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AND
LIVE STOCK
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ESTABLISHED 1843.

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

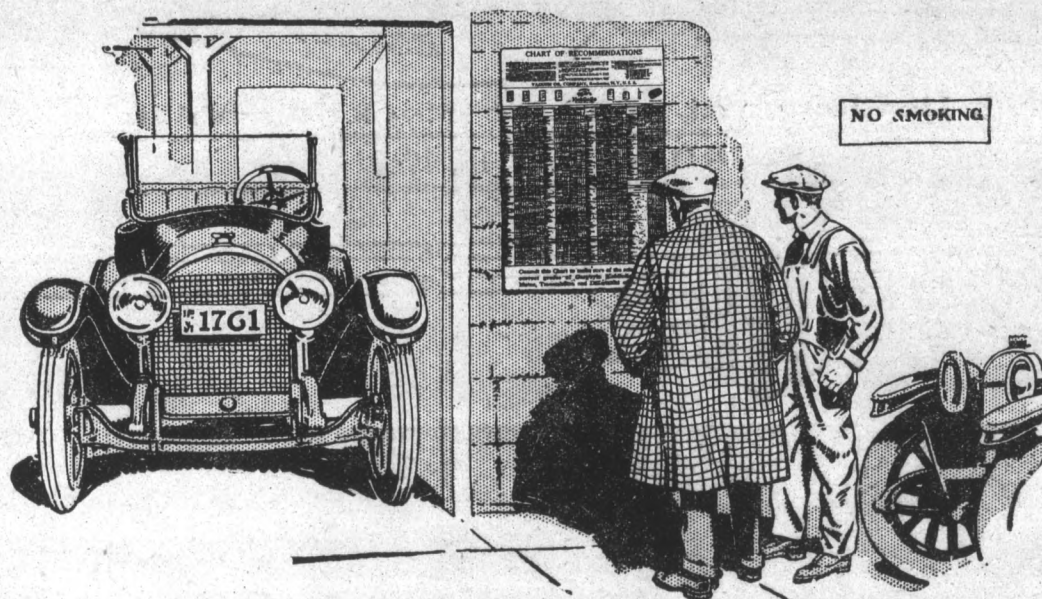
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DETROIT, MICH., SATURDAY, MAY 18, 1918

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\$3.00 FOR 5 YEARS



Make this Chart your guide



Look for it on your dealer's wall

EVERY time you stop for oil you face a question which is vital to the life of your car.

What will the dealer pour into your oil reservoir? Will it be just "oil"—or will it be the correct lubricant for *your* engine?

The better type of dealer and garage man now realizes that something like 50% of all engine troubles are due to incorrect lubrication.

He realizes, too, that scientific lubrication is a problem for specialists. And since the dealer has neither time nor equipment for studying this intricate subject he draws on the experience of a recognized authority.

That is why the large Chart of Recommendations, issued by the Vacuum Oil Company, is now fastened to the walls of thousands of supply shops and garages.

When you ask one of these dealers for "oil", he notes the make of your car—and the year's model. He runs his finger down the Chart (shown above in miniature) until he finds your car's make and model. Then he supplies you with the grade of Gargoyle Mobiloils specified for your car by the Chart.

This oil will effectually seal your piston rings against power-waste, gasoline-waste and oil-waste.

THE Vacuum Oil Company for 50 years have specialized in scientific lubrication. Today their world-wide leadership in lubrication matters is unquestioned in scientific circles. For years their Chart of Recommendations has been recognized as the scientific guide to correct automobile lubrication.

In keeping this Chart up to date, each new model of every automobile is carefully analyzed. This work involves lengthy and painstaking engineering study by the Vacuum Oil Company's Board of Engineers. The recommendations of this Chart are proven correct by repeated practical tests.

But nothing has given dealers such faith in this Chart as their experience with the oils themselves. For no one knows better than the dealer how difficult it is to secure efficient lubrication and how much efficient lubrication means.



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A grade for each type of motor

In buying Gargoyle Mobiloils from your dealer, it is safest to purchase in original packages. Look for the red Gargoyle on the container. If the dealer has not the grade specified for your car, he can easily secure it for you.

VACUUM OIL COMPANY, New York, N. Y., U. S. A.

