPANY

Dept. M11

C. L. Sprinkle, Pres.

LANSING, MICHIGAN

OTHER UNITED PRODUCTS:—Gasoline Engines, Kerosene Engines, Feed Mills, Light Plants, Cream Separators, Saw Frames, Washing Machines.



Let the PHONOGRAPH —not a salesman convince you of its quality

You may try this for ten days—in your own home

It is a wonderful reproducing instrument. True and clear, equipped with silent mechanism, and adjustable to play any kind of disc record made. It is a better Phonograph—it is a

Cornish

We send 12 double disc records—24 selections—with it, and if at the end of the 10 days you wish to, you may return it and we will pay freight both ways. We sell at factory price. Our terms are very liberal—we make them to fit your pocket book. Write today for The Cornish Phonograph Booklet and full information regarding a purchasing plan that will greatly interest you—and save you money. A postal or letter will bring it to you promptly.

Cornish Co.

Dept. MF
Washington, N. J.



Ro-San Rolling Bath Tub With Heater

Full size white enamel tub, nickel-plated 12-gal. tank. Closes up in space 3 ft. square. On casters—roll it anywhere. Heater attachment for kerosene, gasolene or gas. Water heats quickly, waste drains through hose attached to temporary or permanent outlet. Single. Guaranteed. Write for catalog and price.

Rowe Sanitary Mfg. Co.
41 1/2 6th St.
Detroit, Mich.

Ask about Ro-San Indoor Closets and Washstands. No Plumbing Required.

30 DAYS TRIAL

FEEDS

Dairy, Horse, Hog and Poultry feeds. Bran Middlings, Cotton seed Meal, Cull Beans. We want to send you our price list. YOUNG-RANDOLPH SEED COMPANY, Owosso, Michigan

Our Service Department

ADVERSE POSSESSION.

A man has an undivided interest in a piece of land. The other party conveys the land by warranty deed, and several conveyances have been made covering a period of twenty-five years and no action had been taken in regard to his claim of peaceable possession during that time up to the present. Is his claim valid? Is it necessary for one man to have peaceable possession fifteen years to give him a perfect title?—O. N. C.

The deed conveyed only undivided one-half interest; but by the adverse exclusive possession for fifteen years under claim of right of title of the other one-half the owner has been barred.

J. R. R.

LAND CONTRACT.

A man buys a place on a contract but does not keep it up so that the contract becomes void, but through kindness the owner of the land allows him to stay there and live in peaceable possession and pay the taxes. Can he, after so long, claim a deed of this property? If so, after what length of time?—E. M.

E. M. assumes failure to keep up the payments makes the contract void. This is not so. The contract remains in force until the seller serves notice on the buyer of forfeiture for failure to perform; and even after service of notice of forfeiture, the buyer can still redeem until his right has been properly foreclosed by legal proceedings or until he has by some act of his precluded himself to claim that he is still entitled to the property under the contract.

J. R. R.

BREACH OF WARRANTY.

A sells B a horse for \$150. The horse appeared to be all right excepting a wind-puff on front joint. B accepts the horse with that blemish, stating at time of purchase that the horse would have to be right in every other respect or it was no sale. It developed that the horse can do no heavy drawing without his hock joints swelling. Does A have to take the horse back and return B's note given in payment? Can B collect damages from A for putting such a horse on him when A knew the horse was in such a condition?—D. W.

Where an article is sold with warranty as to quality, which is later discovered to be broken, the buyer has the right to keep the property and sue for damages for breach of contract, or to rescind the contract, return the property, and recover the amount paid by him. If after knowledge of the breach, he continues to keep and use the property this is an election by him to confirm the contract, and thereafter he can only recover the damages for breach of the warranty. He cannot rescind.

J. R. R.

CATALPA TREES FOR POSTS.

I have about one thousand catalpa speciosa trees large enough for fence posts. How do they compare with cedar as to durability, and about what should I charge for them? Should they be peeled before setting?—Subscriber.

I wish to answer the last part of the inquiry first by saying that too much emphasis cannot be laid on the necessity for peeling all kinds of timber before placing it in the ground. Not only should your catalpa posts be peeled but they should be thoroughly air-seasoned for from three to six months after cutting. Pile the peeled posts up in triangular or square crib piles, well raised above the ground by posts, stones or other form of support, so that air may circulate freely about each post. Posts cut in the spring or growth

late winter should be peeled at once, and piled there to await and season until the slack season in August before being placed in the ground.

Catalpa speciosa body posts are better than the cedar posts found on the market today and when properly air-dried should last from four to ten years longer. The average cedar posts lately examined by the writer carry a large per cent of sap wood and are consequently not so durable as were the more slowly grown posts that were made from selected trees of years past.

As to relative money values I would say that well-seasoned body wood catalpa posts should be worth from ten to fifteen cents more per post than cedar, meaning, of course, white cedar.

It must be remembered, however, that size of the post at the ground, and shape, if a split post, whether square, triangular or nearly flat, plays an important part in the durability, and preference must be given to the round and square posts. A diameter at ground of six inches, or at top of four inches, should furnish the unit of comparison for determining value.

F. H. S.

FARMING ON SHARES.

I rent a farm on shares. Everything is furnished and I get one-third. When I came here there was seven hundred bushels of corn. Do I have to put the full amount, or one-third, back when my contract expires, the owner getting the benefit of the corn as well as myself?—C. K.

In the absence of agreement to furnish anything beyond what is produced by the tenant from the premises the tenant would be liable to the owner for the value of anything furnished by the owner at the time the tenant took possession, the same as if the same goods had been furnished by another and had not been paid for.

J. R. R.

TOP-DRESSING FOR CLOVER SEED.

I would like some advice regarding top-dressing new clover seeding. I have a five-acre lot which the sheep used for yarding ground for about nine years. Two years ago I broke it up, gave it a liberal application of manure, planted to corn, had a good stand. Last spring I disc-harrowed the soil, well-seeded it to speltz and alsike. Threshed eighty-four bushels of speltz from the lot, and the seeding looked splendid last fall. I would like to secure clover seed of this lot. Would top-dressing discourage the setting of seed?

Iosco Co.

A. P.

The season has more to do probably with a crop of clover seed than almost any other crop we can grow. I am of the opinion that a good top-dressing of stable manure early in the spring would be a splendid investment. I should say it ought to be put on with a manure spreader to get it evenly distributed. Of course, the first growth of clover should be clipped, then the second growth will come up and produce seed. The first growth of red clover usually has very little seed. This clipping ought to be done before the first crop heads out, if possible. Usually along about the first of June is the right time, but here one must take into consideration the season. If this field would be top-dressed with coarse manure and not done very early it would interfere in running the mowing machine to clip it. This top-dressing will tend to form a mulch and hold the moisture so that you will be that air may circulate freely about each post. Posts cut in the spring or growth

C. C. L.

Chi-Namel AUTO FINISHES

It can be smoothly applied by anyone because of the waterproof, self-leveling Chinese Oil they contain. No laps or brush marks even if put on with a whisk broom. Color and gloss in one operation. Dry in 48 hours. Each can tells how to use it.

Visit Your Nearest Chi-Namel Store

This representative merchant will prove to you that you can write your name in freshly applied Chi-Namel and the surface will self-level smooth and glossy again in a few minutes. Ask about Chi-Namel Top and Seal Dressing, Aluminum, Metalglow and Auto Polish.

Write us direct for auto color cards and information, if you fail to find a Chi-Namel Store. The Ohio Varnish Co., Cleveland, Ohio

Farm Equipment

Every up-to-date farm has its clipping machine for horses and dairy cows. Horses work better when relieved of winter coat—cows give cleaner milk when flanks and udders are clipped. Agricultural schools and Government farms use clipping machines. YOU should have one. Get a Stewart No. 1 Ball Bearing Clipping Machine, \$12.75. Send \$2 and pay balance on arrival. Or write for catalog. CHICAGO FLEXIBLE SHAFT COMPANY, Dept. A, 127, 12th St. and Central Ave., Chicago, Ill.

RAISING BABY CHICKS.

I would like some information on how to care for and feed baby chicks, also how to make a brooder at home. Indiana. Mrs. G. H.

Baby chicks should not be fed until fifty or sixty hours old, as this gives the egg yolk a chance to be absorbed and places their system in condition to receive food. Sour milk or buttermilk fed in sanitary fountains is a help in preventing white diarrhea and other digestive disorders.

We like to feed baby chicks dry oatmeal for the first feed and continue it for the first week. About five feedings each day will be necessary. And only give them the amount they will clean up in a short time. A hopper of bran near the brooder will be beneficial as bran seems very helpful to the chicks and they will not eat too much of it. Of course, they need grit before their first feed. We used to feed them commercial grit but now believe that sand gives them all the bits of grit they need. Fine clover chaff or sprouted oats will furnish green food until the chicks can run out on the ground. If they can run on a clover sod soon after hatching we do not find it necessary to supply other green food.

When the chicks are about a week old they can be given the fine scratch feed sold commercially for raising the chicks. This can be continued until they are old enough to eat wheat and cracked corn.

We do not advise the making of brooders at home because of the fire risk and danger to the chicks if the brooders are not made right. There are so many brooders on the market at reasonable prices that it hardly pays to make them. Occasionally heaters are advertised in the poultry journals which can be installed in wooden boxes. This gives a brooder at a low price but we do not believe they are usually as satisfactory as the manufactured brooders. Chicks are so expensive at the present time that the poultryman cannot afford to risk them in anything but the best of brooding equipment. R. G. K.

UNSATISFACTORY RESULTS WITH RATION.

Please outline a balanced ration for cows fresh. I have enough ensilage to feed only about twenty-five pounds per cow per day. I have plenty of bean pods in fine shape, also cut corn fodder in a large quantity. Also clover and timothy hay; more timothy than clover in hay. I have been feeding as follows, but am not satisfied with results: A small feed of about eight pounds of ensilage in the morning, and all the cut corn fodder they will eat. Watered at nine o'clock, bean pods at noon, or hay, alternating each day. A full feed of about twenty-two pounds of ensilage at night, watered at four p. m. In addition to this I have been feeding the following grain ration, about one pound of grain to each four pounds of milk: Corn, ground fine, 200 lbs; bran 200 lbs; middlings 100 lbs; oats 100 lbs; cottonseed, thirty-eight per cent, 150 lbs. F. G.

These are all good foods in this ration, including both roughage and concentrates. It is barely possible that you would get a little better results by increasing the per cent of protein and yet the wheat bran and the cottonseed meal in the ration ought to furnish the necessary amount. If the cows are not producing what they ought to, I am inclined to think that it is due to something else rather than the ration. Possibly they are not milked properly. And again, the barn may be too cold, but I can offer no suggestion with regard to proper care, of course, without making a personal investigation, but my judgment is that this is a very good ration. C. C. L.

MATING BARRED ROCKS.

I am raising Barred Plymouth Rock chickens. Will you please tell me the different matings and how to make them, for instance, how to get a pullet

bred cockerel or a cockerel bred pullet, etc.?—G. E. C.

To produce exhibition Barred Rocks many breeders use what is called double matings. The light or pullet-bred matings are used to produce exhibition pullets. The dark or cockerel-bred matings produce the exhibition cockerels. This is done because the standard of perfection calls for the male and female of the same color. Many breeders object to the present method of breeding Barred Rocks and believe that they should be made into two breeds, the Light Barred Rocks and the Dark Barred Rocks.

Some breeders produce their Barred Rocks by the single mating system. Of course, nature takes its course and the cockerels are lighter than the pullets. In raising bred-to-lay Barred Rocks under farm conditions there is little attention given to double matings as the purpose is to obtain vigorous stock of good laying ability and not to show the birds in competition. The best exhibition Barred Rocks are produced through double matings.

You can obtain a pullet-bred cockerel or a cockerel-bred pullet by corresponding with some breeder who is specializing in exhibition Barred Rocks. At most of the poultry shows these birds will be exhibited and it gives the breeder a chance to study the males and females in both the dark and light lines. Some breeders confine their operations to breeding either the dark or light line while others have both matings. R. G. K.

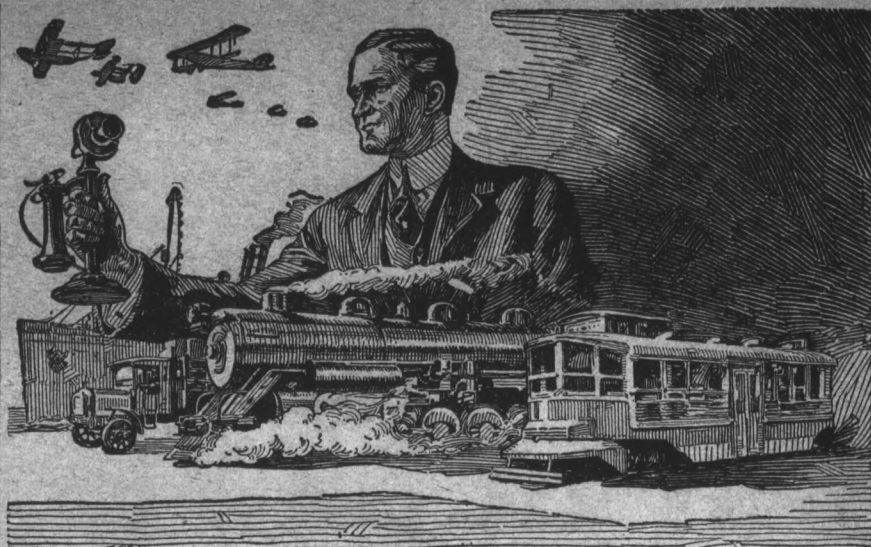
WASHINGTON NEWS LETTER.

(Continued from page 662).
ing by the shoe manufacturers and dealers.

The senate committee on agriculture is evidently favorably impressed with the Muscle Shoals nitrate bill, but the proposition has found little encouragement in the house, where politics has hindered the proposed measure. Hearings are being held before the house agriculture committee, and it is hoped by its friends that the committee may be able to see the matter in the light of the public good, and report favorably on the measure, which means a great deal to the future production of food on American farms. If the government is unwilling to aid the farmer to lower the cost of production by enabling him to secure an ample supply of fertilizers at a reasonable cost, it cannot expect the farmers to produce food to meet the nation's demands.

The railroad strike has started another agitation in congress for more drastic laws, for the protection of the public. Senator Poindexter of Washington state, has proposed a bill imposing ten years' imprisonment and ten thousand dollars fine for any person who advises, solicits or persuades others to join a strike which interferes with interstate commerce. Senator Thomas, of Colorado, asserts that these strikes are a part of a conspiracy to fasten the Plumb plan of government ownership on the country, and Senator Kellogg of Minnesota, declares that no set of men should be permitted to take the nation by the throat and starve it to death. This point is inevitable, that under our present dependence upon the railroads as the arteries for supplying the cities with food some plan must be devised whereby strikes on transportation systems can be prevented. A compulsory court of arbitration appears to be the most likely plan yet proposed in congress. —E. E. R.

Oliver Ferris went to a movie show in Detroit and saw the workmen making shoes in a big eastern factory. He says if men always worked like they do in the pictures there wouldn't be any trouble about under-production. Oliver is thinking of hiring a movie company to film his hired man during haying and harvest.



The Measure of Progress

The progress of the past, as well as that of the future, is measured by criticism—for criticism exists only where there also exists faith in ability to improve.

We do not criticise an ox cart or condemn the tallow dip, for the simple reason that they are obsolete. During the reconstruction period through which our country is now passing, if the public does not criticise any public utility or other form of service, it is because there seems

to be but little hope for improvement.

The intricate mechanism of telephone service is, under the most favorable conditions, subject to criticism, for the reason that it is by far the most intimate of all personal services.

The accomplishment of the telephone in the past fixed the quality of service demanded today; a still greater accomplishment in quality and scope of service will set new standards for the future.



AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy

One System

Universal Service

Talk it over with an Empire user

MANY dairymen who have been using Empires now for over five years tell us that their machines are in just as good condition now as they were when installed. Pretty good evidence of Empire quality of material and construction this, but even more important they also report their cows in as good or better condition than before the machines were used.

There's probably an Empire user not far from you. If you'll write us we will tell you his address. Ask for catalog 23-M

"The Standard of the Better Dairies"

EMPIRE CREAM SEPARATOR CO., Bloomfield, N. J.
Also manufacturers of The Separator with The Million Dollar Bowl

Chicago, Denver, Atlanta, Toledo, Syracuse, Minneapolis, San Francisco, Montreal, Toronto

EMPIRE

MILKING MACHINES

Newly Invented SAW RIG

Low introductory offer puts this new saw-rig within reach of all, at small part of cost of other rigs. Saws your winter's wood in few hours. Powerful 4-cycle motor. Easy to operate, light to move. 30 days' trial to prove our claims. 10-year guarantee. Send today for FREE BOOK OF FACTS. OTTAWA MFG. CO., 194 Main St., Ottawa, Kans.

DYNAMITE

Blast out those Stumps and Boulders with Dynamite. Magazines in all parts of United States. Write us for prices. ACME EXPLOSIVES CO. Terre Haute, Indiana.



"Beating the Game" is an interesting little booklet full of valuable information you will be very much interested in. We have a copy ready to mail to you if you just fill out the coupon and mail today.



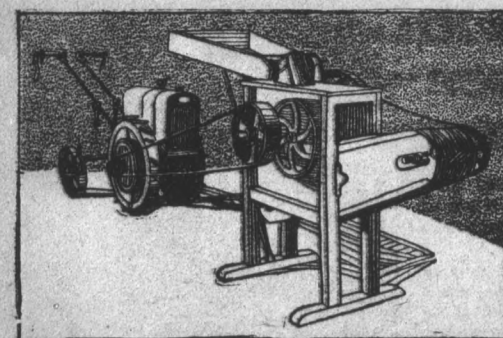
Discing can be done faster and at less expense with the Utilitor.



A Utilitor and three-row gang seeder will drill or hill 35 different kinds of seeds.



The Utilitor has no equal for one-row nursery truck garden or berry cultivation.



One of many belt uses: Operating corn sheller.



THE
MIDWEST
ENGINE CO.
144 Martindale Av.,
Indianapolis, Indiana.

Gentlemen: Please send me, without obligations on my part, the information on the Utilitor as checked below:

☐ Booklet "Beating the Game" ☐ Who is my nearest dealer?
(If you will give us the information requested below we will be better able to show you how the Utilitor fits your particular problem.)

I own _____ acres. I have under cultivation _____ acres.

I am raising _____ Nature of soil _____

Level? _____ Rolling? _____ Hill? _____

Name _____

City _____ State _____

This farm lighting unit, Utilite, is made especially for the Utilitor.

You Simply Can't Farm Under Present Conditions to the Best Advantage Without a Utilitor

Farmers are making **REAL MONEY** by using their brains and letting the Utilitor do the work. This whole **UTILITOR** proposition is purely a matter of **DOLLARS** and **SENSE**. To show a profit on your farm you must make more money and **SPEND LESS**.

By working **TWENTY-FOUR HOURS** a day, if need be, at a cost to you of approximately **FIVE CENTS AN HOUR** for "gas" and oil, the Utilitor cuts farm wages in

half, saves horse feed and shaves your table expenses by ridding you of a lot of **HUNGRY "HANDS"**. It does all that one good strong horse can do, **PLUS** all that one good gasoline engine can do. It is made by the **Midwest Engine Company**—one of the strongest and fairest factories in America—a factory that absolutely guarantees the Utilitor to **DO** its work properly. This guarantee is **IRON CLAD** and means exactly what it says.

MIDWEST UTILITOR

The Safest and Most Practical Orchard and Fruit Worker Yet Devised

The Utilitor is especially well adapted for work in orchards. We offer a disc, spike tooth harrow, spring tooth harrow and a set of cultivating tools, any of which are suitable for orchard cultivation. With our hitches a wide range of adjustments for these various tools is possible. The Utilitor is only 36 inches high, permitting cultivation beneath low hanging branches much closer to trunks of trees than is possible when horses are used. There is no danger of the Utilitor nipping fruit and branches. It is so easily controlled that the operator need have no fear of injuring trunks of trees, surfaced roots or branches as is the case with horse cultivation.

Cuts Expenses to the Bone and Does Better Work for the Truck Gardener.

A number of implements which we recommend for use with the Utilitor are

especially adapted to the truck gardener's use. The three row gang seeder permits the drilling or hilling of 35 different kinds of seeds in rows varying in width from 9 to 36 inches. Our one row cultivator and disc are adapted for cultivation both astride and between rows, for the Utilitor has a vertical clearance of 8 inches and a horizontal clearance of 10 inches between the bull wheels. Equipped with cultivating rims the Utilitor is 18 inches wide, so it may easily pass between the rows of larger crops. Our three row cultivator is designed to cultivate the crops planted with the three row gang seeder. With our set of cultivating tools a number of combinations can be arranged for various kinds of cultivating, both deep and shallow, astride or between rows of different widths.