Specialists in the manufacture of high-grade lubricants for every class of machinery. Obtainable everywhere in the world

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Correct Automobile Lubrication

Explanation:—The four grades of Gargoyle Mobiloils, for engine lubrication, purified to remove free carbon, are:

Gargoyle Mobiloil "A"
Gargoyle Mobiloil "B"
Gargoyle Mobiloil "E"
Gargoyle Mobiloil "Arctic"

In the Chart below, the letter opposite the car indicates the grade of Gargoyle Mobiloils that should be used. For example, "A" means Gargoyle Mobiloil "A," "Arc" means Gargoyle Mobiloil "Arctic," etc. The recommendations cover all models of both pleasure and commercial vehicles unless otherwise noted.

This Chart is compiled by the Vacuum Oil Company's Board of Engineers and represents our professional advice on Correct Automobile Lubrication.

AUTOMOBILES	1918		1917		1916		1915		1914	
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
Abbott.....	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Abbott-Detroit.....	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Allen.....	A	A	A	A	A	A	A	A	A	A
Apperson.....	A	A	A	A	A	A	A	A	A	A
Auburn.....	A	A	A	A	A	A	A	A	A	A
Autocar.....	A	A	A	A	A	A	A	A	A	A
Autocar (2 cyl).....	A	A	A	A	A	A	A	A	A	A
Briscoe.....	A	A	A	A	A	A	A	A	A	A
Buick.....	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Cadillac.....	A	A	A	A	A	A	A	A	A	A
Case.....	A	A	A	A	A	A	A	A	A	A
Chalmers.....	A	A	A	A	A	A	A	A	A	A
Chandler.....	A	A	A	A	A	A	A	A	A	A
Chandler Six.....	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Chevrolet.....	A	A	A	A	A	A	A	A	A	A
Cole.....	A	A	A	A	A	A	A	A	A	A
Cole (8 cyl).....	A	A	A	A	A	A	A	A	A	A
Cunningham.....	A	A	A	A	A	A	A	A	A	A
Dart.....	A	A	A	A	A	A	A	A	A	A
Dart (Mod. C).....	A	A	A	A	A	A	A	A	A	A
Detroit.....	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Dodge.....	A	A	A	A	A	A	A	A	A	A
Dort.....	A	A	A	A	A	A	A	A	A	A
Empire.....	A	A	A	A	A	A	A	A	A	A
Federal.....	A	A	A	A	A	A	A	A	A	A
Federal (Mod. S-X).....	A	A	A	A	A	A	A	A	A	A
Fiat.....	A	A	A	A	A	A	A	A	A	A
Ford.....	A	A	A	A	A	A	A	A	A	A
Franklin.....	A	A	A	A	A	A	A	A	A	A
Grant.....	A	A	A	A	A	A	A	A	A	A
Hai-Teeing.....	A	A	A	A	A	A	A	A	A	A
Haynes.....	A	A	A	A	A	A	A	A	A	A
Hollier.....	A	A	A	A	A	A	A	A	A	A
Hudson.....	A	A	A	A	A	A	A	A	A	A
Hudson (Super Six).....	A	A	A	A	A	A	A	A	A	A
Hupmobile.....	A	A	A	A	A	A	A	A	A	A
Jackson.....	A	A	A	A	A	A	A	A	A	A
Jordan.....	A	A	A	A	A	A	A	A	A	A
Kelly Springfield.....	A	A	A	A	A	A	A	A	A	A
King.....	A	A	A	A	A	A	A	A	A	A
King (8 cyl).....	A	A	A	A	A	A	A	A	A	A
King (Mod. C).....	A	A	A	A	A	A	A	A	A	A
Kinsel Kar.....	A	A	A	A	A	A	A	A	A	A
Kinsel Kar (Mod. 28).....	A	A	A	A	A	A	A	A	A	A
Lexington.....	A	A	A	A	A	A	A	A	A	A
Liberty (Detroit).....	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Lippard Stewart.....	A	A	A	A	A	A	A	A	A	A
Madison.....	A	A	A	A	A	A	A	A	A	A
Madison (8 cyl).....	A	A	A	A	A	A	A	A	A	A
Marmon.....	A	A	A	A	A	A	A	A	A	A
Maxwell.....	A	A	A	A	A	A	A	A	A	A
Mercedes.....	A	A	A	A	A	A	A	A	A	A
Mitchell.....	A	A	A	A	A	A	A	A	A	A
Moline-Knight.....	A	A	A	A	A	A	A	A	A	A
National.....	A	A	A	A	A	A	A	A	A	A
National (12 cyl).....	A	A	A	A	A	A	A	A	A	A
Oakland.....	A	A	A	A	A	A	A	A	A	A
Oldsmobile.....	A	A	A	A	A	A	A	A	A	A
Overland.....	A	A	A	A	A	A	A	A	A	A
Owen Magnetics.....	A	A	A	A	A	A	A	A	A	A
Packard.....	A	A	A	A	A	A	A	A	A	A
Packard (12 cyl).....	A	A	A	A	A	A	A	A	A	A
Paige.....	A	A	A	A	A	A	A	A	A	A
Paige (6 cyl).....	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Paterson.....	A	A	A	A	A	A	A	A	A	A
Pathfinder.....	A	A	A	A	A	A	A	A	A	A
Peerless.....	A	A	A	A	A	A	A	A	A	A
Pierce Arrow.....	A	A	A	A	A	A	A	A	A	A
Premier.....	A	A	A	A	A	A	A	A	A	A
Regal.....	A	A	A	A	A	A	A	A	A	A
Renault (French).....	A	A	A	A	A	A	A	A	A	A
Riker.....	A	A	A	A	A	A	A	A	A	A
Saxon.....	A	A	A	A	A	A	A	A	A	A
Selden.....	A	A	A	A	A	A	A	A	A	A
Simpson.....	A	A	A	A	A	A	A	A	A	A
Stearns-Knight.....	A	A	A	A	A	A	A	A	A	A
Studebaker.....	A	A	A	A	A	A	A	A	A	A
Stutz.....	A	A	A	A	A	A	A	A	A	A
Vellie.....	A	A	A	A	A	A	A	A	A	A
Vellie (4 cyl).....	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Westcott.....	A	A	A	A	A	A	A	A	A	A
White.....	A	A	A	A	A	A	A	A	A	A
White (16 valve).....	A	A	A	A	A	A	A	A	A	A
Willys-Knight.....	A	A	A	A	A	A	A	A	A	A
Willys Six.....	A	A	A	A	A	A	A	A	A	A
Winton.....	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc

YOUR TRACTOR

also may be lubricated efficiently with Gargoyle Mobiloils. On request we will mail you a separate Chart specifying the correct grade for each make and model of tractor.

DEVOTED
TO
MICHIGAN

VOLUME CL.

MICHIGAN FARMER

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A Practical Journal for the Rural Family

QUALITY
RELIABILITY
SERVICE

NUMBER TWENTY

Why Some "Co-op" Associations Make Good

By PAUL L. MILLER

NO longer can it be truthfully asserted that the Michigan farmer is neglecting the marketing problems of his enterprise. Probably one reason why he has tackled this problem rather recently while he has been an efficient producer for a long time, is that the solution seems to lie along lines of cooperation with his neighbors.

Farming, unlike most other industries, is carried on within the domestic unit. That is, each individual farm is a home and the farm is largely carried on with the capital resources of the family, and the labor is mostly furnished by the members of the family. As an industry it is not a community affair as it used to be back in the times of the feudal lords, or even as other industries tend to be at the present day. In spite of all this, some of the problems that the farmer has to solve, if his business is to be most profitable to him, have to be worked out through community cooperation.

When a farmer has to sell his grain in the big primary markets instead of in the local markets where he personally would be more or less known, he must sell his produce on grade and brand and must sell it in large enough lots to attract attention. Otherwise he sells at a disadvantage. There are several reasons for this state of affairs. Perhaps these things are pretty well understood; no doubt they are; at least, the fact that farmers are banding themselves together into community marketing associations would seem to indicate that they know what they are up against.

Probably at the present time there are two hundred marketing organizations in Michigan and the number is rapidly growing. During the past year the Michigan Field Agent in Marketin was very busy organizing these corporations and helping them to get a good start. Other men from the college have been called upon to give what assistance they could to the movement. Many organizations are also formed through their own efforts entirely. Others are assisted by men from other communities who have had experience with the problems of organization. Thus, it is obvious that the movement is a general and a popular

one. Those who have studied it believe that it is along the right line and should receive all possible support from those interested in better development of the agricultural business in Michigan. But this is all by way of introduction.