The Utilitor Will Thoroughly Motorize Your Farm

The Utilitor is a portable gas engine for driving belt machinery requiring not over 3 horse power. Remember this machine will move from job to job under its own power. It is the untiring

friend of man and woman. It gladly helps lift the burden of work around the house or barn yard. Some of the belt uses of the Utilitor are, operating corn sheller, cream separator, washing machine, churn and charging batteries for an electric lighting set. It can also be used, in conjunction with a cart, to feed stock or haul one horse loads around the place.

No self-propelled farm equipment designed in recent years offers a wider range of usefulness in the field or on the belt than a Utilitor.

DEALERS

The Utilitor is the most active merchandise on the market today because farmers **NEED** it 365 days out of the year. Our selling plan is so complete and thoroughly financed that we are positive our plan will interest you. Territory is being rapidly allotted. **[WRITE FOR OUR SELLING PLAN TODAY!]**

MIDWEST ENGINE COMPANY, Indianapolis, U.S.A.

Dependable Power

WORLD EVENTS IN PICTURES



Prohibition leaders are opening a whirlwind campaign to rout John Barleycorn from his lair in Japan.



These U. S. sailors are enroute to England to bring back the huge dirigible R-38.

When German communists gained control of the Ruhr district and during the fighting between the Reds and the German Reichwehr, hundreds of German families fled into Belgian territory unless stopped by the guards.



Former President Taft, apparently in good health, and Nathan Strauss enjoying the spring weather on the golf links of the Country Club at Augusta, Ga.



Gen. Degoutte, commander of the French forces now occupying Frankfurt and other German cities and towns in retaliation for German occupation of neutral territory.



This picture shows troops of the unsuccessful Von Kapp government suppressing a demonstration by the populace in Berlin; the troops were afterward ousted by old government forces.



The RED TOP Guarantee

WE guarantee RED TOP Steel Posts will not break, burn, rot or frost heave in the fence line; that they are free from defects in material and workmanship; that they will outlast the heaviest fencing manufactured.

We guarantee RED TOP Posts to be just as represented in our literature and advertising.

Any RED TOP Post which does not fulfill the above guarantee will be replaced by your dealer—without cost or argument.

BROOKE ANDERSON, Pres.,
Chicago Steel Post Co.

For booklet describing RED TOP Guaranteed Steel Fence Posts and their money saving features, address Chicago Steel Post Co., 208-L South LaSalle St., Chicago, Ill.

Red Top

GUARANTEED

Steel Fence Posts

PAINT

\$1.35
PER
Gallon

ORDER DIRECT FROM FACTORY

We will send you as many gallons as you want of good quality red or brown

BARN PAINT

upon receipt of remittance. We are paint specialists and can supply you with paint for any purpose. Tell us your wants and let us quote you low prices. We can save you money by shipping direct from our factory. Satisfaction Guaranteed. On orders for thirty gallons or over we will prepay the freight within a radius of three hundred miles.

AMALGAMATED PAINT CO.
Factory: 383 Wayne St., JERSEY CITY, N.J.

FACTORY-TO-RIDER

SAVES YOU MONEY
Buy direct and save \$10 to \$20 on a bicycle. **RANGER BICYCLES** now come in 44 styles, colors and sizes. Greatly improved; prices reduced. **WE DELIVER FREE** to you on approval and 30 days trial, actual riding test. **EASY PAYMENTS** if desired, at a small advance over our Special Factory-to-Rider cash prices. **TIRES, lamps, wheels, parts, supplies at half usual prices.** Do not buy a bicycle, tires, or sundries until you get our big free Ranger catalog, low prices and liberal terms. A postal brings everything.

HEAD CYCLE COMPANY
Dept. A-77 Chicago



One Man Saws 25 Cords a Day

The Ottawa Log Saw falls trees or cuts off stumps level with ground. Saws up logs, cuts up branches, ice cutter, runs pump jacks and other belt machinery. Mounted on wheels. Easy to move anywhere. 10 Year Guarantee. 30 Days Trial. Write for Free Book and Cash or Easy Terms. **OTTAWA MFG. CO., 1501 Wood St., Ottawa, Kans.**

INSYDE TYRES

—replaces inner armor for auto tires. Double mileage; prevents punctures and blowouts. Easily applied without tools. Distributors wanted. Details free. American Accessories Company Dept. 712 Cincinnati, Ohio

Dr. Hess Dip and Disinfectant

Now is the time to get out the sprinkling can and make a liberal use of Dr. Hess Dip and Disinfectant. Spring is cleaning-up time. Dr. Hess Dip and Disinfectant is a powerful germ destroyer. It establishes health conditions. Use it in garbage cans, sinks, drains, closets, cesspools, all damp, foul-smelling and disease breeding places.

No better way to avoid contagious diseases. Use it also about the poultry house, pig pen and stables. One gallon makes 100 gallons of disinfectant.

GUARANTEED

Dr. HESS & CLARK
Ashland, Ohio



19.95

Upward

AMERICAN CREAM SEPARATOR

On Trial. Easy running, easily cleaned. Skims warm or cold milk. Whether dairy is large or small, get handsome catalogue and easy monthly payment offer. Address **AMERICAN SEPARATOR CO., Box 5061 Bainbridge, N.Y.**

THE VALLEY OF THE GIANTS

A ROMANCE OF THE REDWOODS

By Peter B. Kyne

"Better late than never, Mr. Cardigan, considering the predicament in which you found me. What became of Midget?"

"Midget, I regret to state, made a little pig of herself one day and died of acute indigestion. She ate half a sack of carrots, and knowing full well that she was eating forbidden fruit, she bolted them, and for her failure to Fletcherize—but speaking of Fletcherizing, did you dine aboard the train?"

She nodded. "So did I, Miss Sumner; hence I take it that you are quite ready to start."

"Quite, Mr. Cardigan."

"Then we'll drift. George, suppose you pile Miss Sumner's hand-baggage in the tonneau and then pile in there yourself and keep Marcelle company. I'll drive; and you can sit up in front with me, Miss Sumner, snug behind the wind-shield where you'll not be blown about."

"I'm sure this is going to be a far pleasanter journey than the stage could possibly have afforded," she said graciously as Bryce slipped in beside her and took the wheel.

"You are very kind to share the pleasure with me, Miss Sumner." He went through his gears, and the car glided away on its journey. "By the way," he said suddenly as he turned west toward the distant blue mountains of Trinity County, "how did you happen to connect me with Cardigan's redwoods?"

"I've heard my uncle, Colonel Seth Pennington, speak of them."

"Colonel Seth Pennington means nothing in my young life. I never heard of him before; so I dare say he's a newcomer in our country. I've been away six years," he added in explanation.

"We're from Michigan. Uncle was formerly in the lumber business there, but he's logged out now."

"I see. So he came west, I suppose, and bought a lot of redwood timber cheap from some old croaker who never could see any future to the redwood lumber industry. Personally, I don't think he could have made a better investment. I hope I shall have the pleasure of making his acquaintance when I deliver you to him. Perhaps you may be a neighbor of mine. I hope so."

At this juncture George Sea Otter, who had been an interested listener to the conversation, essayed a grunt from the rear seat. Instantly, to Shirley Sumner's vast surprise, her host grunted also; whereupon George Sea Otter broke into a series of grunts and guttural exclamations which evidently appeared quite intelligible to her host, for he slowed down to five miles an hour and cocked one ear to the rear; apparently he was profoundly interested in whatever information his henchman had to impart. When George Sea Otter finished his harangue, Bryce nodded and once more gave his attention to tossing the miles behind him.

"What language was that?" Shirley Sumner inquired, consumed with curiosity.

"Digger Indian," he replied. "George's mother was my nurse, and he and I grew up together. So I can't very well help speaking the language of the tribe."

They chattered volubly on many subjects for the first twenty miles; then the road narrowed and commenced to climb steadily, and thereafter Bryce gave all of his attention to the car, for a deviation of a foot from the

wheel-rut on the outside of the road would have sent them hurtling over the grade into the deep-timbered canyons below. Their course led through a rugged wilderness, widely diversified and transcendently beautiful, and the girl was rather glad of the opportunity to enjoy it in silence. Also by reason of the fact that Bryce's gaze never wavered from the road immediately in front of the car, she had a chance to appraise him critically while pretending to look past him to the tumbled, snow-covered ranges to their right.

She saw a big, supple, powerful man of twenty-five or six, with the bearing and general demeanor of one many years his elder. His rich, dark auburn hair was wavy, and a curling lock of it had escaped from the band of his cap at the temple; his eyes were brown to match his hair and were the striking feature of a strong, rugged countenance, for they were spaced at that eminently proper interval which proclaims an honest man. His nose was high, of medium thickness and just a trifle long—the nose of a thinker. His ears were large, with full lobes—the ears of a generous man. The mouth, full-lipped but firm, the heavy jaw and square chin, the great hands (most amazingly free from freckles) denoted the man who would not avoid a fight worth while. Indeed, while the girl was looking covertly at him, she saw his jaw set and a sudden, fierce light leap up in his eyes, which at first sight had seemed to her rather quizzical. Subconsciously he lifted one hand from the wheel and clenched it; he wagged his head a very little bit; consequently she knew his thoughts were far away, and for some reason, not quite clear to her, she would have preferred that they weren't. As a usual thing, young men did not go wool-gathering in her presence; so she sought to divert his thoughts to present company.

"What a perfectly glorious country!" she exclaimed. "Can't we stop for just a minute to appreciate it?"

"Yes," he replied abstractedly as he descended from the car and sat at her feet while she drank in the beauty of the scene, "it's a he country; I love it, and I'm glad to get back to it."

Upon their arrival at the rest-house, however, Bryce cheered up, and during dinner was very attentive and mildly amusing, although Shirley's keen wits assured her that this was merely a clever pose and sustained with difficulty. She was confirmed in this assumption when, after sitting with him a little on the porch after dinner, she complained of being weary and bade him good-night. She had scarcely left him when he called:

"George!"

The half-breed slid out of the darkness and sat down beside him. A mo-

SONG OF THE SPRINGTIME.

BY RUTH RAYMOND.

I come, I come to valleys bare
And plant my early blossoms there.
I come on breezes warm and free
And bring the happy birds with me
To sing for you at early dawn
In orchard bare, on leafless lawn;
To build their nests beside your door
And rear their young as oft before.

I come, I come with azure skies,
And rainbows to delight your eyes,
That you may soon forget the snows
And all the Winter's nameless woes,
With grasses green and blooms of gold
I carpet now the barren wold.
A hundred longed-for joys I bring
To comfort you who love the spring.

ment later, through the open window of her room just above the porch where Bryce and George Sea Otter sat, Shirley heard the former say:

"George, when did you first notice that my father's sight was beginning to fail?"

"About two years ago, Bryce."

"What made you notice it?"

"He began to walk with his hands held out in front of him, and sometimes he lifted his feet too high."

"Can he see at all now, George?"

"Oh, yes, a little bit—enough to make his way to the office and back."

"Poor old governor! George, until you told me this afternoon, I hadn't heard a word about it. If I had, I never would have taken that two-year jaunt around the world."

George Sea Otter grunted. "That's what your father said, too. So he wouldn't tell you, and he ordered everybody else to keep quiet about it. Myself—well, I didn't want you to go home and not know it until you met him."

"That was mighty kind and considerate of you, George. And you say this man Colonel Pennington and my father have been having trouble?"

"Yes—" Here George Sea Otter gracefully unburdened himself of a fervent curse directed at Shirley's avuncular relative; whereupon that young lady promptly left the window and heard no more.

They were on the road again by eight o'clock next morning, and just as Cardigan's mill was blowing the six o'clock whistle, Bryce stopped the car at the head of the street leading down to the water-front. "I'll let you drive now, George," he informed the silent Sea Otter. He turned to Shirley Sumner. "I'm going to leave you now," he said. "Thank you for riding over from Red Bluff with me. My father never leaves the office until the whistle blows, and so I'm going to hurry down to that little building you see at the end of the street and surprise him."

He stepped out on the running-board, stood there a moment, and extended his hand. Shirley had commenced a due and formal expression of her gratitude for having been delivered safely in Sequoia, when George Sea Otter spoke:

"Here comes John Cardigan," he said.

"Drive Miss Sumner around to Colonel Pennington's house," Bryce ordered, and even while he held Shirley's hand, he turned to catch the first glimpse of his father. Shirley followed his glance and saw a tall, powerfully built old man coming down the street with his hands thrust a little in front of him, as if for protection from some invisible assailant.

"Oh, my poor old father!" she heard Bryce Cardigan murmur. "My dear old pal! And I've let him grope in the dark for two years!"

He released her hand and leaped from the car. "Dad!" he called. "It is I—Bryce. I've come home to you at last."

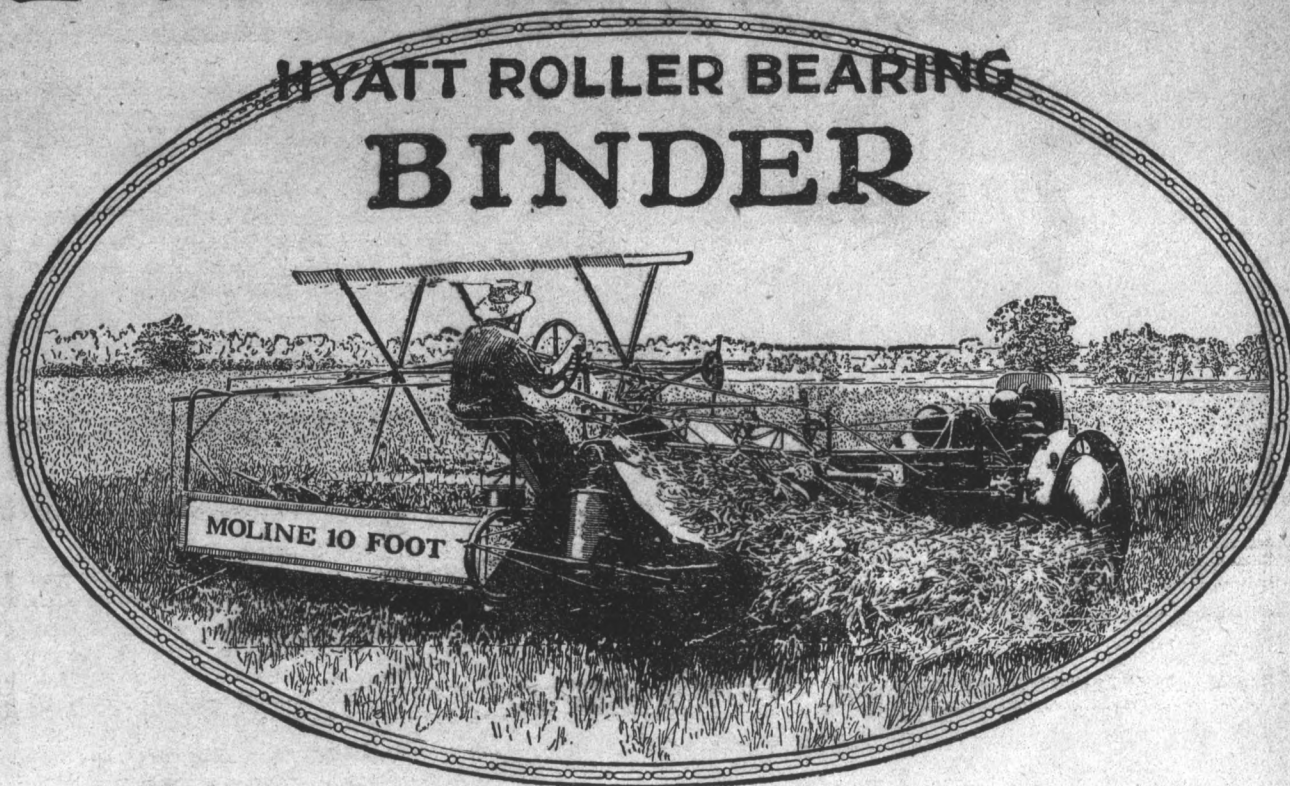
The slightly bent figure of John Cardigan straightened with a jerk; he held out his arms, trembling with eagerness, and as the car continued on to the Pennington house Shirley looked back and saw Bryce folded in his father's embrace. She did not, however, hear the heart-cry with which the beaten old man welcomed his boy.

"Sonny, sonny—oh, I'm so glad you are back. I've missed you. Bryce, I'm whipped—I've lost your heritage. Oh, son! I'm old—I can't fight any more. I'm blind—I can't see my enemies. I've lost your redwood trees—even your mother's Valley of the Giants."

And he commenced to weep for the third time in fifty years. And when the aged and helpless weep, nothing is more terrible. Bryce Cardigan said no word, but held his father close to his great heart and laid his cheek gently against the old man's, tenderly as a

MOLINE

HYATT ROLLER BEARING BINDER



FOR HORSE OR TRACTOR

8 and 10 foot

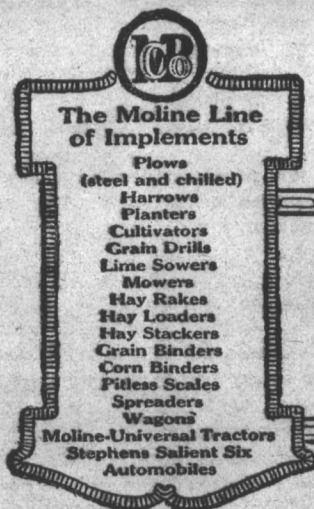
37 Hyatt Roller Bearings

Oil once a year

Capacity 40 Acres in 10 hours

The answer to the demand for greater
harvesting speed and economy

MOLINE PLOW CO. MOLINE, ILL.



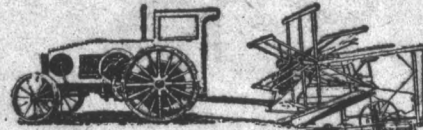
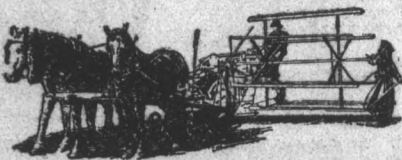
Atlanta
New Orleans
Dallas
Oklahoma City
St. Louis

Poughkeepsie, N. Y.
Baltimore
Los Angeles
Stockton, Cal.

BRANCHES AT
Spokane
Portland
Salt Lake City
Denver

Kansas City
Omaha
Minneapolis
Sioux Falls, S. D.

Des Moines
Bloomington, Ill.
Indianapolis
Columbus, Ohio
Jackson, Mich.



SINCE 1865, "MOLINE" ON A FARM IMPLEMENT,
HAS BEEN A MARK OF QUALITY



DICKINSON'S PINE TREE BRAND SEEDS

Timothy, Clover, Alfalfa and
Other Field Seeds

FOR BETTER CROPS

If Your Dealer Cannot Furnish This Brand

WRITE

THE ALBERT DICKINSON CO.
MINNEAPOLIS CHICAGO

Guard Your Garden

Prevention is better than cure. Keep away blight and mildew and destroy insect pests with

Brown's Auto-Spray

Our No. 1, shown here, operates by compressed air. Half a million have been in use from 1 to 15 years. Write for free spraying calendar & 1919 Catalog.

THE E. C. BROWN CO. 852 Maple St., Rochester, N. Y.



HIGH SPRAYERS

Pressure 38 Years Experience

With special features all their own. They claim your kind attention. In every size . . . for every zone. They furnish sure protection.

FIELD FORCE PUMP CO., Dept. L., Elmira, New York

FEDERAL

Double Cable Base Tires



TO the car owner, who takes the tire question seriously, the common sense of Federal Tires appeals with telling force.

The Double-Cable-Base, exclusive with Federal Tires, entirely eliminates unnecessary rim-wear—tube-pinch—rim-chafing—rim-cutting—blow-outs above the rim.

Put Federal Tires on *your* car and get the excess mileage that all Federal tire users enjoy.

THE FEDERAL RUBBER COMPANY, of Illinois, Factories, Cudahy, Wis.
Manufacturers of Federal Automobile Tires, Tubes and Sundries, Motorcycle, Bicycle and Carriage
Tires, Rubber Heels, Horse Shoe Pads, Rubber Matting and Mechanical Rubber Goods

woman might. And presently, from that silent communion of spirit, each drew strength and comfort. As the shadows fell in John Cardigan's town, they went home to the house on the hill.

CHAPTER VII.

SHIRLEY SUMNER'S eyes were still moist when George Sea Otter, in obedience to the instructions of his youthful master, set her, the French maid, and their hand-baggage down on the sidewalk in front of Colonel Seth Pennington's house. The half-breed hesitated a moment, undecided whether he would carry the hand-baggage up to the door or leave that task for a Pennington retainer; then he noted the tear-stains on the cheeks of his fair passenger. Instantly he took up the hand-baggage, kicked open the iron gate, and preceded Shirley up the cement walk to the door.

"Just wait a moment, if you please, George," Shirley said as he set the baggage down and started back for the car. He turned and beheld her extracting a five-dollar bill from her purse. "For you, George," she continued. "Thank you so much."

In all his life George Sea Otter had never had such an experience—he, happily, having been raised in a country where, with the exception of waiters, only a pronounced vagrant expects or accepts a gratuity from a woman. He took the bill and fingered it curiously; then his white blood asserted itself and he handed the bill back to Shirley.