The purpose of this article is to issue a word of warning, a stop-and-listen signal, to the enthusiastic beginners in the field of cooperative endeavor. Having studied the movement historically, and having observed it under various conditions, I may be able to suggest something that individuals in a community absorbed with their own affairs might not think of when they come together to form one of these mu-

cooperative organizations for marketing farm products has been traced either directly or indirectly to the lack of proper accounting systems."

It has been my pleasure to visit some of these organizations in Michigan recently and I want to tell concretely, things that I have observed that tend to bear out this general conclusion. It may be said in general that in the promotion of cooperative enterprise the tendency is to look upon the promising opportunities of the business to the exclusion of careful consideration and adoption of sound business policy.

To the extent that the management may be able to conduct the enterprise along the lines of sound business, pro-

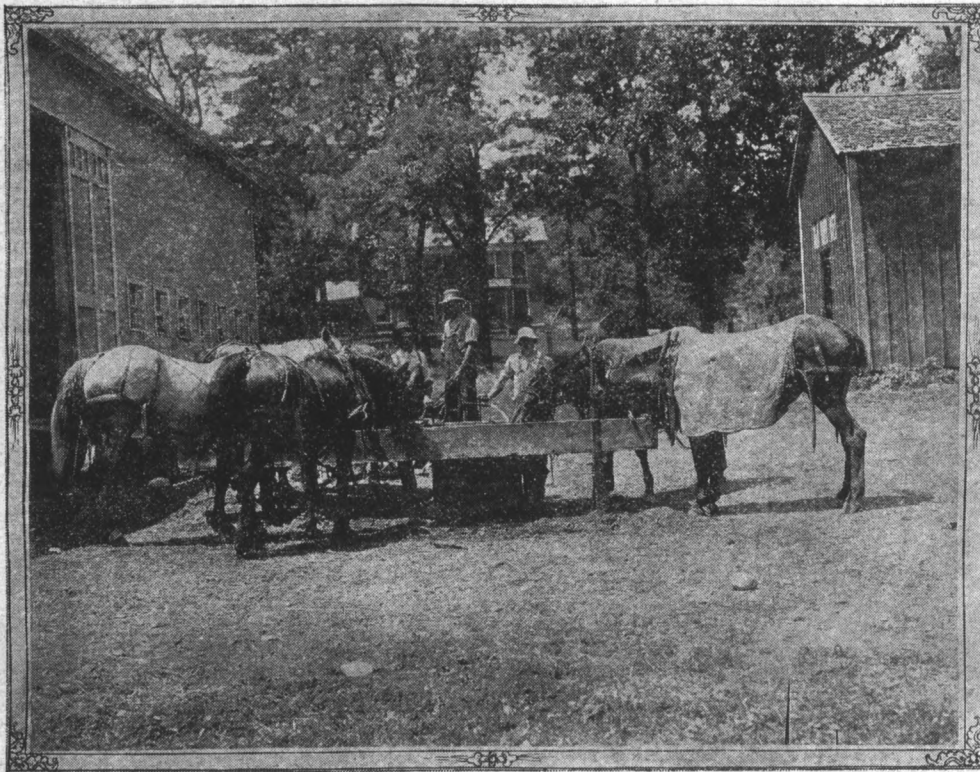
Yet, the same individual as a member of a cooperative association might allow things to drift. This is frequently the case, because it is likely that, "what is everybody's business is nobody's concern."

A few weeks ago I visited the office of a cooperative marketing organization in the upper part of the state in response to a request from the manager, who desired an inspection of its accounts. He wanted to know whether they were being as efficiently kept as possible.

This corporation was doing business almost entirely on borrowed capital. The members had in the business only two dollars each. It can be truthfully asserted that only sound business policy made this possible. The manager had a well organized system of records that showed to him at all times just where he stood. All discounts on purchases during the year had been taken, except one as he explained. This was possible because a record of every obligation was at hand, permitting plans to be intelligently made to take care of obligations promptly.