"Thank you," he said respectfully. "If you are a man—all right. But from a lady—no. I am like my boss. I work for you for nothing."

Shirley did not understand his refusal, but her instinctive tact warned her not to insist. She returned the bill to her purse, thanked him again, and turned quickly to hide the slight flush of annoyance. George Sea Otter noted it.

"Lady," he said with great dignity, "at first I did not want to carry your baggage. I did not want to walk on this land." And with a sweeping gesture he indicated the Pennington grounds. "Then you cry a little because my boss is feeling bad about his old man. So I like you better. The old man—well, he has been like father to me and my mother—and we are Indians. My brothers, too—they work for him. So if you like my boss and his old man, George Sea Otter would go to hell for you pretty damn' quick. You bet you my life!"

"You're a very good boy, George," she replied, with difficulty repressing a smile at his blunt but earnest avowal. "I am glad the Cardigan's have such an honest, loyal servant."

George Sea Otter's dark face lighted with a quick smile. "Now you pay me," he replied and returned to the car.

The door opened, and a Swedish maid stood in the entrance regarding her stolidly. "I'm Miss Sumner," Shirley informed her. "This is my maid, Marcelle. Help her in with the hand-baggage." She stepped into the hall and called: "Ooh-hooh! Nunky-dunk!"

"Ship ahoy!" An answering call came to her from the dining-room, across the entrance-hall, and an instant later Colonel Seth Pennington stood in the doorway. "Bless my whiskers! Is that you, my dear?" he cried and advanced to greet her. "Why, how did you get here, Shirley? I thought you'd missed the stage."

She presented her cheek for his kiss. "So I did, Uncle, but a nice red-haired young man named Bryce Cardigan found me in distress at Red Bluff, picked me up in his car, and brought me here." She sniffed adorably. "I'm so hungry," she declared, "and here I am, just in time for dinner. Is my name in the pot?"

"It isn't, Shirley, but it soon will be. How perfectly bully to have you with



You will soon need a new pair of CARHARTT'S

Confer a favor on your pocket book by wearing Carhartt Overalls in making this year's crop. Don't be misled by substitutes and inferior garments. Pay the difference and demand the genuine Carhartt. If your dealer will not supply you with my overalls, made from Carhartt Master Cloth, write my nearest factory for samples and prices.

HAMILTON CARHARTT

Atlanta, Georgia Dallas, Texas
Detroit, Michigan San Francisco, California

Hamilton Carhartt,
City

Fill out and address to factory nearest you.

Please send me samples and prices of your Carhartt Overalls, made from your Carhartt Master Cloth, also prices of Carhartt Work Gloves.

I will appreciate the Farm, Stock and Account Book.

Name.....

Town.....State.....R.F.D.....

Dealer's Name.....

When in my
CARHARTT
OVERALLS
and with a
good horse of
my own, I am
the happiest
man in the world



TRADE MARK

Don't forget to ask for my Farm,
Stock and Crop Account Book.
It is FREE TO YOU.

me again, my dear! And what a very charming young lady you've grown to be since I saw you last! You're—why you've been crying! By Jove, I had no idea you'd be so glad to see me again."

She could not forego a sly little smile at his egoism. "You're looking perfectly splendid, Uncle Seth," she parried.

"And I'm feeling perfectly splendid. This is a wonderful country, Shirley, and everything is going nicely with me here. By the way, who did you say picked you up in his car?"

"Bryce Cardigan. Do you know him, Uncle?"

"No, we haven't met. Son of old John Cardigan, I dare say. I've heard of him. He's been away from Sequoia for quite a while, I believe."

"Yes; he was abroad for two years after he was graduated from Princeton," Shirley replied.

"Hum-m-m! Well, it's about time he came home to take care of that stiff-necked old father of his." He stepped to the bell and pressed it, and the butler answered. "Set a place at dinner for Miss Shirley, James," he ordered. "The ma will show you your rooms Shirley. I was just about to sit down to dinner. I'll wait for you."

While Shirley was in the living-room Colonel Pennington's features wore an expression almost pontifical, but when she had gone, the atmosphere of paternalism and affection which he radiated faded instantly. The Colonel's face was in repose now—cold, calculating, vaguely repellant. He scowled slightly.

"Now, isn't that the devil's luck?" he soliloquized. "Young Cardigan is probably the only man in Sequoia—dashed awkward if they should become interested in each other—at this time. Everybody in town, from lumberjacks to bankers, has told me what a fine fellow Bryce Cardigan is. They say he's good-looking; certainly he is educated and has acquired some worldly polish—just the kind of young fellow Shirley will find interesting and welcome company in a town like this. Many things can happen in a year—and it will be a year before I can smash the Cardigans."

(Continued next week).

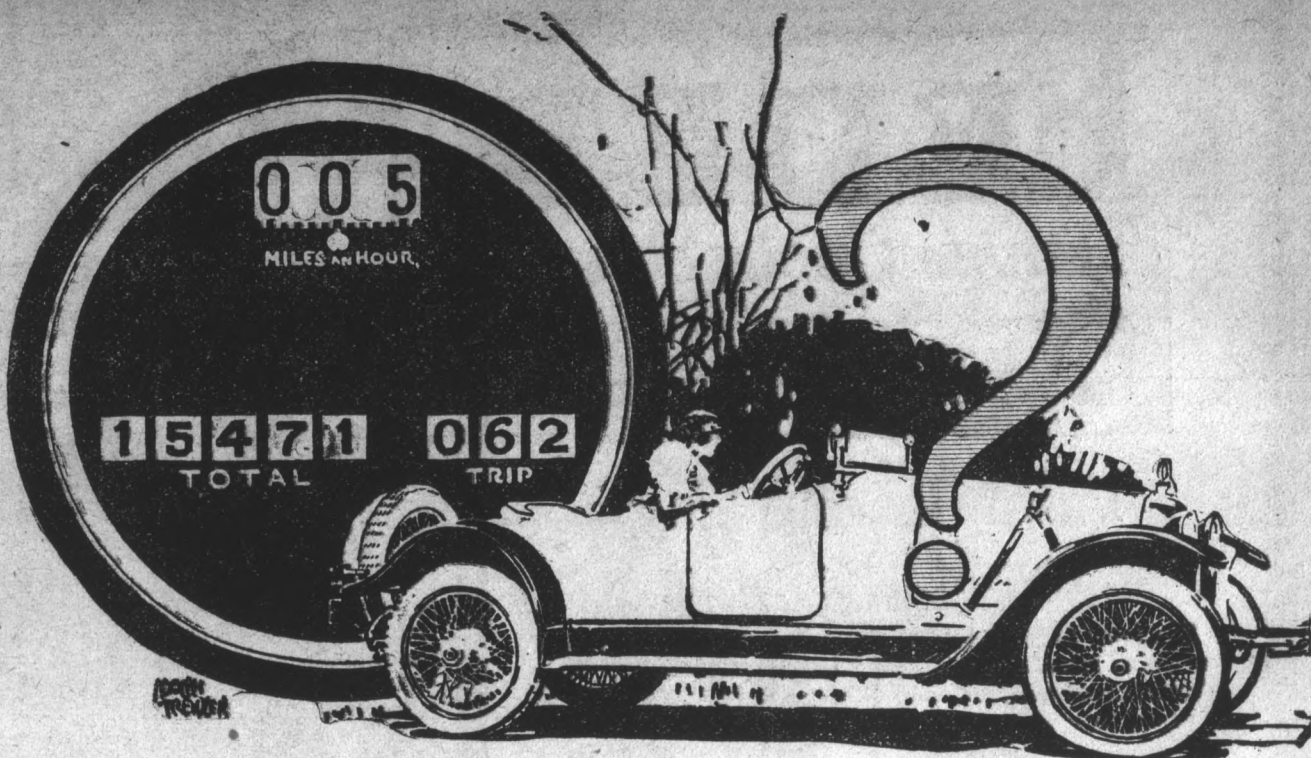
Sunshine Hollow Items

By Rube Rubicon

Peter Olney is true to all his superstitions. He has knocked on wood so many years that it has nearly become a religion. Yesterday we heard Peter brag that he had never had the flu. He was advised to knock on wood. Peter said he didn't believe in those things, but all the same I watched Peter and in a little while his knuckles were softly tapping the side of the chair in a sort of quiet way so the crowd wouldn't hear.

Richard Mosher had twin calves arrive at his farm last Monday morning. He calls one of them "onyx" because it was "onyexpected." Richard says that veal brings the easiest money he earns. And when the Ladies' Cheaper Food Club tried to pass a law to save all the calves, Richard went down and made them a speech. His motto is, "Good cows from all the calves can't grow." So he saves the best and advised the city club to disband and save time.

Albert Tooley is of a sympathetic disposition and every time he comes back from the city he repeats over and over to his father that he don't know what the farmers are going to do without any hired men now that city wages are so high. His father told him that they could do as well without hired men as the city folks could do with short rations, and it made Albert quite thoughtful.



HOW MANY MILES HAS YOUR CAR RUN

YOUR speedometer will tell you. If it reads 5,000 miles you will know that your engine has worn some, and needs a different oil than a brand new car—a heavier oil that will act as a sealing agent, prevent loss of compression and not work up into the firing chamber. After your engine has done 15,000 miles it needs a still heavier Sinclair Oil. This means more power, more mileage, less carbon. It is

The LAW of LUBRICATION

FOR EVERY MACHINE, of EVERY DEGREE of WEAR there is a SCIENTIFIC SINCLAIR OIL to SUIT its SPEED AND CONSERVE its POWER.

Sinclair Dealers know the Law of Lubrication and can apply it to your car—or will gladly give you a copy of the *Sinclair Index* making it easy for you to apply it yourself.

SINCLAIR REFINING COMPANY, CHICAGO

Atlanta
Brockton
Buffalo
Cleveland
Denver
Detroit
Houston
Kansas City
Louisville



Minneapolis
Newark
Norfolk
Omaha
Rock Island
Tulsa
Wichita

Stop at the Sign of

Sinclair Service

PAGE FENCE
RESISTS RUST
Lasts two to three times as long as the best steel fence, by actual tests. Made of the purest and most rust-resisting commercial iron known, by the oldest manufacturer of woven wire fence. Send for catalogue.
PAGE STEEL & WIRE CO.
Dept. 15, 29 S. LaSalle Street, Chicago



BEE HIVES

Sections, Comb Foundation, etc. Everything for the bees including Beginner's Outfits. Send for 1930 catalog. BEESWAX WANTED.



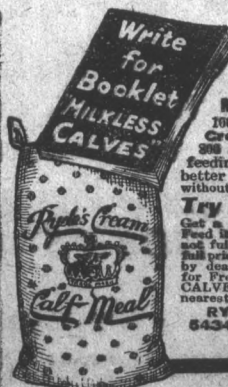
BERRY BASKETS

and 16 Qt. crates. Send for Price Card.

M. H. Hunt & Son,
Box 525, Lansing, Mich.

LANDOLOGY

A magazine giving the FACTS in regard to the land situation. 3 months' trial subscription FREE. If for a home or investment you are thinking of buying good farm land, simply write me a letter and say, "Mail me LandoLOGY and all particulars free." Address: EDITOR, LANDOLOGY, Skidmore Land Co., 381 HALL AVE., MARINETTE, WIS.

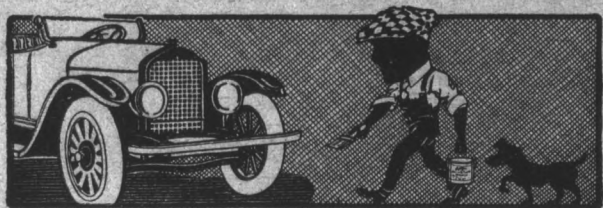


Save Your Milk

Raise Calves Without It. 100 pounds of Ryde's Cream Calf Meal equals 300 lbs. of whole milk in feeding value. Raise bigger, better calves the Ryde Way, without milk and for less money. Try It at Our Risk. Get a sack from your dealer. Feed it as directed. If you are not fully satisfied, return it and full price will be refunded. Sold by dealers everywhere. Write for Free Booklet, "MILKLESS CALVES," and name of our nearest dealer. RYDE & COMPANY, 5434 West 12th Street, Chicago, Ill. (C)

Mention The Michigan Farmer When Writing Advertisers

Lowe's



Paint it one day Use it the next

You know how shabby your car looked the other day, when alongside your neighbor's new one; and how when you were riding home you felt it rattled a lot, and that the engine didn't pull like it used to.

You know well enough that the engine is all right, and that fifteen minutes with a wrench, will stop the rattle.

Those are not the things

that are bothering you—it's the looks of the car. Stop looking at its Looks. Make it "look like new with a can or two" of Lowe Brothers' Automobile Varnish Colors.

You can do it one day, and use it the next day if you need to. Goes on like melted butter. Smoothes up itself, smooth as glass.

Sold by the one best dealer in each town.

The Lowe Brothers Company

499 EAST THIRD STREET, DAYTON, OHIO

Boston New York Jersey City Chicago Atlanta Kansas City Minneapolis Toronto

Paints

Health and Economy Rule Your Table Cup

when you make your meal-time
beverage

Instant Postum

Its rich coffee-like flavor satisfies and its freedom from any harmful ingredient, such as the coffee drug caffeine, makes it a better drink for young and old.

There has been no raise in price and the high quality of Postum is always maintained.

"There's a Reason"

Made by POSTUM CEREAL COMPANY
Battle Creek, Mich.

Woman's Interests

Annual Spring Renovating

IN spite of the fact that for years household engineers have been telling us to spread our housecleaning out through the year instead of reserving it for a grand overhauling in spring and fall, there are still thousands of housekeepers who go on in the old way, letting things go for six months each year, and then indulging in one wild orgy of overhauling and renovating. As a matter of fact, most farm women could hardly do otherwise. With gardens and young fowls and canning and extra help to cook for in summer, just where is a woman going to find time to do much housecleaning? And winter in a house heated with one or two stoves somehow doesn't awaken much enthusiasm for extra cleaning. So it is probable that country women will continue on in the good old way, until steam-heated houses with running water and electricity become the rule in farm homes. With everyone, city and country, this is "the high tide of the year" for housecleaning anyway, so a few suggestions as to the best and easiest way to do it may help.

Of course, there is the time-honored admonition to do only one room at a time. But isn't it fun to haul everything out at once and after a week of upheaval, settle down again with the feeling that if you haven't really moved, at least you've had a change? Somehow you never feel as though you had cleaned if you go about it leisurely and do a room a day. However, if we must stick to one room until it is done, let us get about it.

To begin with, there are the windows. Take down the curtains and shades. Soap and water and a bright clear day, with a good hot iron after, will take care of the curtains, but what about the shades? Are they cracked, faded and frayed at the edges? If they are, remove them from the roller and with a straight edge and a good sharp knife trim off the ragged edges. Then spread the curtain out on a smooth flat surface and with a good clean paint brush and a can of flat wall paint—as nearly as possible the original color of the shade, go over it from top to bottom, using even strokes and as little paint as possible. After applying the paint, go all over again with a dry brush, to remove superfluous paint and wipe out streaks. Wipe the brush off frequently with a clean cloth. When

this side of the curtain has dried, turn it over and treat the other side in the same way. If the casing which holds the stick at the bottom is tearing off, cut this part away entirely and turn up a new hem. Make your stitch on the machine as long as possible and stitch the curtain on the machine. When it is in perfect repair, tack again to the roller and your shade is almost like new.

Nothing is better for cleaning windows than clear warm water, ammonia, a clean lintless cloth and a good chamois. Wash in water and ammonia, dry with the cloth, and polish with the chamois. Too much ammonia dulls the glass, so be careful in its use. The woodwork, whether painted or varnished, should be washed with clean, warm water and a mild soap. Rub it immediately after washing with a cheesecloth which has been allowed to absorb a good furniture polish, and then polish with a dry cheesecloth.

There are many good furniture polishes on the market which may be used on varnished surfaces, but a good home-made one costs less. A pint of paraffin oil mixed with ten cents worth of turpentine and vigorously shaken, makes a good polish and will be sufficient for the whole housecleaning and then some. Too much oil is worse than none as it can not be absorbed and gums the finish. Waxed woodwork or furniture should have a wax instead of oil. This may be purchased in either liquid or solid form and, like oil, should be lightly applied. Varnished or waxed floors should be treated the same as the woodwork, first a good cleaning with soap and water, then an application of oil or wax, and vigorous polishing.

If papering is to be done you will save a good deal of money if you prepare the walls yourself, as the labor is what counts this spring. In the cities paper hangers are charging from \$1.00 to \$1.50 an hour, and the cost of papering an ordinary house is not less than \$200 or \$250. To remove the old paper, simply apply hot water with a whitewash brush to a small portion of the old paper, then after three or four minutes scrape this paper off with a dull knife, or a scraper meant for this purpose which you can buy for several times less than the cost of hiring someone to take off the paper. To remove the oiled papers which are used on so

Surprise Visitors—By Charles H. Meiers

Her house was in disorder,
With things all out of place,
When came her charming sister,
With bright and smiling face,
Together with her husband,
And their wild romping son,
To happily surprise her;
They thought it was such fun!

She had to quit housecleaning
And straighten things around
In order that sufficient room
For quarters might be found.
With half the task completed,
And weary unto pain,
She had to change her program,
And gayly entertain.

A week of ceaseless duties
As hostess made her heart
Less happy, though reluctant
Was she with them to part.
And 'ere they left, an uncle,
With glad light in his eyes,
Arrived to pay a visit—
Another grand surprise.

She bravely smiled and made them
As happy as she could;
For she loved each one dearly
And wanted to be good.
While they remained, a cousin,
Who was just passing through,
Knew she would be delighted—
So she surprised her, too!

Before the second week passed
She wore a haggard look;
But still continued sweetly
To entertain and cook.
Her father and her mother,
Their glad dream realized,
And came without announcement—
Once more she was surprised!

Thus came her loved ones jolly
With cunningness, which had
For its most worthy purpose
Design to make her glad.
But one who knows has stated
That folks who realize,
And give most joy by visits
Arrive not by surprise!

many kitchen and bathroom walls, use a suds of goldust and water. Do not make this too strong, as it will destroy the brush if you do. After the paper is removed, scrape the rough edges of cracks to make them even and smooth. If there are large cracks or broken places in the plaster, fill with plaster of Paris.

Look over the rugs and carpets for ripped seams and worn edges. Sew carefully on the wrong side with carpet warp, and buttonhole the edges of your wool rugs with a good strong yarn. After the rugs and carpets have been thoroughly beaten the colors may be freshened by washing with a suds of white soap and ammonia water.

If you do any papering use the greatest care in selecting your paper. Do not choose garish colors of which you will tire in a short time. Mild neutral colors which do not attract attention will give best satisfaction. For bedrooms, nothing is ever better than a narrow stripe, unless it is for a child's room. Then you might choose a paper gay with flowers or birds. Or the walls might be treated with a plain paper and a nursery border of animals or children at play give the decoration.

A plain paper for a living-room with many pictures is better than a paper with a large figure. In fact, the papers with large, splashy figures should never be used in anything but very large rooms. The mistress of a small house must always shun them.

The new color this spring is neither gray nor tan, both of which have been popular for several seasons, but a mixture of both colors which is indescribable in words. A touch of black in your paper is also new. This must not be much, but just a dash to accentuate the other colors.

HOUSEKEEPERS' EXCHANGE.

To clean granite saucepans in which the cooked food sticks to the bottom of the pan, fill half full of water, drop in a handful of sal soda and let boil up a few minutes; then wash and you will find it much easier than scraping.—Mrs. W. B. S.

When you pull the cork from a new bottle of bluing, cut a notch in the side of the cork before putting it in again. You will find it much better than taking out the cork every time, and there is no danger of using too much.—Mrs. J. J. O'C.

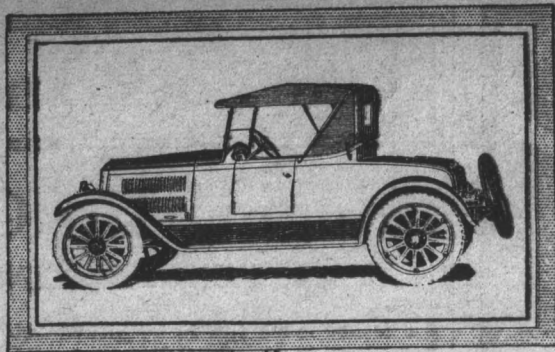
Drive mice and rats from the house by sprinkling red pepper about the places where they enter. Keep the red pepper fresh and strong, as the rodents object to the odor, and when it loses its strength they are liable to return.—Miss Z. L. D.

When the children's shoes become scarred or scuffed rub them with a little vaseline before polishing. They will wear much longer and the scratches will scarcely show after this treatment.—M. A. P.

Push two common pins in opposite directions through the corks of bottles containing poisonous medicine and there will be no danger of picking up the wrong bottle even in the dark. The prick of the pins will remind one of the contents of the bottle.—Mrs. J. J. O'C.