From his records he could tell just what each department of the business had made for the patrons and just what the operating costs of each department were. In this particular business one department was not paying. In order to meet the competition of the local buyers he had to pay more than he could really afford to. But he had to maintain the department to get the patrons' other business and to keep them interested. He made up what he lost in this department from other departments that paid well. The figures that he had would make it possible for him to reorganize the weak department and perhaps make it stand upon its own feet. At least, he knew where he stood and what he could do.

He explained another idea to me that cooperative managers must take into consideration. Cooperative dividends are distributed on the basis of patronage. It works out in this way—in a purely marketing organization the patron who sells \$1,000 worth of produce to the corporation gets twice as much (Continued from page 625).



The Noon Hour

tually helpful and of late, popular corporations.

There is much valuable material on the history and problems of this movement published in bulletin form by the Bureau of Markets at Washington. These publications are prepared by experts, who are constantly studying the field. Here is a quotation from one of such bulletins: "The failure of many

visions must be made for adequate accounting records. While such a declaration seems like seriously explaining to a man that a sharp axe is indispensable to the felling of a tree, yet, because of the very nature of the cooperative organization, caution concerning this matter is not amiss.

The up-to-date farmer has a thorough knowledge of his own business.

Giving New-Ground Potatoes the Right Start

By G. F. DeLAMATER

WHO knows best how to raise a good crop of potatoes on new ground? I have raised a great many crops of potatoes and I invariably plant them on my new land. I have tried out many different methods and believe that, for these northern counties at least, I have arrived at a very close approach to perfection in this field; therefore, I respectfully offer what follows in my answer to the question at the head of this paragraph.

It is hard to do a good job of plowing on new ground because it is usually rough and contains a more or less bounteous crop of roots and snags; but

anything that is worth doing at all is worth doing well; I always take some pains and do as good a job as possible.

Preparing the Land.

Having the ground plowed, the next task is the harrowing; on this point I want to place special emphasis, because many a crop is doomed to failure, or diminutive returns, because the seed bed was not properly prepared. In the case of a heavy June grass sod a disc is necessary to cut it up; the disc should be followed by a spring-tooth

harrow to mellow the ground. My experience has been that usually a disc was not needed on new ground, because there was more briars and roots than sod. I use a steel framed harrow with adjustable teeth and the first time over the ground I set the teeth rather light; this picks up the most of the loose roots; the second time I set them a little deeper and the last time over the ground I go cornerwise of the field, which makes the marking out easy. If the ground is not very rough

three harrowings will do, but I usually go over the land five or six times; work spent in preparing the seed bed is not lost. The first time over I follow the furrows, and thus avoid turning any of them back, as would likely be the case if the harrow were dragged cross-wise.

There are usually little hummocks, made by trees up-rooting years ago, we call these "cradle knolls." To level off a cradle knoll I stop the team just at the base of it and put my harrow teeth down to the last notch, then I stand on the frame and pull through. This (Continued on page 622).

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DETROIT, MAY 18, 1918



CURRENT COMMENT.

Every American citizen has long since grasped the measure of the importance and significance of "the war for humanity" in which we are engaged. Every Michigan Farmer reader has had brought home to him in many ways the meaning of German "kultur" as exemplified in the frightfulness practiced by the central powers in this war. The average American is coming to an understanding of the fact that it is necessary to win this war to insure human liberty to Americans in America as well as similar benefits to the people of Europe in the countries of their nativity.

To this end the average American is doing his bit in every way in which the opportunity is offered. He is buying Liberty Bonds, aiding the Red Cross and speeding up production in his particular line. It is only when necessary war-time restrictions hamper his business that the average man complains. The new regulations limiting the manufacture of non-essentials for export will doubtless cause complaint in manufacturing circles affected by the order. The commandeering of the country's wool crop for government use will likewise bring forth some protest from every branch of the industry affected, from producer to manufacturer, but these things are dictated by the stern necessities of war as all of us realize, and the resulting complaints will pass for little more than the characteristic American habit of expression.

Each and everyone of us will criticize in frank and open American fashion the mistakes and shortcomings of responsible public officials whose duty it is to assume responsibility of the conduct of the war. In the meantime we will continue to support the government to the end that the day of victory and a just peace may be hastened. Our expressed attitude toward the war and its conduct is typically American; our action as a people is not less so. This American spirit of action will win the war through the support which it will give to the boys in action on the other side.