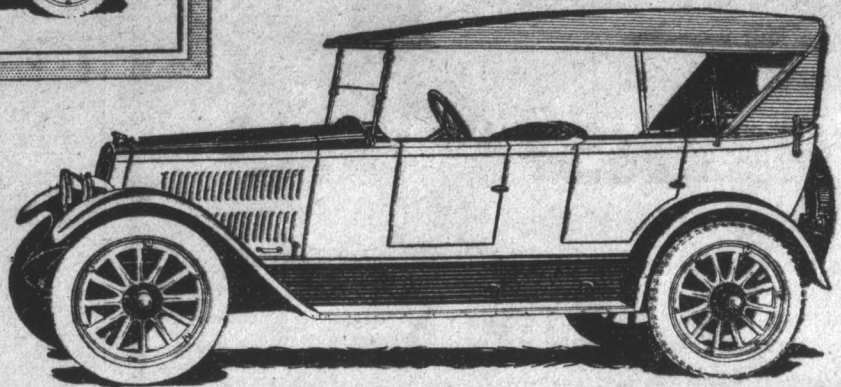
When giving baby medicine use a baby spoon with a curved handle. The spoon may be set down if necessary, without spilling the contents.—A. F.

If this method of covering the ironing board is followed, the cover will not only remain practically wrinkleless, but will also last three times as long as when put on in the usual way. Wash the material and starch it stiff, then while it is still wet fasten it on the board, and when almost dry, iron it carefully. The starched surface will be found easier to iron over.—E. M. F.



Touring
Coupe

Roadster
Sedan



Mitchell

We save you money in ways like these

The reason for the many over-values you find in this new Mitchell is largely due to the Mitchell way of scientific manufacture.

We build our own bodies, for instance. The usual way is to buy them outside. But we save the outside builder's profits, and put that money into the car. It accounts for much of the added value.

Then we save in building because we supervise every process. We pay no freight on bodies. We suffer no delays, no compromise in quality.

To build bodies like those on these new Mitchells would cost any assembler much more. We build complete.

You've already heard of the efficiency of the mechanical departments at our great Racine

plant, how we save thousands of dollars by investing in the latest machinery, how we applied lessons learned when we worked for the Government building trucks. How we gained new accuracy.

The Mitchell offers several hundred dollars more value because of these ways we save money and put it into the car. You can't find such a wonderful performer, such a handsome car, such an enduring car for anywhere near the price. And we can prove it.

Go to any Mitchell dealer, take a look at this car. Examine it. Compare it. It brings the utmost for your money.

Illustrated booklet sent upon request.

MITCHELL MOTORS COMPANY, Inc.
Racine, Wisconsin

One Trial of Grape-Nuts

will do more than many words to convince you of the goodness of this wheat and barley food.

But it's worth saying that Grape-Nuts contains all the nutriment of the grains, is ready to eat, requires no sugar and there's no waste.

Grape-Nuts is a Builder

"Just Like Adding Dollars To Your Income"

That's the way my wholesale factory-to-you prices affect your pocketbook. Write for my big catalog showing most beautiful stoves and ranges—at prices that save you from 20 to 40 per cent.

Mail a
Postal
Today



Also get my prices on oil and gas ranges, kitchen cabinets, refrigerators, fireless cookers, washing machines, phonographs, paint and roofing, etc. We pay freight. Cash or credit. Write today. Ask for Catalog No. 113.

Kalamazoo Stove Co., Mfrs.
Kalamazoo, Mich.

A Kalamazoo
Trade Mark
Registered
Direct to You

Please Mention The Michigan Farmer When You Write to Advertisers



Rid your flock of lice — Make every hen a layer

Lousy poultry can't pay. Lice sap the blood and take energy that otherwise would make growth and eggs.

Dr. LeGear's Lice Killer

Sifted directly into the feathers of poultry and added to their dust baths quickly exterminates parasites. It is Dr. LeGear's Prescription, tested in his own poultry yards.

Dr. LeGear's Lice Killer sprinkled on vines or plants when dew is on is also a most effective exterminator of worms and bugs.

Dr. LeGear's Prescription
keeps hens healthy, increases egg production, cures more eggs and better profits.

Dr. LeGear's Chick Diarrhoea Tablets
keeps chicks healthy, regulates bowels and system.

Dr. LeGear's Stock Powders
keeps all live stock sleek and healthy.

Get a package from your dealer to-day. Satisfaction or money back.

Dr. L. D. LeGear Medicine Co.,
712 Howard St. St. Louis, Mo.



NEW BOOK
"Care and Treatment of Stock and Poultry." 128 pages. A most comprehensive treatise. Written by Dr. LeGear. Send 10c to us today—we will mail it postpaid.



Dr. LeGear's Lice Killer

Hubers Reliable Chicks Stop Losing Chicks

500,000 FOR 1920



By Parcel Post Prepaid. Delivered to You. Guarantee Live Delivery. Eggs for Hatching by the Setting or 100.

We have installed the most modern features of the Hatching Industry which will insure chicks as strong as Old Hatched Chicks and Full of Pep.

This is our 11th season. With the great increased demand for our chicks and the fine reports and praise

we receive from our customers proves that our chicks are from Stock of Good Quality. Bred for Heavy Egg Production and that they are Properly Hatched. Stop your loss by buying our Reliable Chicks.

We hatch all our chicks from pure bred, free range farm stock. S. S. White and Brown Leghorns, S. C. Anconas, Barred Rocks, S. C. and R. C. Reds, S. C. Black Minorcas, and S. C. Buff Orpingtons. Special combination offer on chicks, hoppers and brooder stoves. Before buying elsewhere send for free illustrated catalog and prices. Place your order at once and avoid disappointment in the rush of the season.

Hubers Reliable Hatchery
East High St. FOSTORIA, OHIO

DAY OLD CHICKS

HOMESTEAD FARMS



A cooperative work in Pure Breed Practical Poultry. Chicks and eggs delivered at your door prepaid.

Standard Heavy and Laying Breeds.

You will be interested in the Extra Quality White Leghorns inspected and certified as Heavy Producers by the Poultry Extension Specialist of the Agriculture College.

Live and healthy chicks and satisfactory hatch from Eggs guaranteed.

S. C. Reds. One pen only Cockerel and five Pullets; large egg conformation.

Send for new Catalog with illustrations; it will help you raise your Chicks. Also it explains the Homestead Farms plan of cooperation.

STATE FARMS ASSOCIATION,
Desk 1, Kalamazoo, Michigan.

Baby chicks: Standard Bred S. C. White and Brown Also English White Leghorns. Bred to lay large white eggs. Safe arrival guaranteed, shipped up to your door by parcel post. Free catalogue with list.

WOLVERINE HATCHERY, R. 2, Zeeland, Mich.

BUFF LEGHORNS

25 choice cockerels \$3.00 each. Eggs \$2.50 per 15, \$12.00 per 100. Baby Chicks 20 cents each. Catalogue free. Lake Side Stock & Fruit Farm, Pinckney, Mich.

BARRED ROCKS.

Eggs from vigorous early maturing stock from heavy laying strain. \$2 per 15, \$5 per 45. Prepaid by parcel post. R. G. Kirby, Route 1, East Lansing, Mich.

KENDAL'S SUPERIOR STRAINS
Famous for High Standard, Utility, Quality. 35 varieties. Leghorns, Rocks, Reds, Wyandottes, Anconas, Minorcas, Brahmas, Langshans, Orpingtons, Ducks. Circular free. A. C. Kendal, 210 Prospect Ave., Cleveland, Ohio.

BABY Chix Eggs

Chicks
Better Produced Day Old Chicks are the kind you want—17 leading breeds at reasonable prices. Our free cat. tells all about them. Send for it today. Springfield Hatcheries & Poultry Farms, Box K, Springfield O.

Put Avicol in the drinking water.

Most people lose half of every hatch, and seem to expect it. Chick cholera or white diarrhoea is the trouble. The U. S. Government states that over half the chicks hatched die from this cause.

An Avicol tablet in the drinking water, will positively save your little chicks from all such diseases. Inside of 48 hours the sick ones will be as lively as crickets. Avicol keeps them healthy and makes them grow and develop.

Mrs. Vannie Thackery, R. F. D. 3, St. Paris, O., writes: "I had 90 chicks and they all died but 32. Then I commenced on Avicol and haven't lost any since. They have grown wonderfully."

It costs nothing to try Avicol. If you don't find that it prevents and promptly cures white diarrhoea and all other bowel diseases of poultry, tell us and your money will be refunded by return mail. Avicol is sold by most druggists and poultry remedy dealers, or you can send 25c or 50c today for a package by mail postpaid. Burrell-Dugger Co., 495 Columbia Bldg., Indianapolis, Ind.

AVICOL

stops chicks dying

\$12.95 Buys 140-Egg
Champion
Belle City Incubator

Hot Water, Copper Tank, Double Walls Fibre Board, Self-Regulated, With \$7.55

Hot Water 140-Chick Brooder—both only \$18.50

Freight Prepaid East of Rockies

Allowed on express. Guaranteed. My Special Offers provide ways to earn extra money. Order Now, or write for book, "Hatching Facts."

—It's free and tells all. Jim Roman, Pres.

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

POULTRY

OVIE'S BABY CHICKS

They Lay and Pay!

There is more than a tingle of satisfaction when you receive Ovie's Baby Chicks, which are beyond comparison in quality, from free range flocks. That is why, once a customer, always a customer.

25,000 SELECTED CHIX WEEKLY
Hatched by an expert with our new system used exclusively by us, in the world's most up-to-date Hatchery.

14 LEADING VARIETIES
Safe delivery guaranteed by P. P. prepaid. Write us for illustrated booklet on Ovie's Chix

OVIE'S HATCHERY CO.

24 State Street MARION, IND.

BABY Chick S. C. W. Leghorns, White, Buff Barred

Rocks, S. C. R. I. Red, Anconas, White Wyandottes, Buff and Brown Leghorns, 25 for \$6.25, 50 for \$11.00 for \$20. Fenton Chicken Hatchery, Fenton, Mich., Box 244.

Our Boys' and Girls' Page

Bringing Up Orphan Lambs

When the "Little Fellers" Need a Friend—By Uncle Ed.

It is not much fun to be kicked out of bed, is it, especially on a cold morning? Makes a fellow shiver and wonder what has happened, anyhow, that he should be turned out into the cold, cold world that way. By the way lambs cry when they find themselves without a mother we surely can not help thinking that it is a pretty serious thing.

Sometimes this happens when the old sheep dies or is not able to provide milk for her lamb; but on our farm it has taken place more frequently than otherwise for the simple reason that the mother kicked her little one out, or, as sometimes is the case, bunts it away from her, so that we have to get it out of the way of harm to save its life. Then the question is, "What can we do to comfort the little chap?" We do not like to have it die, as it will do if not cared for right along. Let me tell you how our folks deal with these homeless and motherless lambs.

A good many times we have found the lamb pretty nearly gone, on account of having been chilled and not

there are two of them. By feeding the lamb a few days and giving the mother sheep good food, it is sometimes possible to make her give more milk, so that she will own the lamb.

But if she does not, we have to do the next best thing, and that seems to us is to get a bottle that will hold a pint or so, and a nipple, such as is used for babies that must be fed by hand. The lamb soon learns to take the nipple in its mouth, and how it will work away at it, just as eagerly, in fact, as if it were sucking its own mother's teats. If fed this way, it must be done often, if the lamb is to grow well. It ought to be fed six or eight times a day, and once at bed time to last all night.

After the lamb gets to be a few weeks old, it will begin to lick a bit of grain, if you place some in a little box. Corn meal tastes good and is good for them. You may have to put a few grains up to the lamb's mouth a time or two, until it gets the taste of it. Then everything will go well. About the same time, we can begin to feed



Making Friends and Profits.

properly cared for by the old sheep. More than once we have taken these poor little fellows when their limbs were beginning to get stiff and it seemed as if they were just about as good as dead. Taking them up to the house, we place them in a box with plenty of straw and a good warm piece of cloth to cover them over with. Down by the kitchen stove we put them where the warmth can reach them. If not too far gone we fix up some cow's milk good and warm, and the house mother usually thinks a bit of black pepper is good to warm the stomach up. With a spoon she presses the jaws of the lamb apart and drops a little of this good, warm milk down the lamb's throat. We think if it can swallow, there is still hope of saving it. Pretty soon we hear the first feeble bleat, and how that does cheer our hearts!

When the lamb gets strong enough to stand and eat "spoon victuals," we try to have the old sheep own it. Sometimes she may and oftener she does not. I do not know why it is that a sheep should reject her lamb, but I believe it is because she has not milk enough for her offspring, especially if

cut early it has the juice in it and when the lamb chews this it tastes good and makes the lamb grow faster. Clover hay is very rich in the things that make flesh and bone and muscle and brawn. The time may come when the lamb can go out to pasture. If so, it is the best way, for some folks do not like lambs around the house. They get to be pretty familiar and make quite a bit of trouble getting into places where they do not belong. If they do go to pasture with the other lambs and the sheep, it is best to give them their ration of milk every time they come down to the barnyard.

Most always where the boys and girls have had the bringing up of orphan lambs, father gives them the lamb they have saved. When they bring the prices they do now, it is very much worth while to befriend these motherless lambs of the flock.

Boys' and girls' proper spraying of potatoes in Vermont increased the yield from ninety-nine and a half bushels to 291 bushels per acre.

WHAT TO PLANT IN YOUR GARDEN.

WHAT crops to plant in the home garden will depend upon the size of the garden, the size of the family, and the size of the family's appetite. Where the garden space is extremely limited only those crops that will produce a considerable quantity of food on a small area should be included.

As a rule, home gardeners, especially the beginners, devote too much space to lettuce and radishes and too little to beets, carrots, beans, onions, and tomatoes, according to United States Department of Agriculture specialists. Where the family is small it is easy to overplant most of the garden crops. The surplus of certain vegetables can be saved by canning and drying, others like lettuce and radishes are a loss unless some kind neighbor will use them.

Children eat almost as many fresh vegetables as grown-ups and should be counted as "full hands" in estimating the amount of space to devote to any vegetable. The size of the family appetite is liable to expand considerably when the vegetables are brought fresh from the garden, and it is always safe to have a plenty of the more staple vegetables.

WHAT MILK COMMISSION HAS DONE.

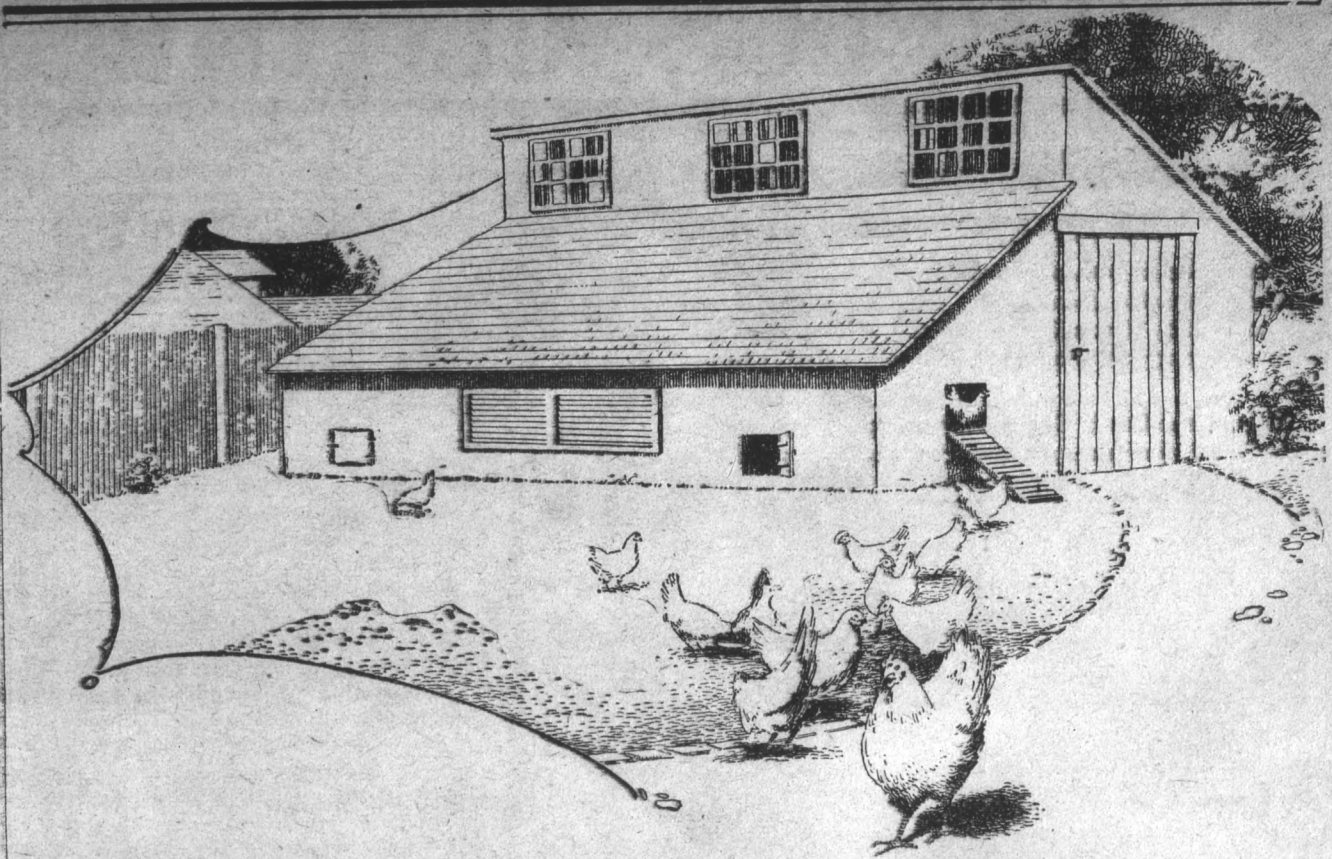
(Continued from first page).

sions being contained in the following report:

On April 3, this commission addressed a communication to the chairman of the Federal Fair Price Committee for the eastern district of Michigan, tendering the records of this commission and the data on which its acts were based, calling attention to the fact that the contracts made and now in force between milk producers in the Detroit area and the milk distributors in the city of Detroit are based on the premise that this commission will continue to act in fixing a price under these contracts during the calendar year for which these contracts were made, expressing a willingness to be relieved of these obligations if the Fair Price Committee desired to assume the functions heretofore discharged by this commission and requesting to be advised of the committee's desires in this regard.

In view of the fact that no reply to this communication has been received by this commission, we deem it our duty to continue to discharge the obligations which we accepted as members of this commission. We therefore render the following judgment as to the prices which should prevail for market milk in this area. For all milk delivered in April, and used as market milk the price to the producer should continue at \$4.05 per cwt., f. o. b. Detroit as previously fixed, and the delivered price on market milk should continue at sixteen cents per quart and ten cents per pint, milk to groceries fifteen cents per quart and nine cents per pint, bulk milk fifty-two cents per gallon.

For the months of May and June the price to producers for all milk delivered should be \$3.40 per cwt. f. o. b. railway station, Detroit, with no surplus deducted, and the retail price for delivered milk should be fifteen cents per quart and nine cents per pint; milk delivered to groceries fourteen cents per quart and eight cents per pint; bulk milk fifty-two cents per gallon. These prices are for 3.5 per cent milk with the usual differential of four cents per point above or below this standard, except that for all milk testing above four per cent butterfat the price differential should be seven cents per point.



A Happy Hen is a Profitable One



And a hen can't be happy unless she has a comfortable home. One of the first essentials in a modern poultry house is dryness. This is only possible where a good, tight roof is used.

MULE-HIDE Roofing meets all the requirements of a good roof. Its durability and weather-resisting qualities have won for MULE-HIDE this enviable service record:

"Not a Kick in a Million Feet"

MULE-HIDE Shingles and Slate-Kote Roll Roofings have the same qualities as MULE-HIDE Smooth Finish Roofing, with the added feature of beauty. Their unfading surfaces of red or grey-green make MULE-HIDE Shingles and Slate-Kote Roofings the ideal covering for homes and more expensive types of farm buildings. Ask your lumber dealer; if he doesn't handle MULE-HIDE a letter will bring him samples.

THE LEHON COMPANY Manufacturers

44th to 45th Street on Oakley Avenue - Chicago



HILLPOT CHICKS THAT PAY

Strong, healthy chicks from heavy layers. Well bred, well hatched—the sort that start you right in profitable poultry raising. Four big hatches weekly. Post prepaid. Safe delivery guaranteed anywhere in U. S. A.

	Per 100	50	25
White Leghorns	\$20.00	\$10.00	\$6.00
Black Leghorns	22.00	11.00	6.00
Barred Rocks	25.00	12.50	7.00
White Wyandottes	30.00	15.00	8.00

W. F. HILLPOT.

Box 69. FRENCHTOWN, N. J.

Baby Chicks S. C. W. and Brown Leghorns, and S. C. Anconas. Healthy, vigorous, and from a good laying strain. We guarantee safe delivery. Order now. Seventh season. Send for price list. City Limits Hatchery and Poultry Yard, R. 5, Holland, Mich.

Barred Plymouth Rock eggs for hatching from fullblood prize-winning strain \$2.50 per 15 post paid. J. A. BARNUM, Union City, Mich.

Baby Chicks S. C. White Leghorns, bred to lay. After Apr. 1 will sell chicks and eggs from any exhibition pens, write for prices. HILLSIDE POULTRY FARM, Hillsdale, Mich.

Buff Leghorn and White Leghorn Cockerels from 200 egg strains. Eggs and baby chicks. A few pens. Dr. WILLIAM SMITH, Petersburg, Mich.

Barred Rock Eggs from Chicago and Indianapolis winners. Great layers. \$2 per 15, \$10 per 100 and up. Buff Duck Eggs, 28th year. Circular free. G. EARL HOOVER, R. 3, MATTHEWS, IND.

BARRED ROCKS 15 eggs, \$1.75; by prepaid mail, 100 1 to November 1, 1920. Lewis B. Avery, Clinton, Mich.

EGGS from trapped S. C. White Leghorns, Barron strain, also White Wyandottes that lay, at \$10.00 per hundred or \$2.00 per setting of 15 eggs. MACALWHITE POULTRY YARDS, Caro, Michigan

For Sale 4 laying pullets and cock from 200 egg strain and blooded stock. S. C. White Leghorns. Mrs. Henderson, Leetsville, Mich.

CHICKS AND EGGS

Rose and Single Comb R. I. Reds, Barred Plymouth Rocks, Superior Orpingtons, Profile Layers. Prepaid by parcel post and safe delivery guaranteed. Illustrated catalog free. INTERLAKES FARM, Box 39, Lawrence, Mich.

CHICKS CHICKS

12,000 chicks a week after Mar. 20. Grand laying strains utility S. C. White Leghorns and Mottled Anconas. Strong, sturdy chicks shipped everywhere parcel post guaranteed safe arrival in lots 25, 50, 100 or more, 12th season, order now. Fine free catalogues. W. VAN APPELDORN, R. 7, Holland, Mich.

Barred Rock Baby Chicks, order now for May and June. Apply for terms. Jerome, Mich.

Chicks Bred-to-Lay and Exhibition S. C. W. Leghorns, stock that produced the winners in the state demonstration farm work. Winners at Detroit, Toledo and Oil City, Pa. Shows. \$10.50 per 50, \$20 per 100, \$35 per 200. Safe delivery postage paid. Sunnybrook Poultry Farm, Hillsdale, Mich.

Chic's that Live \$15 per 100 S. C. W. Leghorns. Send for catalog. FARM, R. 1, Grand Rapids, Mich.

Chick's Leghorns, Minorcas, Spanish, Houdans, Cam. Reds, Rocks, Orpingtons, Brahmas, Wyandottes. Tyrone Poultry Farm, Ponton, Mich.

Barred Rocks egg contest winners, eggs from strain with records to 290 a year. \$2.00 per setting awarded by P. P. Circular free. FRED ASTLING, Constantine, Mich.

Baby Chicks The fluffy lively kind, the kind that live and grow. Hatched in the most modern incubators built, all eggs are from pure blood farm stock. Catalogue and price list mailed upon request. NORWALK CHICK HATCHERY, Norwalk, O.

Cockerels Buff, Old English and Silver Pencilled Plymouth Rocks; Anconas and Rouen ducks \$3.00 each. Hatching eggs. Catalog 2c. Sheridan Poultry Yards, R. 4, Sheridan, Mich.

Day Old chicks and eggs for hatching. Breeder and Importer of Barron Strain White Leghorns, White and Barred Rocks, S. C. Rhode Island Reds. Heaviest laying strains obtainable. Order early. Brummer's Poultry Farm, Holland, Mich., R.R. No. 8

B-A-B-Y C-H-I-C-K-S

Crescent White Leghorns; also, Anconas, Brown and Buff Leghorns, Black Minorcas, Reds, Rocks (Barred and White), and Wyandottes (Silver-laced and White). WE HATCH the eggs of Hoganized flocks on range on separate farms. Crescent Egg Company, Allegan, Mich.

Baby Chicks. Eleven leading varieties, bred from show-stock, to produce eggs, at utility prices. Send for illustrated catalog and price list. Ohio Poultry Yard and Hatcheries, Dept. B, Marion, O.

CHICKS We have shipped thousands each season since 1904. Are bookkeepers now for Spring delivery, booklets and testimonials. FREEPORT HATCHERY, Box 12, Freeport, Mich.

Fowler's Buff Rocks. We are now booking orders for eggs. A few choice cockerels left. E. B. FOWLER, Hartford, Mich.

DANGER If chicks and eggs are Chix 15c Up not shipped right. 100,000 Chix this season. Best Blooded stock ever produced at low prices. Quoted. Selected Utility, Exhibition trapped stock, 16 varieties. Hatching eggs, Hens, Ducks. Book your orders early. Avoid disappointment. Stamps appreciated. Beckman Hatchery, 26 E. Lyon St., Grand Rapids, Mich.

For Sale B. P. Rocks eggs for hatching. \$2.00 per 15 prepaid. Mrs. E. BELLEN, Whittemore, Mich.

Hatching eggs from a vigorous heavy laying stock. S. C. W. Leghorns, Barred Rocks, W. Wyandottes, Buff Orpingtons, 15, \$1.50; 50, \$4.50; 100, \$8.00. Shipped prepaid. Miller Poultry Farm, Nappanee, Ind.

JOHN'S Big Beautiful Barred Rocks are hen hatched and grow quick good layers 30 eggs \$3.50; 50, \$5.00; 100, \$8.00. Photos. John Northern, Clare, Mich.

BIG 5 to 6 POUND White Leghorn males. On account of their larger size they stand cold weather better and lay all winter. Free catalog gives winter egg records, desirable feeding methods, etc. A. WAUGHAN, Goblesville, Mich.

Additional Poultry Ads. on Page 691

STYLEPLUS CLOTHES

*The quality you should have
at moderate price*

For Styleplus you pay a moderate price, which is certainly desirable these days. You get a guaranteed all-wool quality that will stand up to the long wear that means economy on the time-cost basis. And, you get *Style*.

The protection in Styleplus is that pride and pocket are both satisfied and you get the quality a good suit must have. We further protect you by making the prices *known* (printed on the sleeve ticket).

Visit a Styleplus dealer in your locality. He will show you the clothes and you will see the big values before you pay.

Sold by one leading clothing-merchant in most cities and towns. Write us (Dept. H) for name of local dealer.

HENRY SONNEBORN & CO., Inc. Baltimore, Md.

\$45-\$50-\$55-\$60

"The sleeve ticket tells the price"

Copyright 1920
Henry Sonneborn
& Co., Inc.

The big name in clothes

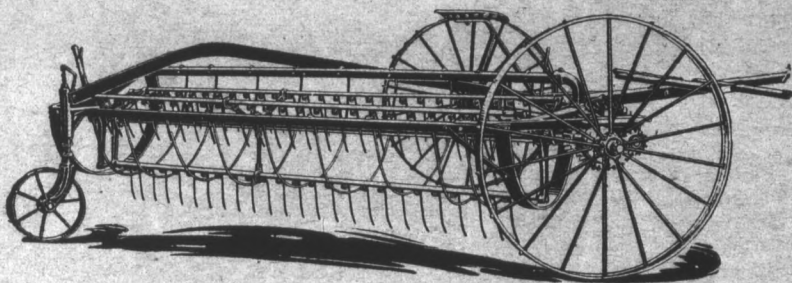
Styleplus Clothes

Trade Mark Registered

AMERICA'S KNOWN-PRICED CLOTHES

TOP PRICE FOR YOUR HAY

can be had only if it has been cured so it retains its natural color and full feeding value. It must be cured by the air—not by the sun. A side delivery rake should be used, because it makes a light, fluffy windrow through which air circulates freely.



B. F. Avery & Sons' "Champion" Side Delivery Rake

has this big advantage—it delivers hay to the left hand. When you rake with it in the same direction the mower travels, the hay is deposited on the raked stubble—not on top of the unraked swath. When you rake in the opposite direction, the

Champion catches the stems broadside and rakes them clean, whereas a right-hand rake strikes the butts of the stalks and scrapes through them. This feature alone makes the Champion your best buy.

Ask the B. F. Avery dealer to show you this rake.

FOUNDED 1825

B. F. AVERY AND SONS
LOUISVILLE, KY.

INCORPORATED 1877

MARL FOR SOIL IMPROVEMENT.

(Continued from page 663).

white marl very similar to soft, natural chalk, and consisting of practically one hundred per cent carbonate of lime, (on the dry basis), was discovered in northwestern Wisconsin about five miles from a railroad, a deposit covering several acres. Could this be utilized?

It was not a matter of guesswork that marl would prove beneficial on acid soils. On a few farms raw marl was tested out with favorable results. Furthermore, certain agricultural records show that both marl and natural chalk are valuable materials to consider in increasing soil fertility—or, in other words, to increase productivity. It was a question largely of obtaining it and getting it applied without too much trouble and expense.

Marl vs. Limestone.

When we considered the abundance of limestone we have at our command, and the ease at which it can be prepared for use on the land, we are forced to consider whether or not marl could compete at all with pulverized limestone. At this time the College of Agriculture, through the Soil Extension Service, in cooperation with a large manufacturing company, had worked out a plan whereby farmers in limestone sections could utilize home product by pulverizing limestone on their own farms. This, to my knowledge, was the first venture of its kind in this country. However, only a comparatively few farmers possessed outcrops of suitable limestone. Many other farmers, on the other hand, were located near good bed marl, and it seemed that marl would be the cheaper material to consider. Accordingly, some of the best experts of this company were set to work on this proposition, to devise some method and apparatus or machinery suitable to take marl from its bed or deposit and to put it into condition for a commercial soil-improvement material. The results of this study and investigation clearly showed that it was out of the question to even attempt the preparation of marl as a marketable agricultural lime, and stay within bounds of reasonable prices. In this investigation only the highest grade of marl was considered. The greatest obstacle in the way was the high cost of drying. To reduce the moisture content of even partially air-dried material to dryness would consume large amounts of fuel (and now all fuel is valued much higher). This meant the evaporation of about forty per cent of moisture, or the equivalent of an average of about eight hundred pounds of water for each ton of partially air-dried marl; or in other words, it meant the evaporation of more than thirteen hundred pounds of water to obtain a ton of thoroughly dry marl. It is surprising how much moisture is contained in what may appear as air-dried marl, to say nothing of the amount of water contained in wet marl.

It is not to be inferred that the water in marl is poisonous, thus making it imperative to get rid of it. Nevertheless, this water is injurious, not to the soil, but in lowering the commercial value of the product. Furthermore, no farmer is keen in paying freight on much water.

We also considered the drying of marl to a five or ten per cent moisture content, for at this moisture content high grade marl may be considered excellent material. This reduced the cost considerably, but not sufficient to make it possible to place marl on the market to compete with limestone which can be prepared so cheaply, simply by crushing and pulverizing.

The Marl Plant at Marlborough.

Two or three years prior to the marl-drying investigations referred to above, there appeared on the market a soil-improvement material under the trade name of "Soil Tonic," manufactured at

Please Mention The Michigan Farmer When Writing to Advertisers

"Marlborough," near Dousman, Wisconsin. This was nothing more than kiln-dried marl of high quality, put up in one-hundred-pound sacks, and was sold for, as I remember, three dollars a ton, F. O. B. Dousman.

There was no question as to the value of this material for soil improvement. It was thoroughly dried, very finely pulverized and averaged about ninety-eight per cent carbonate of lime. In color it was dark gray. I tried this product in some of the college soil experimental work, with most excellent results. Because of its flour-like fineness and its solubility, it was a quick-acting material. Now "Soil Tonic" is a thing of the past.

Originally the plant at Dousman was erected for the manufacture of hydrated lime out of marl; but market and other conditions prevented the completion of the plans. This accounted for the appearance of "Soil Tonic." I visited the place, and was told by the manager that the marl bed there is forty feet and more in depth, underneath a few feet of peat. The marl was scooped up with steam shovels and conveyed to a huge, revolving and heated cylinder through which it passed in its drying process. From thence the dried marl was conveyed to a pulverizing machine, then to storage bins or it was sacked for the market. It was an expensive process, and hence the manufacture of "Soil Tonic" did not long continue.

Local Use of Marl.

The attempt to make marl a commercial, soil-improvement product was abandoned; but its local use as a soil tonic is still being encouraged, depending upon conditions. If, on examination, a deposit should prove to be a good grade of marl it can be profitably used by local farmers. The marl should be allowed to air-dry before it is applied to the land.

It is a good plan to scoop the marl into piles during the fall, and allow it to undergo weather action during winter and early spring. When the material becomes sufficiently air-dried to give it handling qualities it can be spread upon the land very conveniently by using manure spreaders.

Sometimes marl in its raw state may contain certain poisonous substances which substances would lose their poisonous properties when the marl undergoes weathering before it is applied.

Good grade of marl dug up and dumped into ditch banks by drainage ditchers offer very convenient sources of agricultural lime in certain localities. Sometimes farmers can secure this material for the hauling. In other cases a charge of about twenty-five cents a load is made by the owner.

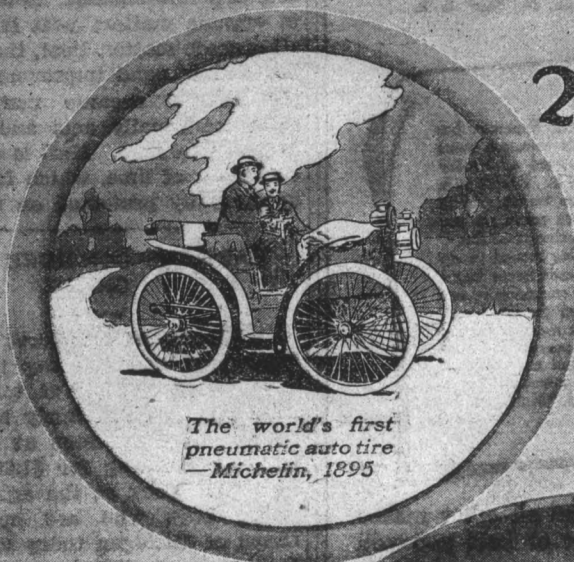
Rate of Application.

Because of the varying composition of marl and of the different degrees of soil acidity, no definite rule can be laid down as to the amount to be applied to the acre. If, for example, it requires two tons of finely pulverized limestone to correct the acidity in a soil of about medium acidity, to do the same work it would require about four tons of finely divided marl containing fifty per cent moisture, and ninety-eight per cent carbonate of lime (dry basis), or eight tons of finely divided marl containing fifty per cent moisture and fifty per cent carbonate of lime (dry basis), or about ten tons or more if the marl contains fifty per cent of moisture, fifty per cent carbonates (dry basis), and is more or less lumpy.

It should be remembered in this connection that the more intimately lime particles come in contact with soil particles by thorough mixing with the soil, the more effectively any form of agricultural lime will act. Any method of application, therefore, that can bring about a good mixing of marl with the soil is recommended. The neutralizing value of any marl, based on the con-

MICHELIN

25 Years Ago -



The world's first
pneumatic auto tire
—Michelin, 1895

and Today



Michelin Cords and
Disc Wheels—the latest
developments in tire
and wheel equipment

Michelin introduced the first pneumatic automobile tire in 1895. In the meantime Michelin genius has contributed many other improvements which culminate today in the new Michelin Universal Cord.

Michelin Tire Company, Milltown, New Jersey

Other factories: Clermont-Ferrand, France; London, England; Turin, Italy.

Dealers in all parts of the world

Abundant Water Least Expense



PERKINS
WIND MILLS

Standard for 60 Years

A size and type to exactly meet your needs. Direct Stroke or Back Geared. Wood or steel. Quiet, perfectly balanced. Works in lightest breeze. Efficient, reliable, long-lasting. Simplest automatic regulator. Simplest in design. Requires least attention. Write Now for Free Windmill Book. PERKINS CORPORATION 65 Main St., Mishawaka, Indiana 25-year Service on Replacement Parts

DICKEY GLAZED TILE SILOS

"The Fruit Jar of the Field"

Early orders insure you having your silo when you need it. Send for catalog No. 9.

W. S. DICKEY CLAY MFG. CO.,
MACOMB, ILL.
Kansas City, Mo. Chattanooga, Tenn.

LEARN AUCTIONEERING

at the World's Original and Greatest School and become independent with no capital invested. Every branch of the business taught. Write today for free catalog. JONES, NAT'L SCHOOL OF AUCTIONEERING 28 N. Sacramento Blvd., Chicago, Ill. Carey W. Jones, mgt.

Trained American Fox Hounds, Rabbits and Stacks. Write for all ages. Send stamp. W. E. LUCKY, Richmond, Ohio

BUY FENCE POSTS direct from forest. Prices delivered your station. M. M. care of Michigan Farmer

FOR SALE:—Marquis Spring wheat. The kind that has proved a success in Michigan for six years. Write for prices to Farwell Mills, Farwell, Mich.

PERMANENCE



HOOSIER SILOS last for generations. Proof against wind, fire and floods. Glazed on unglazed vitrified clay, reinforced every course. Continuous double sealed doors set flush inside allow even settling of silage. HOOSIER SILOS also in wood or cement stave. Same splendid value, backed by HOOSIER reputation. Build ALL farm buildings of hollow tile for permanence and economy. Write for prices, literature and special agency proposition. HOOSIER SILO CO. Dept. M72 Quincy, Ind.

"B-V-T" Silo



Will last forever. You will never have to rebuild it! Neither will your grandchildren. Built from the famous BRAZIL VITRIFIED FIRE CLAY. The "B-V-T" has been on the market nine years without a failure. Send for Catalog 11. Brazil Hollow Brick and Tile Company BRAZIL, INDIANA

DE LAVAL

THE EVERLASTING CREAM SEPARATOR

There are thousands of voluntary letters in the De Laval Company's files, similar to this letter from Mr. Watkinson, of Iowa, bearing out the statements made in connection with the long service of De Laval Cream Separators.

In fact, by averaging up the years of use, it has been found that the average life of a De Laval is more than 15 years; and that during that time they have required little attention or repairs, and have produced the highest possible quantity and quality of cream with the least time and effort.

That is why there are more De Laval in use than all other makes combined. Sooner or later you will buy a De Laval.



The nearest De Laval agent will be glad to demonstrate a De Laval. If you do not know his name, write to nearest De Laval office

THE DE LAVAL SEPARATOR CO.

165 Broadway, New York
29 E. Madison St. 61 Beale St.
Chicago San Francisco

50,000 Branches and Local Agencies
the World Over

"My De Laval Separator has been in use about seventeen years and is doing just as good work today as when I bought it. I think it is good for ten years longer. With butter-fat at present prices no one can afford to use a cheap machine."

"When looking around to see what kind of a separator to buy I found that all the creameries in our vicinity were using the De Laval. The thought struck me, what is good enough for the creameryman is good enough for me, and my experience proves I made no mistake."

Ed. Watkinson

tents of carbonates and moisture, should also be taken into consideration.

Marl for Sands.

It is a singular fact that many marl deposits and peat beds are to be found in proximity to much sandy soils. It seems as though nature had some definite plan for such an arrangement. However, man was given intelligence and the ability to reason out for himself this relationship. Sands are poor in organic matter; peat is practically all organic matter. Peat, therefore, can be used in sand improvement to supply needed organic matter. Sandy soils are usually acid and hence are deficient in lime. Marl is a carrier of carbonate of lime, which form of lime is generally preferred on sandy soils.

FARMERS CONSIDER DAIRY CRISIS.

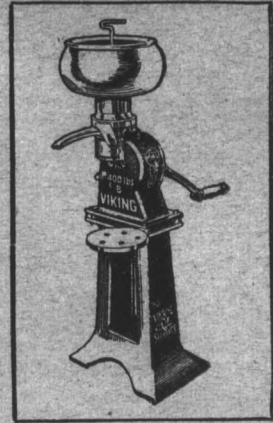
(Continued from first page).

"how any man can say to you who are producing milk at ten cents an hour that you can fairly be forced to produce food for men at lower price who are working for \$1.00 and \$1.25 an hour. Look at the aged men and young boys who are operating the farms of Michigan today and see how they are struggling to produce food for the big industrial centers. We must stand together until we are recognized by the other business interests of the country and until we have some say about what is going on in the big political parties of the country."