The Potato Situation.

The so-called potato drive inaugurated for the purpose of increasing the consumption of this food crop has accomplished at least a measure of the desired results. The United States Food Administration reported that late in March prospects indicated that in the absence of a special effort to secure a large consumption of potatoes there would be a residue of more than 10,000,000 bushels left in growers' hands that they would be unable to sell.

Food Administrator Hoover outlined to the bean committee during their recent conference at Washington something of the results which had been secured through chain stores in increasing the consumption of potatoes. One such organization which had normally handled two cars of potatoes per day had increased their turn-over to twenty cars a day as a result of a drive to increase consumption. State Food Administrator Prescott has issued an appeal to the housewives of Michigan to serve potatoes at least twice a day, and has prefaced his appeal with the statement that eating new potatoes before July 4 will be considered unpatriotic by the Food Administration of Michigan.

The necessity of concerted effort to stimulate consumption of old potatoes was increased by the rapid movement of the record crop of new potatoes now being harvested in Florida. In the week of April 30 to May 6, of a total of 1,859 carloads of potatoes which were shipped in the United States, Florida led with 932 cars, or more than one-half of the total. Michigan was next with 392 cars, a net gain of 150 cars over the week ending April 8. While prices to producers are not what it was hoped they would be, and cannot be considered compensatory when the cost of production is taken into consideration, yet the spread in price between grower and consumer is now less than at any period during the year's marketing season, due in part to the campaign for increased use as a food conservation measure, and it is far better to move the balance of the crop at present prices than not to move them at all.

A representative of the Federal Bureau of Markets who has been working on the Michigan potato drive during recent weeks reports that stocks still in growers' hands are not as large as had been previously estimated, and at the present rate of movement will be well cleaned up during the old potato season. He placed emphasis on the importance of a continuous movement of the Michigan crop of old potatoes as rapidly as transportation facilities permit in order to secure this end, in view of the large Florida crop and the necessity of getting the old stock on the market and in consumers' hands at the earliest possible date. While there is always a tendency on the part of some growers to wait for a possible raise in prices before closing out their holdings, Bureau of Markets officials believe that such a movement on the part of Michigan growers would be dangerous at the present time, and the statistical position of the new crop seems to bear them out in this opinion.

A new market service feature is announced on the market page of this issue which should interest every Michigan Farmer reader. Through this service any Michigan Farmer reader can secure accurate quotations from twenty-six large market centers in the country on any perishable product in carload lots by wiring the Michigan Farmer and paying the cost of the return message from Detroit.

This feature will be of considerable importance to holders of old potatoes at the present time who may be desirous of shipping them on their own ac-

count rather than to await the motion of a local dealer. This service, which will be continued throughout the season, will also be valuable to growers of perishables in quantity, whether they may desire to ship on their own account or check up on prices offered them at their local shipping points.

In addition to this special service, our market page has been reclassified and condensed for the convenience of busy readers who can get the most accurate and up-to-date information available with regard to the market value of any farm product in a minimum of time by referring to same. This market information is collected from the most reliable sources and is carefully checked up each week just before the issue goes to press. We believe it a superior service to that offered through any other medium, and invite suggestions or criticisms regarding the same from our readers.

Pres. Smith on Potato Situation

FROM the very best sources of information obtainable the potato situation in Michigan is as follows: There were about 6,000,000 bushels of potatoes in Michigan about April 1. This estimate was made based on information gathered from the members of the executive committee of the potato association, from the shippers' association and the United States government estimate. This estimate was lower than the shippers' association estimate by more than 1,000,000 bushels and lower than the government estimate by several millions of bushels. I now believe it was at that time too high. While there are a good many potatoes in Michigan yet, more perhaps than the market will readily absorb, nevertheless I believe that if the growers will put their potatoes on the market as fast as possible this month, that there will be sale for them. But delay will be dangerous.

Any grower who has a car of potatoes and who will screen them over an inch and three-quarters screen will find the market perfectly satisfied with that grade and I would advise every grower to ship his own potatoes to either the Gleaners' Clearing House Association or some other reliable commission house or potato broker. At present I would think that Indianapolis, Detroit and Pittsburgh are our best markets.