President Aitken, of the Holstein-Friesian Association, said: "I have for years sounded dairying as a business proposition, and I don't believe that we need to apologize because we are farmers and breeders of live stock. It has been a case of the city against the country too long. When we used to go to school in the cities it was generally a case of knock down and drag out before we could gain an education. For years the city has been a lure and drawn our young folks away. I realize the need of milk, but I want you to look at it from a business side. The automobile people have made it a condition of the mind for people to want their product. And you dairymen have got to make it as plain to the people of the cities that they need your milk as the automobile manufacturers have to them that they need their automobiles. You have got to make provision to take up your surplus rather than to let it destroy your markets. In New York City the babies are dying by the thousands because their mothers do not understand the value of milk, and right here in this city there is not one-half enough milk consumed for the health of the children. For the sake of humanity stand by your guns and do not give up production, for I want to say to you that before another year rolls around we are going to see by far the most deplorable conditions that we have ever seen. You produce the only food in this land that the production of can be increased in sixty days and the consumption of increased within the same period of time, and now it is a question of reducing the price. If you let your cows go down in yield you will see the greatest milk shortage the country has ever witnessed, and I want to say to those men who are assuming the responsibility of reducing the price of milk that they are assuming a grave responsibility. There is not a farm in Michigan today that can produce milk at the going price and pay the going wages without showing a loss.

"It is not only due to the children and adults of Detroit that you see that they know these things about milk and the cost of producing it, but it is your business to do so. Then they will consume milk in just the proportion that you get them mentally interested in it. And it is your duty to produce good milk and produce it under sanitary sur-

VIKING— The Separator Preferred by Women



The Viking separator is the woman's choice.

In designing this machine the manufacturers not only have in mind the attainment of perfect skimming; but ease of operation, simplicity in construction and mechanical excellence.

It is easy to clean and keep sanitary.

Built the correct height for comfortable operation. There is no leaning over to turn the crank.

Examine the illustration closely.

Dept. BD.

Swedish Separator Company
507 So. Wells St., Chicago

Facts in BLACK & WHITE

Big Incentives to Own Pure red Holsteins

Each year \$26,000 is distributed by The Holstein-Friesian Association for milk and butterfat records of the breed at fairs. This has been a wonderful stimulus to Holstein breeders, and has also aided in the nation-wide exploitation of the superior merits of the pure-bred Holstein-Friesian cattle. Being a large and persistent producer, the hardy and prolific Holstein cow has proved herself the most profitable for farmers or dairymen throughout the land.

Read the facts in our free booklets.

THE HOLSTEIN-FRIESIAN ASSOCIATION
164 Hudson Street
Brattleboro Vermont.

GENRIDA FARM

OFFERS

BULL CALF, BORN DEC. 26, 1919

Sire: King Flint, who combines the blood lines of 2 families of 3 generations of 30 lbs. cows and 2 generations of 1200 lb. yearly record cows. Dam: Has a 21.39 lb. 3 yr. record. Her dam is a 23.99 lb. daughter of Johan Hengerveld Lad.

Walter Hill, Davison, Mich.

The Traverse Herd

We have what you want in BULL CALVES, the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dam's records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

TRAVERSE CITY STATE HOSPITAL
Traverse City, Mich.

REGISTERED Holstein bulls sired by King Zerna R. Alcartra Pontiac, son of the \$50,000 bull; some from good A. R. O. cows. C. H. Giddings, Gobleville, Mich.

\$125 Buys Reg Holstein Bull 1 yr. old. Delivered and guaranteed O. K. High class breeding and a good individual. B. B. REAVEY, Akron, Mich.

\$125. gets bull calf born June 1.19. Sire's six near-est dams av. 33.54 lbs. butter for 7 days. Dam a good producer. Oscar Wallin, Unionville, Mich.

Holsteins of Quality

Fifteen High Grade Holstein Cows For Sale
E. A. HARDY, Rochester, Mich.

BREEDERS' DIRECTORY

Change of Copy or Cancellations must reach us
Ten Days before date of publication

Wildwood Farms Angus

Home of Edgar of Dalmeny one of the world's greatest sires.
He produced Erodemas, the grand champion bull at show in Perth, Scotland in Jan. 1919, and He produced Blue Bell a cross-bred heifer which was awarded the championship at the Smithfield, (Eng.) fat stock show in Dec. 1919. (The latter is England's equivalent of our Chicago International.)

Edgar is now an American Citizen, and is here for the purpose of bettering the breed in this country.

Edgar's calves are as yet too young to offer for sale but they are a promising lot and are being spoken for fast.

We have a few choice young bulls by Black Monarch III who won the Mich. State Fair Grand Championship in 1914-1915-1916, still for sale.

Our herd is under State and Federal supervision
A visit will interest you, write for particulars.

WILDWOOD FARMS ORION, MICHIGAN

W. E. SCRIPPS, Prop. Sidney Smith, Supt.

WOODCOTE ANGUS

Established in 1900

Trojan-Ericas and Blackbirds.

Write for 1920 Bull sale list.

WOODCOTE STOCK FARM,
Ionia, Mich.

Registered Aberdeen-Angus bulls. One show bull a great prospect. Can fill your order. Satisfaction guaranteed. Plenty of size best of breed. ing. Priced reasonable. F. J. Wilber, Olio, Mich.

For Sale My herd bull and eight registered Aberdeen Angus Females. Six due to freshen this spring also two yearling bulls. Information cheerfully given. W. Bradley, Phone 90-5, Brighton, Mich.

FOR SALE

Guernsey Bull. Serviceable age. A. R. records dam 530 lbs. granddams 766 lbs. and 555 lbs. A son of Antou's May King.
GILMORE BROTHERS, Camden, Mich.

GUERNSEY BULL CALVES whose sire's dam made 19,460.20 milk, 909.05 fat. Their mother's sire's dam made 15,109.10 milk, 778.80 fat.
T. V. HICKS, Battle Creek, Mich.

GUERNSEY BULL CALVES FOR SALE

\$50.00 and up. Sired by Noro's Mayking Mayrose Breeding. This is accredited herd against tuberculosis from State and Federal government. Avondale Farms, Wayne, Mich.

Guernsey Bull Calf, Linded of Walter Phipps Farm. Born May 2-1919. \$100.00 f.o.b. Novi or Birmingham. Walter Phipps Farm, 80 Alfred St. Detroit, Mich.

Guernseys Federal inspected herd. Bull 2 yrs old g. son of Imp. Spotswood Bequel, dam's A. R. record 419.34 b. f. class G. Bull calf 8 mo's. old. 6 bull calves 2 to 5 mos. old. Satisfaction guaranteed G. W. & H. G Ray Albion, Mich.

GUERNSEYS —REGISTERED BULL CALVES
Containing blood of world champions
HICKS' GUERNSEY FARM, Saginaw, W. S. Mich.

Registered Guernseys Just the nicest Young Bull ready for Light Service, \$100 will start him your way. Don't wait on this fellow.
J. M. WILLIAMS, No. Adams, Mich.

Reg. Guernsey Bulls for sale cheap from 1 to 12 months old and from good producing and tuberculin tested cows. O. E. Lambert & Sons, Linwood, Mich.

For Sale Registered Guernsey bulls. May Rose breeding cheap if taken soon. Come or write. John Ebels R. 2 Holland, Michigan.

For Sale cows and heifers fresh and springers one or ear load lots. Apply
THE JENNINGS FARMS, Bailey, Mich.

FOR SALE three Registered Holstein-Friesian 2-year old heifers. Will make fine cows, best of breeding, sired by a Pontiac Bull. Will sell one or the three.
HENRY S. ROHLFS, Akron, Mich.

Winnwood Herd

—SENIOR HERD SIRE—

Flint Maplecrest Boy (166974)

4 years old and weighs 3000 lbs. We have a few of his sons ready for service and some little fellows straight as a line and priced right the daughters of Flint Maplecrest Boy are making good.

—JUNIOR HERD SIRE—

Sir Ormsby Skylark Burke (249 66)
A brother to the world champion cow over all breeds (Duchess Skylark Ormsby) 1506 lbs. of butter in one year. He is the best bred Ormsby bull in Michigan his dam a daughter of King Segis Pontiac she is a sister to King Segis Pontiac Count and the \$50,000 bull King Segis Pontiac Alcartra, we said get a better bull (we got ours) one of his sons out of a daughter of Flint Maplecrest Boy will make some herd sire.

JOHN H. WINN, (Inc.)
ROSCOMMON, MICH.

roundings. Now let us go about this milk production in the right way. The distributors are only a part of this scheme of getting milk to the customers. They may be making big profits, but I don't know. I do know that I have tried the business of distributing milk once, and that I was glad to get out of it, and that was before the war. If your distributors won't get your milk to the people in a sanitary condition there are others who will. What I want to have you do is to conduct your business in a businesslike way. Then you will succeed."

John C. Ketcham, Master of the Michigan State Grange, gave a brief address. Mr. Ketcham, who has been on an extensive trip through the New England states, said: "Down in New England where I have been the great question the people are asking is what they can do to bring back their agriculture. Shall we stand back and let our agriculture go down the same way as they have? The average wages paid farm labor last year was \$2.16 per day and \$56.29 per month. Men in the cities today are drawing from \$8.00 to \$12 per day. Whether you are operating your own farm or hiring men, if you look upon your business as a \$2.16 proposition where are you going to come out? Ninety per cent of the people on our farms today are American born, and if you step into one of the big cities what do you find? Mighty few of the people can understand the English language. I am not saying this to raise class prejudice, but I do want to state a few facts for you to think over. And I want to say to you that as we are standing here today pleading, it is up to you to put over your problems in the best way you can."

The following resolution was then presented by Mr. Ketcham and unanimously adopted:

Whereas, Michigan farm conditions are most critical. The heavy removal of people from the farms to the industrial centers owing to the attraction of high wages, has seriously threatened food production. Vacant farm houses, abandoned farms and reduced acreage is the report from all corners of the state; and

Whereas, the residents of our cities are seemingly asleep to the conditions that prevail in regard to food production. Carelessness, neglect, and even open hostility toward farmers are all too common in the minds of many city consumers. Many of our industrial leaders have lost sight of the fact that Michigan's prestige as a manufacturing center cannot be maintained unless those who produce food are likewise prosperous and progressive; and

Whereas, the Michigan Milk Producers' Association is especially concerned over the impending crisis in this important industry. Top prices in feeds, and almost impossible labor conditions are driving many men out of the dairy business and unless immediate and drastic means are used to counteract, we shall face in the summer months such a shortage of dairy products that actual want, if not famine, may stalk through our city streets and riot and ruin run their mad course; and

Whereas, the Michigan Milk Producers' Association would be recreant to its duty to its members and to the consuming public did it not bend every energy to bring this critical situation of the milk industry to the people of the city and to invite their earnest cooperation in avoiding disastrous consequences to all concerned. Assistance must be given the dairymen to encourage increased production, to improve the quality of their product, and to guard against its contamination. City consumers must be enlightened as to the excellence of milk as a nutritive and to its comparative cheapness when its food value is considered;

Therefore, be it resolved that we show our good faith in meeting this critical situation by instructing the Board of Directors of the Michigan Milk Producers' Association to arrange for the collection of one per cent of the proceeds of our milk for the purpose of more effectively meeting the situation above described, through proper advertising, more intensive organization and such other means as may be found necessary and practicable.



Put on Weed Tire Chains

For Safety and Traction

Never start out without Weed Tire Chains when the roads are muddy and slippery. Take no chances. Prepare for accidents before they happen—not after.

Any farmer who drives without Weed Tire Chains, when the roads are slippery and muddy, is taking chances with his own life; he is liable at any moment to have a serious mishap and is risking the probability of aggravating delays.

Slipping and Skidding are entirely due to loss of traction. Perfect traction on muddy, slippery roads is impossible without Weed Tire Chains.

For your own safety and comfort don't wait till it rains—stop at your dealer's today, when the going is good and buy a set of Weed Tire Chains.

Can you depend on your car? Is she always under absolute control—brakes working—wheels gripping and holding true? If not what fun is there in driving? If you are a little nervous on wet roads you miss half the fun of your car.

Enjoy that safe feeling—Take the necessary "stitch in time." Put Weed Tire Chains on your tires at the first indication of wet roads or slippery going.

They are made of the best steel—electrically welded and tested—are easily attached and do not injure tires because they "creep"—sizes to fit all styles and makes of tires.

Always put on your
Weed Tire Chains
"at the first
drop of rain"



For Sale by Dealers Everywhere

AMERICAN CHAIN COMPANY, INC.

BRIDGEPORT CONNECTICUT

LARGEST CHAIN MANUFACTURERS IN THE WORLD

The Complete Chain Line—All Types, All Sizes, All Finishes—From Plumbers' Safety Chain to Ships' Anchor Chain.

Elweltra Trace Chains are "formed" and electric-welded on automatic machines, thus insuring smoothness, uniformity of construction and maximum strength. Every pair is carefully inspected and rigidly tested before leaving our factories.



OUR HERD SIRE Model King Segis Glista

By a 30 lb. son of Lakeside King Segis Alban De Kol. His dam Glista Fenelle 32.37 lbs. Her dam Glista Ernestine 35.96 lbs. His three nearest dams average over 39 lbs and his forty-six nearest tested relatives average over 30 lbs. of butter in seven days. Write for prices on his sons.

Grand River Stock Farms
C. G. Twiss, Mgr. Eaton Rapids, Mich.

FOR SALE a number of pure bred Holstein heifers, age cows and very well bred Holstein bull calves.
JOSEPH H. BREWER, Grand Rapids, Mich.

HOLSTEIN BULL CALVES FOR SALE

From dams with good records.
BULL CALVES Sired by 45 lb. BULL.
BULL CALVES Sired by 34 lb. BULL.
BULL CALVES Sired by 33 lb. BULL.
PRICES VERY REASONABLE.
Privilege of return if not satisfied.
A. W. COPLAND,
Birmingham, Michigan.
Herd under State and Federal Supervision.

A BULLY GOOD BULL CALF.

Born July 1919. His six nearest dams have good yearly records. Amongst them are three world's records Good individual, nicely marked, and worth in any good herd all he will cost. You can't pay too much for this kind. I have a fine four months bull, not quite so well bred but a nice one.
L. E. CONNELL, Fayette, Ohio.

Reg. Holstein Bull Calf born Feb. 1, 1920. Sires 13 R dams ave. 31 lbs. Price \$100 Reg. and Del. would take Liberty bond. J. R. Hicks, R. 3 St. Johns, Mich.

A Good Hole accepted in payment of finely bred registered Holstein bull calves. Quality of the best, and at prices within reach of all. Write, GEO. D. OLABKE, Vaassar, Mich.

Bazley Stock Farm YPSILANTI, MICH.

A nicely bred calf. The dam of this calf has just made 12.77 lbs. of butter from 304.6 lbs. of milk as a senior yearling. She is from a 16 05 2 year old that will freshen in April and will be tested. Dam of Calf is both a granddaughter of King of the Pontiacs and Woodcrest De Kol Lad 26 A. R. O. Daughters. Sire of Calf is a 21 lb. grand son of the \$50,000 bull. Price only \$100.00

JOHN BAZLEY
319 ATKINSON AVE.
DETROIT, MICHIGAN.

Hatch Herd (State and Federal Tested) Ypsilanti, Michigan

Offers young sires, yearlings and younger, out of choice advanced registry dams and King Korndyke Artis Vale: Own dam 34.16 lbs. butter in 7 days; average 2 nearest dams 37.61, 6 nearest 33.93, 20 nearest 27.83

LONG DISTANCE

close up dams average above 1700 lbs. butter and 24,000 lbs. milk in 1 yr. His dam untested \$100. A. Fleming, Lake, Mich.

FOR SALE proven herd sire, fine individual rich A. R. O. breeding. Gdson of King Segis Pontiac Alcartra. Only \$250. Write for particulars. E. K. Younker, Lapeer, Mich.

\$75 Will Buy a registered Holstein bull by a 23 lb. son of King Segis Pontiac. Calf is, right in every way. Write for pedigree.
BEN L. SMITH, Rives Junct., Mich.

For Economical production, individuality, breeding get granddaughters of D. D. Aitken's herd sire and Flint Heng. S. 27 lb. butter 561 lb milk in 7 days. Terms \$50 a year. M. L. McLaulin, Redford, Mich.

REGISTERED HOLSTEIN bulls calves from an accredited herd for sale. All ages. Apply MICHIGAN SCHOOL FOR THE DEAF, Flint, Michigan

HARWOOD HEREFORDS

A few young bulls from 10 to 18 months, well bred, in fine condition. Special price for the next thirty days. No females for sale at present. Visitors welcome.

Jay Harwood & Son, Ionia, Mich.
Farm Six Miles South of Ionia

HEREFORDS

3 Prince Donald, 3 Farmer and one Polled bulls from 7 to 13 months old, for sale.

ALLEN BROS.
PAW PAW, MICHIGAN

Herefords Special low price on the following for a short time. One four year old cow due in spring. Two 2 year olds with calves by side. One yearling heifer. Three bull calves, about 9 months old, one polled, two horned, all well marked and good dark color.
COLE & GARDNER, Hudson, Mich.

Herefords. Just purchased 3 new herds, now have 150 head; we offer you anything desired either sex, horned or polled, any age. Priced reasonable.
THE MCCARTYS, Bad Axe, Mich.

The Wildwood Farm
Jersey Cattle, Majesty strain. Herd on State accredited list. R. of M. testing constantly done. Bulls for sale. ALVIN BALDEN, Phone 143-5, Capac, Mich.

Washtenaw County Consignment Sale

Ypsilanti, Mich. Saturday, May 1st 1920.

90 Head Registered Holstein-Friesian Cattle
The Kind You Are Looking For.

1 32 lb. cow. 1 30 lb. cow. 4 daughters of 30 lb. cows. 2 29 lb. cows.
3 daughters of 29 lb. cows. 1 daughter of 123 lb. yearly record cow.
1 26 lb. cow. 1 25 lb. cow. 1 24 lb. cow. 2 23 lb. cows. 1 20 lb.
2 yr. old daughter of 30.96 lb. cow from 30 lb. sire. 2 sisters of 32
lb. 4 yr. old. 12 cows bred to 38 lb. bull. 1 29 lb. bull.
Wonderful individuals with real breeding. About one half of these
cattle under state and federal test.

D. L. Perry, Auctioneer R. Austin Backus in the box.

GET A CATALOGUE AND YOU WILL BE AT THE SALE.
FREE TRANSPORTATION TO PAVILION.

Address R. J. BIRD (Secretary),
Ypsilanti, Mich.

McPherson Farms Co. and Cluny Stock Farm FIRST ANNUAL SALE

at Howell, Mich., June 8, 1920

McPherson Farms Co. consigns

1 30 lb. bull
1 29 lb. bull
1 bull whose 4 nearest dams average 32.46
lbs.
1 daughter of 27 lb. 3 1/2 yr. old
1 daughter of 26 lb. 3 1/2 year old
2 daughters of a 25 lb. cow.
1 daughter of a 24 lb. cow and several other
"Top Notch" Holsteins.

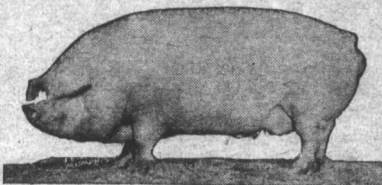
All bred to 30 lb. Bulls.

Cluny Stock Farm consigns

A 3 generation group consisting of
1 A 26.8 lb. cow (100.8 lbs. milk in 1 d.,
106.9 lbs. butter 30 d.)
2 Her 20,000 lb. Sr. 3 yr. old Semi-official
record daughter, and
3 3 yr. old daughter of No. 2, by a 31 lb. bull.
Also a 21.49 lb. 3 yr. old 1st calf daughter
of Maplecrest Application Pontiac,
and several other daughters and 2 sons
of same sire, both from high record
dams.

McPherson Farms Co. Howell, Mich. R. Bruce McPherson, Howell, Mich.

THE FAMOUS O.I.C. SWINE



We have the undefeated Herd of the World.
Winning premier breeder and exhibitor at
every fair shown in 1919-1918-1917, includ-
ing the following state fairs--Ohio, Michigan, Indiana, Illinois, Missouri, Kentucky,
Tennessee, Oklahoma, New York, Alabama, Tri-state fair Memphis, and the Nation-
al O.I.C. twice. Stock of all ages for sale. Registered free in the O.I.C. association.
Order now. We will ship any of our stock on approval allow you to keep
three days before you have to pay for it. You will be your own judge on your
own farm.

CRANDELL'S PRIZE HOGS, Cass City, Mich.

A Brookwater Duroc Jersey Boar

will make you money because Brookwater Durocs are recognized as the standard in Michigan.
Brookwater Durocs have been sold into almost every State in the Union, as well as in Canada,
Chili, Brazil and the Argentine Republic.
The demand for Brookwater Durocs is growing every year. Our best customers are our regular
customers. If you need a boar you can get one at a reasonable price. Visit the farm or write
BROOKWATER FARM, Ann Arbor, Mich.
Herbert W. Mumford, Owner.
J. B. Andrews, Manager.

Also a few JERSEY BULL CALVES by a double grandson of Royal Majesty and out of
Register of Merit dams.

O. I. C. SOWS FOR SALE

One of the Best Herds in Michigan
Spring gilts and fall yearlings bred for March, April and May litters. I ship
C. O. D., pay express and register in buyer's name. If you want a BIG
TYPE sow, guaranteed right in every way, write me.
J. CARL JEWETT, R. 5, Mason, Michigan.

BUTTER BRED JERSEY BULLS
CRYSTAL SPRING STOCK FARM,
Silver Creek, Allegan County, Michigan.

FOR SALE Jersey Bulls ready for service
B. of . ancestors. Raleigh-St.
Lambert breeding. Jerseys stand for economy.
Waterman & Waterman, Packard Rd. Ann Arbor, Mich.

For Sale Jersey bull calves of Majesty breeding from
good producing stock. Herd on Govern-
ment "Accredited List." Write for price and pedigree
to C. A. TAGGETT, R. 2, Fairgrove, Mich.

LILLIE Farmstead Jerseys--A few heifers bred to
freshen soon. Heifers bred to freshen next fall. 3
cows, R. of M. bull calves. C. O. Lillie, Coopersville, Mich.

Bulls ready for service from our herd bull Marguerite
Premier, gdson, of Pogue 59th of Hood Farm, and cows
now on test for R. of M. Smith & Parker, Howell, Mich.

For Sale Registered Jersey Bulls from
tested dams. Grass Lake, Mich.
NOTTEN FARM.

For Sale Shorthorns of Quality Scotch and
Scotch Topped descendants of Archers
Hope, Avondale, Max Walton Sulton and White Hall
Sulton. Model Type, by the Oscola Co. Shorthorn
Breeder's Ass. John Schmidt, Sec. Reed City, Mich.

BIDWELL SHORTHORNS
You Can Buy

a bull that will put weights on your dairy calves--
the difference will soon pay for the bull. Now selling
good Scotch and Scotch-topped yearlings, reasonably
priced. A roan, senior yearling, a Missie of Villager
breeding, a herd bull prospect, Federal Test.

BIDWELL STOCK FARM,
Box D, Tecumseh, Michigan

MEADOW Hills Shorthorns. Herd headed by Sil-
ver King, full brother of Lavender Sultan. Pur-
due University's great sire. For sale females of all
ages, a few young bulls. Geo. D. Doster, Doster, Mich.

Royal Bruce 795521 heads our herd. Three
half brothers sold for \$55,000.00
one Cluny Proud Augusta going to head Wm.
Duthies of Collyne's herd at \$21,000.00. One bull and a
number of females for sale.
CARR BROS. & CO. Bad Axe, Mich.
Norman Carr, Secretary.

Shorthorn Ornickshank Orangeblossom. Herd
bull and 2 bull calves 6 and 7 months
old for sale. W. C. OSIUS, Hillsdale, Mich.

Gombault's Caustic Balsam

The Worlds Greatest and Surest
Veterinary Remedy

HAS IMITATORS BUT NO COMPETITORS I

SAFE, SPEEDY AND POSITIVE.

Supersedes All Cautery or Fir-
ing. Invaluable as a CURE for

FOUNDER,
WIND PUFFS,
THRUSH,
DIPHTHERIA,
SKIN DISEASES,
RINGBONE,
PINK EYE,
SWEENY,
BONY TUMORS,
LAMENESS FROM
SPAVIN,
QUARTER CRACKS,
SCRATCHES,
POLL EVIL,
PARASITES.

REMOVES
BUNCHES or
BLEMISHES,
SPLINTS,
CAPPED HOCK,
STRAINED TENDONS.

SAFE FOR ANYONE TO USE.

CAUSTIC BALSAM IS THE BEST

Your Gombault's Caustic Balsam is the best
I know of. I have bought four bot-
tles for my neighbors, and two for myself. I
have cured a sweened horse with the Balsam.
—Louis Miller, Sharon, Wis.

We guarantee that one tablespoonful of Caustic
Balsam will produce more actual results than a whole
bottle of any liniment or spavin mixture ever made.
Every bottle sold is warranted to give satisfaction.
Write for testimonials showing what the most promi-
nent horsemen say of it. Price, \$1.75 per bottle.
Sold by druggists, or sent by express, charges paid,
with full directions for its use.

The Accepted Standard
VETERINARY REMEDY

Always Reliable. Sure In Results.



None genuine without the signature of
The Lawrence-Williams Co.
Sole Importers & Proprietors for the
U.S. & CANADA. CLEVELAND, O.

Sole Agents for the United States and Canada.
The Lawrence-Williams Co.
TORONTO, ONT. CLEVELAND, OHIO.

Richland Stock Farms
Home of the Michigan Champions.
Shorthorn Sires in Service:

IMP. Lorne, IMP. Newton Champion, Sterling
Supreme. Why not buy a young bull to head
your herd that carries the blood that is making
Shorthorn History. Only a few real headers
left. Write your wants.
C. H. PRESCOTT & SONS, Tawas City, Mich.

FOR SALE Lady Blanche 4th,
a bred roan Short-
horn heifer two and one half yrs. old. Sires Avondale
Stamp, Correct Sultan, Imperial Success. Address
HOYT SHISLER, Caledonia, Mich.

Central Mich. Shorthorn Breeders Assn. offer
40 bulls, 38 females, write for new list.
OSCAR SKINNER, Sec. Gowen, Mich.

The Kent Co. Shorthorn Assn. have males and
females of quality
for sale. L. H. LEONARD, Sec., Caledonia, Mich.

FOR SALE Registered Shorthorns of good milking
F strain. Bull Roan three years old, bull calves 2 to
6 months. Chas. Warner Jr., R. 4, L'Amoy City, Mich.

Milking SHORTHORNS. Clay bred bull calves
Herd under Federal Supervision.
Davidson & Hall, Besand & Beland, Tecumseh, Mich.

Shorthorns Good Scotch bred bulls, cows and
heifers, priced right.
W. B. McQUILLAN, R. 7, Howell, Mich.

Shorthorns Scotch and Scotch Topped, only
a few left at old prices.
W. J. BELL, Rose City, Mich.

Small herd of registered Shorthorns for sale.
Priced for quick sale.
SHEAR BROS. R. F. D. 5, Flint, Mich.

Shorthorn Bull yearly. Price \$70. Duroc fall gilts
price \$20.00. Spanish Jack yearling.
Price \$200. E. J. ALDRICH, Tekonsha, Mich.

HOGS

Berkshires size with quality is our special-
ty. Write your wants to
M. G. MOSHER & SONS, Osseo, Mich.

Registered Berkshires, Gilts, and Sows bred for April
May and June farrow. A yearling Boar and a few
younger. Spring pigs. Chase Stock Farm, Marlette, Mich.

Duroc sows and gilts bred to Walts King 92949,
who has sired more 1st and 2nd prize pigs
at the State Fair in last 2 years than any other Duroc
boar. Everyone will be a money maker for the
buyer. Cat. and price list.
NEWTON BARNHART, St. Johns, Mich.

DUROC-JERSEYS

A few extra good bred sows and gilts for sale.
CAREY U. EDMONDS, Hastings, Mich.

DUROC JERSEYS

Bred Gilts for March and April farrow. Write at once
for description or come and see them. Satisfaction
guaranteed with every order.
RUSH BROS. OAKWOOD FARM, Romeo, Mich.

Michigana Farm offers some exceptional
values in bred gilts. Also
in tried sows. These are guaranteed to give satisfac-
tion and they will ship on approval to responsible
parties. They breed and sell good Durocs.
O. F. Porter Mgr. Pavilion, Mich.

ROYAL BRED DUROC GILTS

Damsired by Michigan Cherry Col. Bred to Jacks
Cherry Orion King No. 189258, Son of the \$10,000 champ-
ion, Jacks Orion King 2nd, all high class stock, write
for prices. The Jennings Farms, R. 1, Bailey, Mich.

DUROC JERSEYS

Gilts bred for March and April farrow, A Guarantee
back of every Sow Sold.
F. J. Drott, Monroe, Mich. R. 1.

DUROC JERSEYS
E. D. HEYDENBERG, Wayland, Mich.

Duroc Jersey, Bred sows and gilts April and May
farrow. Sired by or bred to my 1000 lb.
herd boar JOS. SCHUELLER, Weidman, Mich.

Duroc bred sows and gilts sired by Orion Cherry
King Col. 2nd., bred to All Col. of Bangamo 2nd.
First class lot, reasonable. W. C. Taylor, Milan, Mich.

DUROCS for Sale Bred sows and fall pigs of both
sex and a car of grade draft colts.
CHAS BRAY, Okemos, Michigan.

CHESTERS, spring pigs in pairs or
trios from strictly big type
mature stock. A few gilts bred for May farrow.
F. W. ALEXANDER, Vassar, Mich.

Raise Chester Whites

Like This
the original big producers

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

O. I. C. and Chester White Swine

Strictly Big Type with quality. Spring pigs of March
and April farrow. A choice lot of boars. Will only
spare a few more gilts at present. Will ship C. O. D.
and record them free.
Newman's Stock Farm, Marlette, Mich. R. No. 1.

O. I. C. and Chester White Swine booking orders
for spring pigs from big type blood lines.
Fall pigs with size and quality. I ship C. O. D. and
register in buyer's name. John C. Wilk, Alma, Mich.

O. I. C's. 2 extra choice last spring gilts. 11 last
fall boars wt. 175 to 250 also fall gilts the best I
ever had. Farm 1/4 mile west of Depot. Citizens
Phone 124. OTTO B. SCHULZE, Nashville, Mich.

O. I. C's. Am offering a few September pigs that
combine size and quality.
C. J. THOMPSON, Rockford, Mich.

O. I. C's. A few choice late fall and winter
boars, also a fine two year old boar.
WEBER BROS., R. No. 2, Royal Oak, Mich.

O. I. C's. Big type serviceable boars. Gilts
bred for May and June farrow.
G. P. ANDREWS, DANVILLE, MICHIGAN

O. I. C. Gilts bred for March and April farrow, guaranteed
safe with pigs. Fall pigs and a few service boars.
Herd insured by D. T. F. C. Burgess, R. 3, Mason, Mich.

O. I. C's. Choice bred gilts, 2 extra fine service
boars, choice Sept. pigs either sex or pairs,
CLOVERLEAF STOCK FARM, R. 1, Monroe, Mich.

O. I. C's. choice gilts bred for May and June farrow.
A. J. Barker & Son, Belmont, Mich.

MICHIGAN CROP REPORT.

THE outlook for winter wheat and rye is somewhat better than the average of the past ten years as shown by recent reports furnished to the Michigan Cooperative Crop Reporting Service. The joint report issued by Coleman C. Vaughan, Secretary of State, and Verne H. Church, Field Agent, U. S. Bureau of Crop Estimates, for April 1, also shows that these grains have wintered well under the prevailing favorable weather conditions, although the production indicated is not as large as that of last year. The supply of farm labor is far short of farm needs and much less than the normal supply. However, the demand has not increased over last year, and it is only slightly greater than normal, for the reason that wages are higher than most farmers can afford to pay. The majority of farmers will do what work is possible without hiring, so that many farms will not be worked to their full capacity and many will not be worked at all this year. This condition will undoubtedly cause a reduced crop production in Michigan this year.

Winter Wheat.—The condition of winter wheat is 86 per cent, or six per cent less than on December 1, and nine per cent below the condition of last year's crop on the corresponding date. It is still three per cent better than the ten-year average for April 1. There was a relatively heavy snow covering throughout the winter, but on rolling and hilly lands high winds caused the snow to drift badly, leaving the tops of hills bare. There was considerable damage done last fall by the Hessian fly in many southern counties. On the whole, the crop is in a satisfactory condition except in occasional localities. March was unusually favorable for the crop.

The estimated amount of wheat marketed at mills and elevators in the state during March is 514,000 bushels, or a total of 10,362,000 bushels since August 1, 1919.

• The outlook for the United States is less flattering, as the condition is only 75.6 per cent as compared with 99.8 one year ago, and 84.1, the ten-year average. This low condition combined with the marked decrease in acreage indicates a total winter wheat crop of only 433,617,000 bushels, as compared with 731,836,000 bushels last year.

Rye.—As is usual, rye shows a better condition than wheat in the state, being 92 per cent as compared with 95 per cent on December 1; 96 per cent one year ago, and a ten-year average of 88 per cent. Practically no complaint regarding the outlook for the crop was received from any section.

Rye promises a total crop in the United States of 75,841,000 bushels as against 38,478,000 bushels last year, the condition being 86.8 per cent. The average one year ago was 90.6 per cent and the ten-year average, 89.0 per cent.

Breeding Sows.—The usual inquiry relative to the number of breeding sows on farms shows that there are three per cent less than last year and five per cent less than the usual number. There was an increase immediately following the war, but the relatively high price of feeds in comparison with the price of pork has discouraged the increasing of herds and caused the reduction mentioned. The reduction for the United States as a whole is ten per cent.

Labor Supply and Demand.

The supply of labor on Michigan farms is only 80 per cent of that of one year ago and 60 per cent of normal. Notwithstanding this marked shortage, the demand is only about equal to that of last year. The wages are too high to warrant the hiring of the amount of labor needed to fully operate the farms.

The supply for the United States as a whole is 87.5 per cent of last year and 72.4 per cent of normal, while the demand, like the situation in Michigan, is about the same as last year and only slightly more than normal.

SUCCESSFUL HOLSTEIN SALE.

At the recent sale held by Vernon E. Clough, at Parma, Michigan, Wednesday, April 7, the following purebred Holstein animals were sold at the following prices:

Netherland Helen Sherlock No. 401-392, \$218, J. W. May, Jackson, Mich.
Violet Lilith De Kol No. 401394, \$335, J. W. May, Jackson, Mich.
Daisy Barteena No. 469617, \$297, R. A. Haggitt, Albion, Mich.
Lady Barteena Dinola No. 341100, \$300, Arthur Perrine, Rives Jct., Mich.

Netherland Colanthe Coronis No. 469618, \$220, Glasgow Bros., Jackson, Mich.

Heifer calf, born April 19, 1919, \$160, Arthur Perrine, Rives Jct., Mich.
Heifer calf, born August 28, 1919, \$167.50, Arthur Perrine.

Heifer calf, born September 1, 1919, \$170, R. A. Haggitt, Albion, Mich.

Heifer calf, born September 28, 1919, \$151, R. A. Haggitt.

Bull calf, born September 8, 1919, \$152.50, Glasgow Bros., Jackson, Mich.

Bull calf, born January 6, 1920, \$101, O. J. Pardee & Son, Concord, Mich.

Veterinary.

CONDUCTED BY DR. W. C. FAIR.

Lymphangitis.—About two years ago the hind leg of our seven-year-old mare suddenly swelled. She was very lame. I examined for snag or nail puncture but failed to find any. We gave her home remedies, she partially recovered, but leg remained thick. Lately leg became very tender, causing severe lameness, but she has a good appetite, and so far as I can tell, is not sick. Will she ever be fit to do work? M. W. S., East Tawas, Mich.—You make a mistake in feeding her grain when she is idle, and not being exercised. Foment leg with hot water three times a day, dissolve quarter pound of acetate of lead in one gallon of cold water, shake and wet swollen parts three times a day. I know of no very good reason why she should not work every day, after the tenderness leaves leg.

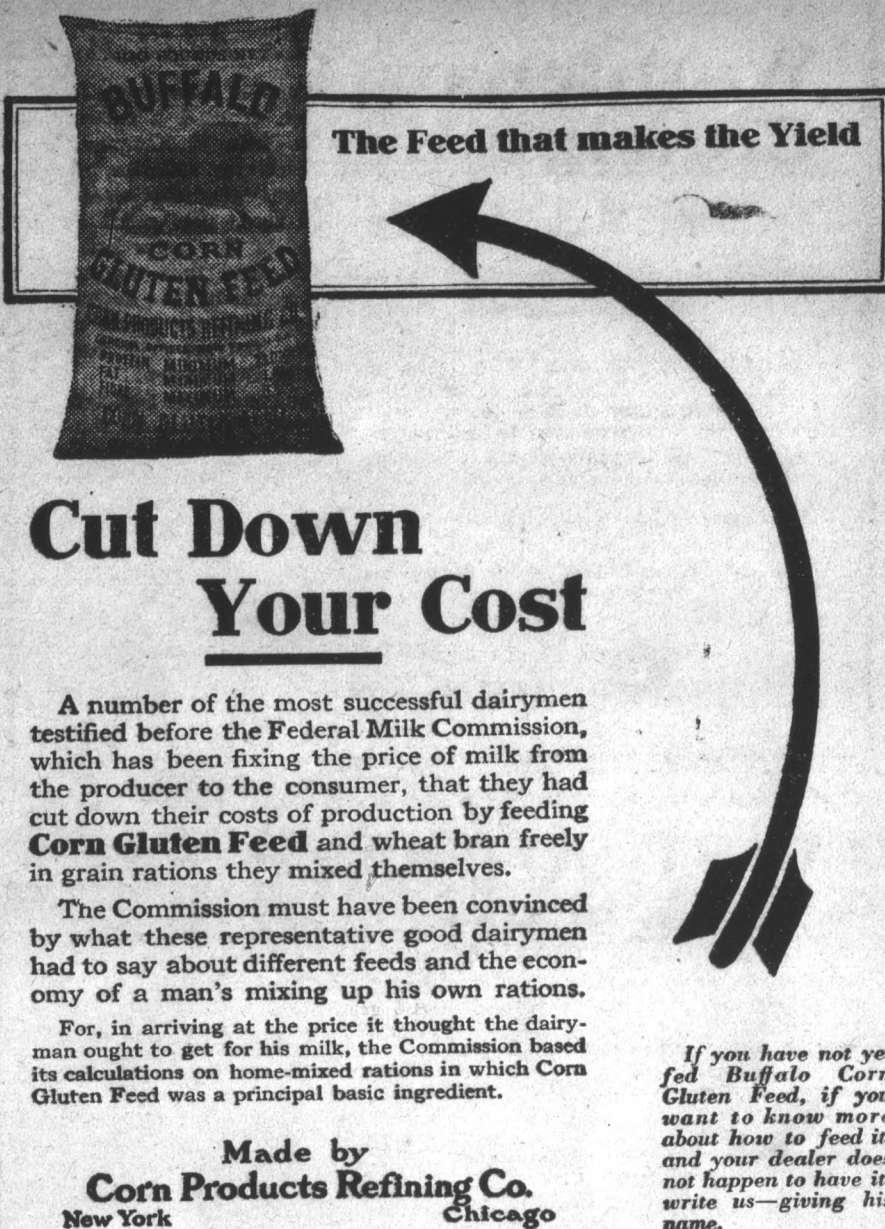
Acute Indigestion.—After about one hour of sickness my fourteen-year-old mare died, and I would like to know the cause of death. I fed her ground corn, chop feed and bran mash twice a week. When she was sick she bloated, was in great pain, would lie down, roll and tumble, get up, walk in a circle. N. S., Algonac, Mich.—Following the attack of acute indigestion and rapid formation of gas, and it being unable to escape, or absorb the stomach, diaphragm, or bowel ruptured, resulting in death. Unless well equipped with drugs and instruments and possessing knowledge how to treat a case of this kind, it is likely to prove fatal. The wild hay you fed her was perhaps of poor quality.

Feeding Question—Heifer Fails to Come in Heat.—Have been reading veterinary column with much interest. Would like to know whether it is all right to feed ground rye and corn to mare with foal? We have a heifer that came fresh in November. The calf was large, we had to help her, was careful, she cleaned fine, showed no bad effect, but has not yet come in heat. What shall I do? A. W. B., East Jordan, Mich.—Feeding brood mare rye and corn will do her no harm, unless you give her too much, neglect to keep bowels open, and exercise. Add some wheat bran, alfalfa or roots. Give heifer a teaspoonful of ground capicum at a dose in feed twice daily. Feed her stimulating food, and keep her warm.

Partial Loss of Power.—Can you tell me what to do for pigs that walk on their knees? They are now four months old, have been feeding corn, cooked beans and potatoes. I might add that these pigs are fat. B. M. S., Holly, Mich.—You have fed them too much corn. Feed more oats, oil meal, tankage, alfalfa and roots. As soon as they are able to walk, give them walking exercise.

Worms.—I have a one-year-old buck that has a good appetite, but there must be something wrong with him as he seemingly refuses to lay on flesh. Have examined him for ticks, but he has only a few. R. L. R., Henderson, Mich.—Keep all food away from him for twenty-four hours, but let him have all the water he will drink, give half an ounce of gasoline, one ounce raw linseed oil (not boiled oil), and five ounces of sweet milk. It is good practice to repeat this dosage for three evenings. Of course, allow him food five hours after giving the medicine. In most cases the treatment should be repeated ten or twelve days later. His pen should be kept clean, the excrement either burned or limed.

Heifers Fail to Breed.—None of my three heifers have been in heat for the past two years. I feed few oats, silage, hay and straw. L. E. B., Holland, Mich.—Give each cow thirty grains of ground nuxvomica and sixty grains of ground capicum at a dose in feed two or three times a day and feed them more grain; also keep them warm.



Buffalo
CORN
GLUTEN FEED

The Feed that makes the Yield

Cut Down Your Cost

A number of the most successful dairymen testified before the Federal Milk Commission, which has been fixing the price of milk from the producer to the consumer, that they had cut down their costs of production by feeding **Corn Gluten Feed** and wheat bran freely in grain rations they mixed themselves.

The Commission must have been convinced by what these representative good dairymen had to say about different feeds and the economy of a man's mixing up his own rations.

For, in arriving at the price it thought the dairyman ought to get for his milk, the Commission based its calculations on home-mixed rations in which Corn Gluten Feed was a principal basic ingredient.

Made by
Corn Products Refining Co.
New York Chicago

Write to H. CHRYSTAL,
606 Ford Bldg., Detroit, Mich.

If you have not yet fed Buffalo Corn Gluten Feed, if you want to know more about how to feed it, and your dealer does not happen to have it, write us—giving his name.



Best Locking Device Ever Made

West Bend BARN EQUIPMENT

An improvement found only on West Bend Barn Equipment. One lever locks in or releases from 2 to 50 cows instantly, and also operates cow-stops. Saves thousands of steps. Simple, practical and indestructible. Used on the best dairy farms everywhere. Our steel stalls, mangers, pens, litter carriers, ventilators, water bowls and other dairy barn necessities are your best investment. Get our

Big, FREE Barn Equipment Book
Explains entire line, also our special FREE service to farmers building new or equipping old barns with the best labor-saving devices. Blue prints furnished. Drop us a postal for full information. We are helping thousands of farmers make more profit out of their barns. Why not you?

Write TODAY
WEST BEND EQUIPMENT CO.
280 South Water Street WEST BEND WIS.

L. S. P. C.

2 choice spring boars and 2 nice fall boars left, a few extra nice gilts left bred for April farrow.
H. O. SWARTZ, Schoolcraft, Mich.

LOOK B. T. P. C. We are selling at a great sacrifice for the next 10 days extra good gilts to farrow in Apr. choice fall pigs to make room for our herd sows.
W. BREWBAKER & SONS, Elsie, Mich.

MILLER Meadow's L. T. P. C. boars all sold. Gilts sired by General Jones and bred to our young boar Alaska, address CLYDE WEAVER, Ceresco, Mich.

For Sale

Two Bred Poland China Gilts

Litter mates, farrowed Apr. 3, 1919. Choice individuals and choice Big Type breeding. Weighed March 10, better than 30 lbs., not fat. Bred for Apr. 7 and Apr. 28 respectively.
WESLEY HILL, R. 6, Ionia, Mich.

BOARS! Oh Boys!

Sons and grandsons of the Mighty Giant Buster. The big boned useful kind. Priced for a quick sale.
JNO. C. BUTLER, Bell Phone, Portland, Mich.

Big Bob Mastodon pigs takes the cake, book your order now. Fall boars and gilts sired by a grandson of Disher Giant, open or bred to Big Bob for Sept. 23 yearling sons. O. E. GARNANT, Eaton Rapids, Mich.

Big Type Poland Chinas

with quality, at reasonable prices. Pigs of both sex, and bred sows and gilts.
G. A. BAUMGARDNER, R. 2, Middleville, Mich.

Big Type P. C. Bred gilts, Fall yearlings, prize winners, out 1100 lb., sire and mammoth sows from Iowa's greatest herds. E. J. Mathewson, Burr Oak, Mich.

Big Type Polands all sold out. Watch this ad for further announcements. Breeding stock for sale in season. L. L. CHAMBERLAIN, Marcellus, Mich.

LEONARD'S B. T. P. C. bred sows all sold. Order booked for boar pigs at weaning time from Mich. Champion Herd. E. R. Leonard, R. 3, St. Louis, Mich.

I am offering Large Type Poland China Sows, bred to F's Orange, at reasonable prices; also fall pigs. Write or call Clyde Fisher, St. Louis, Mich. R. R. 3.

6th ANNUAL P. C. Bred Sow Sale March 13, 1920. For particulars write
W. J. HAGELSHAW, Augusta, Mich.

Large Type Poland China

Stock Hogs and Bred gilts
E. H. KISELE, R. 2, Manchester, Mich.

B. T. P. C. All sold out except some Fall JOHN D. WILEY, Schoolcraft, Mich.

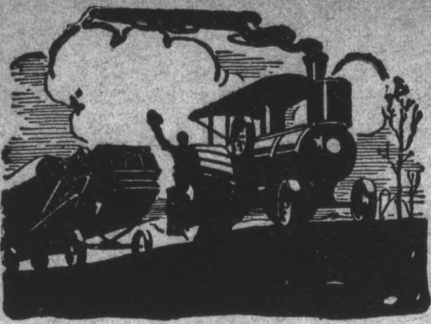
HAMPSHIRE

Spring boar pigs, sired by Steuben's Perfection and Cherokee Jim, 1st prize Ind. State Fair. Other winners at other fairs. Tried sows bred. Satisfaction guaranteed. Will ship C. O. D. Address,
STEBUEN'S HAMPSHIRE FARM
R. R. 3, Angola, Ind.

Edgewood Hampshires

All bred gilts sold. Now booking orders for gilts bred for fall farrow, and pigs for pig club work only. Depow Head, Edgewood Farm, Marion, Ohio.

Additional Stock Ads on Page 691



Ask About His Power Too

You want your thresherman to bring a high grade grain saving thresher. But you also want him to bring the right kind of power to operate it.

Having the right engine is as important as having a good thresher because steady power means best threshing results.

You can always depend upon the thresherman with a

Nichols-Shepard Steam Engine

He will not waste your time, and if his outfit includes a Nichols-Shepard "Red River Special" Thresher you can be sure he will not waste your grain.

W. M. Ellis and three other men of Stevensville, Mont., say, "The Nichols-Shepard Steam Engine steams easily, handles nicely and requires less repairs than any engine we ever saw."

Write and ask for our catalog on steam and gas engines and threshers for custom work and home use.

Nichols & Shepard Co.
(In Continuous Business Since 1848)
Builders Exclusively of Red River Special Threshers, Wind Stackers, Feeders, Steam and Oil-Gas Traction Engines.
Battle Creek, Michigan

STAR Safety Razor

\$1.00

for tough beards

At your dealer or direct
Star Safety Razor Corporation,
Brooklyn, N.Y.

MOTORISTS

SEND FOR THIS FREE REPAIR BOOK

Tell how to make hundreds of household and motor repairs permanently, quickly, and in as easily applied as putty. Write for booklet "M".

Smooth-On Iron Cement No. 1

will save you dollars. 6 oz. cans, 30c; 1 lb. cans, 50c. At hardware and general stores. By mail add 5c for postage.

SMOOTH-ON MFG. CO.
221 N. Jefferson St., Chicago, Ill.

SMOOTH-ON IRON CEMENT

Lump Jaw

The farmer's old reliable treatment for Lump Jaw in cattle.

Fleming's Actinofarm

Sold for \$2.00 (war tax paid) a bottle under a positive guarantee since 1896—your money refunded if it fails. Write today for FLEMING'S VEST-POCKET VETERINARY ADVISER. A book of 197 pages and 67 illustrations. It is FREE.

FLEMING DRUG, Chemists, 262 Union Stock Yards, Chicago

OLD MILK PRICE STANDS

ON Tuesday afternoon Judge Arthur J. Tuttle, of the Federal Court, granted a restraining order directed to United States Attorney John E. Kinnane, prohibiting the prosecution of Detroit milk dealers for violation of the decree of the Federal Fair Price Committee fixing the retail price of milk in the city of Detroit at fourteen cents per quart. Judge Tuttle held that the provisions of Section 4 of the Lever act are too vague as to what constitutes a fair price, and that the act is unconstitutional.

As a result of this decision milk is being sold at the old price of sixteen cents per quart on Wednesday, and producers will receive the contract price for their product as fixed by the Detroit Area Milk Commission.

In the meantime District Attorney Kinnane announces that he will appeal the case to the United States Supreme Court and may prosecute the producers' and distributors' organizations. This announcement should cause producers little concern, in view of the failure to convict in similar prosecutions in other sections.

Judge Tuttle's ruling is a matter for sincere congratulation, since it is a definite check to the apparent ambitions of the United States Attorney-General and his aids to cheapen the price of milk, already the cheapest and best food in the whole market list.

Latest Market Reports

SECOND EDITION.

The markets in this edition were revised and corrected Wednesday forenoon, April 21.

WHEAT

On the Detroit market cash wheat values have advanced ten cents as follows: No. 1 red \$2.85; No. 1 white \$2.83; No. 2 red \$2.82; No. 3 red \$2.75 per bushel.

CORN

A scarcity of this grain, and general strong demand has boosted prices. New York bidding up to \$3.04 and the call at western points being urgent. Local values are advanced to the following: Cash No. 3 \$1.75; No. 3 yellow \$1.80; No. 4 do \$1.75; No. 5 do \$1.71 per bushel.

OATS

Cash No. 2 white oats have advanced to \$1.13 and No. 3 white to \$1.12.

RYE

For the first time in some months rye has gone beyond the two-dollar mark and is now \$2.10 per bushel for Cash No. 2.

BEANS

Tone of this trade shows improvement, with local prices quoted higher at \$7.50; New York quotations are unchanged at \$7.25@7.50 for choice pea.

POTATOES

Between transportation difficulties, embargoes and boycotts, prices for potatoes have been unsteady the past week. At Detroit U. S. Grade No. 1 is now selling at \$12 per 150-pound bag. New York prices are up to \$12.50@14 per 165-pound bag.

BUTTER

General and local strikes have created abnormal conditions in the butter trade and values have changed materially. At Detroit fresh creamery is offered at 64½c. New York trading is firmer at 68@75c for creameries.

EGGS

Here, too, strikes influenced prices this past week. At Detroit fresh stock is jobbing at 42@42½c. New York market is strong with storage packed extra firsts at 47½@48c and fresh gathered extra firsts at 46@47c.

DETROIT

Cattle.

Receipts 750. Market active at yesterday's prices; account placing of embargo good many late arrivals unsold. Best heavy steers \$13@14; best handy weight butcher steers at \$10.50@12; mixed steers and heifers at \$9.50@10.50; handy light butchers at \$8@9.75; light butchers \$7.50@8.50; best cows \$9.50; butcher cows at \$7.50@8.50; cutters \$6@6.50; canners at \$5@5.75; best heavy bulls at \$9; bologna bulls \$8@8.50; stock bulls \$7.50@8; feeders \$9@10; stockers at \$8.50@9; milkers and springers \$65@110.

Veal Calves.

Receipts 962. Market slow; many went over unsold. Best \$17@18; others \$10@14.

Sheep and Lambs.

Receipts 775. Market opened slow, closed 50c@1 higher on lambs, and strong on sheep. Best lambs \$17; fair lambs \$13@14.50; light to common lambs \$9@11; fair to good sheep \$11@12; culls and common \$4@6.

Hogs.

Receipts 3,636. Market is slow; a

few sold to speculators at \$16.80; packers stopped at \$16.50 for mixed hogs; pigs \$16.50; quite a number went over unsold.

Note.—Because of the difficulties in getting live stock from the stock yards to the packing plants and to clean up that now on hand, an embargo was placed on shipments to this market by the Michigan Central on Tuesday morning that will stop shipments to Detroit for the present.

CHICAGO

Cattle.

Receipts 20,000; beef steers steady to 50c lower; some unsold; top \$14; bulk \$11.50@13.50; she-stock steady to 25c lower; mostly \$8@10; canners steady; bulk at \$4.50@5; bulls steady at 25c lower; calves strong, mostly \$15@16; feeder trade mostly nominal.

Hogs.

Receipts 29,000; mostly 25@35c lower than Monday; shipping demand active, closing strong; top at \$16.50; bulk \$14.75@16.25; bulk pigs at \$12.50@15.

Sheep and Lambs.

Receipts 15,000; steady to 25c higher. Spring lambs at \$24; best wool lambs \$21.75; top shorn lambs at \$19; bulk \$18.50@19; wooled Navajoe yearling wethers \$19; best ewes, wooled \$15; shorn \$13.50.

BUFFALO

Cattle.

Receipts ten cars. Market rules slow.

Hogs.

Receipts ten cars. Market is strong. Heavy \$17@17.50; yorkers \$19@19.25; pigs \$19.

Sheep and Lambs.

Receipts 10 cars. Market steady. Clipped lambs \$21; yearlings \$16@17.50; wethers \$15@16. Calves \$7@21.

GRAND RAPIDS

Milling companies this week advanced the paying price of wheat 15c per bushel, to \$2.55 for No. 1 red and \$2.53 for No. 1 white. Potatoes are very scarce and jobbers' price is \$5 per bushel. Only one car was shipped in during the week. A few small loads were brought to the city market by farmers who sold at \$4.25 per bushel for ungraded. Jobbers who specialize in potatoes state that the most serious feature of the situation is the scarcity of seed. Tempted by high prices many farmers sold out entirely, depending on picking up No. 2 stock from their neighbors for planting. They now find their neighbors have been doing the same thing. Some varieties of seed potatoes are now \$7 per bushel. Friday wholesale dealers in beans advanced the price to growers to \$6.25 per cwt. for Michigan pea and \$11 for red kidneys. They size up the situation for the forthcoming crop as follows: California and New York will plant less acreage and it will be up to Michigan to furnish the crop.

COST CHICAGO MILK MEN \$65,219 TO FIGHT CONSPIRACY CHARGE.

EXACTLY \$65,219.73 was the cost of the defense of officials of the Milk Producers' Association acquitted last fall on charges of conspiracy. Locals

STOP RADIATOR LEAKS!

\$1,000,000.00 GUARANTEE Protects You

Radiator leaks can be cured, permanently and satisfactorily, in 5 to 10 minutes, without the least risk at a cost of only 75c. Why pay \$15 to \$30 for a costly repair job, giving no better results—your car laid up for days!

Good results are guaranteed when you use

RADIATOR NEVERLEAK

a marvelous liquid which stops the meanest leaks anywhere in cooling system, simply by pouring contents of a 9-ounce can into water in radiator.

You take no risk. Our guarantee protects you. Your money will be refunded if you are not perfectly satisfied. Tie a can at your dealers or sent direct. Get the Genuine. Carry a can on truck or tractor, as well, for emergency.

Buffalo Specialty Co.
"The Liquid Veneer People"
306 Ellicott St.,
BUFFALO, N. Y.
Neverleak Experts for 25 years

Down Go ENGINE PRICES

In the face of rising costs, I have reduced engine prices. By increasing production, making my factory the largest, selling direct to user, I build engines for less and give you the benefit.

90 Days Trial GUARANTEE

You have 90 days to try the OTTAWA and you are protected by my liberal ten year guarantee. Sizes 1½ to 22 H.P. Cash or Easy Terms—make engine pay for itself while you use it.

EASIEST TO OPERATE **OTTAWA** STARTS WITHOUT CRANKING

Use cheap fuel
Kerosene, Gasoline, Gas.
Send 50¢ day for special money saving offer and New Free Book
OTTAWA MFG. CO.
1308 King Street,
OTTAWA, KANSAS

FREE BOOK
Send at Once

Public Sale

of Standard First Quality Gov't Goods From Cancelled GOVERNMENT CONTRACTS

Ask for big catalog 110 today

Army Shirts.....	\$2.50
Army Mess Plates.....	1.25
Army Brooches.....	2.50
Army Blankets.....	6.00
Army Cots.....	4.50
Army Ponchos.....	1.00
Army Shoes.....	8.00
Army Knapsacks.....	1.50
Tents.....	3.50

and all other articles for camp or outdoor use

Send 10c for Army & Navy Catalog—110—and buy at Auction Bargain Prices.

ARMY & NAVY STORECO.
245 West 42d St., New York
Largest Camp & Military Outfitters

Only \$2 DOWN ONE YEAR TO PAY

\$38 Buys the New Butterfly Jr. No. 2½
Light running, easy cleaning, close skimming, durable.

NEW BUTTERFLY Separators are guaranteed EASY TO CLEAN

lifetime against defects in material and workmanship. Made also in four larger sizes up to No. 8 shown here; sold on

30 DAYS' FREE TRIAL
and on a plan whereby they earn their own cost and more by what they save. Postal brings Free Catalog Folder. Buy from the manufacturer and save money.

ALBAUGH-DOVER CO., 2165 Marshall St., Chicago

AUTO-OWNERS INSURANCE CO.

Theft, Personal Liability, Protection, Collision, Fire, Wind, Storm, Loss of Title

LANSING, MICHIGAN

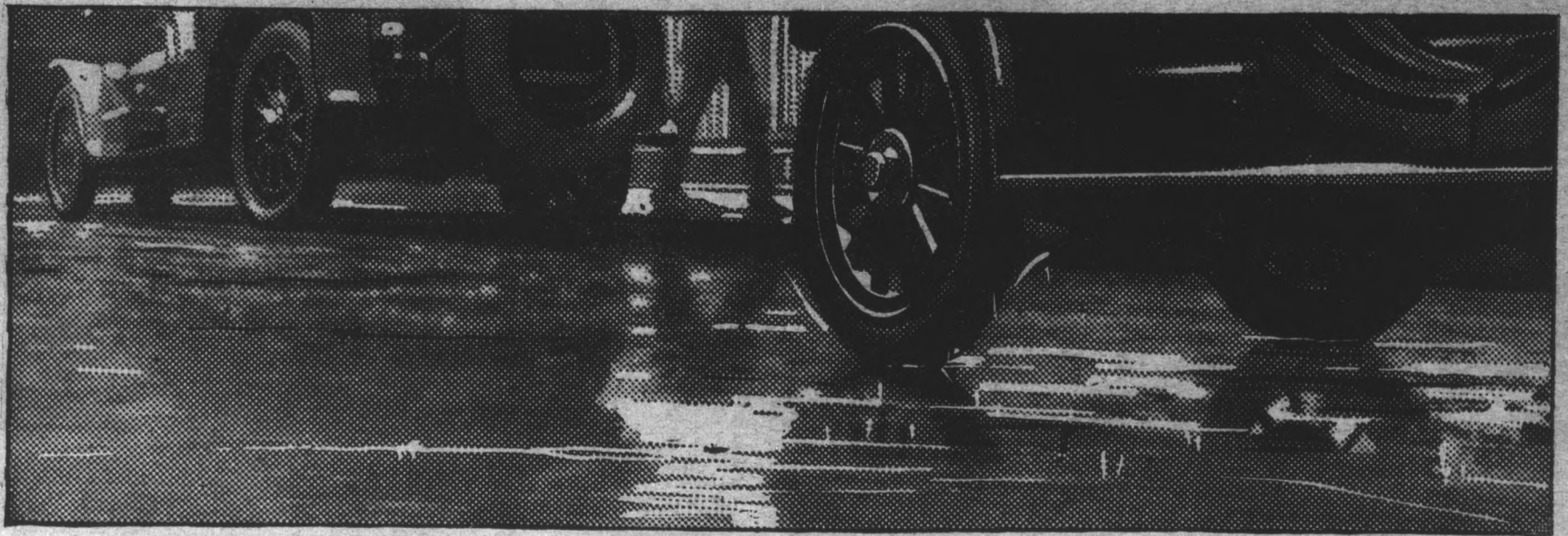
MINERAL HEAVE COMPOUND CURES HEAVES

Booklet Free

\$3.25 Box guaranteed to give satisfaction or money back. \$1.10 Box sufficient for ordinary cases. (Includes War Tax.)

MINERAL HEAVE REMEDY CO., 403 Fourth Ave., Pittsburgh, Pa.

Better Tires *not* More Tires



EVERY motorist remembers how it was with his first car. If he heard the slightest unfamiliar noise—a piston slap or a buzzing gear or a creak in the body—it was a serious matter. His friends were always ready with some helpful advice.

But the only time his tires ever made a noise was when he had a blowout.

Then everybody laughed.

The owner generally put on a new tire, paid his losses cheerfully and tried again.

* * *

For years the irresponsible tire dealer traded on the good nature of American motorists.

His idea of business was to sell a man two tires to replace

Every time a tire is left standing in a puddle of water, the tiniest hole is likely to let enough water through to loosen the fabric, separating it from the tread and allowing sand and gravel to work in.

Go over your tires carefully every now and then and seal every cut or hole.

an old one and to console him with the thought that after all motoring is a "great game."

Even today *not one* motorist in five is getting what he is entitled to in tires.

* * *

More and more the motorists of this country are learning that the remedy for high tire costs lies in *better tires*—not more tires.

And that getting better tires means first of all going to the legitimate dealer—the man who sells the known article

and who does not attempt to substitute the unnamed or the unknown for the sake of more profits.

Since the beginning the United States Rubber Company has been looking forward to the time when motorists everywhere would come to *quality* in tires.

Building more tires every year, but never more than it could build in conformity with the highest standard of quality.

* * *

The responsible tire dealer never refers to his business as a game. It is a *business proposition* with him—and he knows the only way to make good in business is to make sure of the confidence of the motoring public.

United States Tires

United States  Rubber Company

Fifty-three
Factories

The oldest and largest
Rubber Organization in the World

Two hundred and
thirty-five Branches