Plant Normal Acreage.

As to our next crop, my best judgment is that there will be about a normal acreage, or perhaps a little less, planted this year, and my advice to the grower is, "plant your usual acreage," and remember that at least 1,500,000 soldiers will be not eating potatoes in America next fall, and probably they will not have American potatoes shipped to them.

Do not be misled by the idea that this is the year to plunge into potatoes big. It may be, of course, and if you want to gamble, go to it. But I believe that a normal acreage, well cared for, will be the paying crop this year.

You will make more net dollars off ten acres well cared for than you can off twenty acres half tended, and with potatoes a glut in the market.

The Smith Amendment.

Regarding the Wm. Alden Smith potato amendment, it should be clearly understood that had it passed, and become a law, all grading of potatoes would have been illegal. Michigan potato growers have spoken unanimously in favor of grading potatoes over an inch and three-quarters round mesh screen. The thing to do now is for all of us to work unitedly to have that grade established as a Michigan grade.

In last week's article, the printer failed to make clear one paragraph in

which I stated that under the amended rules of the Bureau of Markets I believe that the grading of potatoes will be about the same when graded over an inch and seven-eighths round mesh screen, as when they were formerly graded over an inch and three-quarters square mesh screen. I have the assurance from the Food Administration that this new grade will be enforced as soon as shippers have a chance to obtain new screens which will probably be not before next August. In the meantime we should plan to move quickly and unitedly for an inch and three-quarters round mesh screen. How we can do this I will take up in a subsequent article.

A. M. SMITH,
Pres. Mich. Potato Assn.

HAPPENINGS OF THE WEEK.

Wednesday, May 8.

Russian war fleet shells the German forces in harbor of Mariupol on sea of Azov.—Germans mass guns for offensive on Amiens.—Italians defeat enemy patrols and three aeroplanes are brought down on that front.—President Wilson encourages investigations of airplane failure.—458 Camp Custer boys are selected as war leaders.

Thursday, May 9.

Official announcement is made that over 500,000 American troops are in France, and 1,900,000 U. S. soldiers are now under arms.—Pershing's heavy artillery engages the foe near Montsec.—Anglo-French line is bent north of Mont Kemmel; enemy is repulsed at all other points and in Haig's counter-attack the British take lost ground in Flanders.—Railroad men are granted an increased wage aggregating \$300,000,000 a year.

Friday, May 10.

Germans attack allied line on a front extending from La Clyte to Voormezele and force British and French troops to retreat but in a counter attack the entire territory is regained for the allies.—Fighting on the Italian front consists in heavy artillery action around Asigo and in the Maserada district.—Rostov on the Don river in Russia is occupied by German troops.—British Commons vote confidence in Lloyd-George's government.—Fourth American Liberty Loan will be launched in October.—United States government is testing in laboratories at Pittsburgh a new substitute for gasoline.—Tornado sweeps portions of Illinois and Iowa, doing extensive damage to buildings, crops and live stock, and six persons are reported dead as a result, while many have been injured.

Saturday, May 11.

Another raid on German U-bases along the Belgian coast resulted in practically closing up the canal at Ostend. With the raid on Zeebrugge on April 23, this last allied "stunt" will greatly hamper German U-boat activity around the channel.—Pershing's men are reported holding a western front sector within twenty-two miles of Amiens where the next big German drive is expected to occur.—Gutzon Borglum, who alleged irregularities in America's aircraft program is arraigned for using nation's data to promote an aeroplane firm in which he is declared to be interested.—New Hungarian cabinet is formed with Dr. Wekerle as premier.—Two Americans are held in Mexico City by committee on public information.—Nine workmen drowned while crossing the river in a skiff on Monongahela City, Pa.—Central western tornado's death toll now numbers fourteen persons, while 150 are injured and property damage exceeds \$1,000,000.

Sunday, May 12.

London cheers American boys as they march through the English metropolis.—British government retires General Maurice, former war operations' head.—Allies bomb German territory and greatly harass the foe's preparations for new drives.—Canadian rail men are to secure an increase in wages proportionate to the increase recently made in the United States.—Canadian farmers protest to Dominion government on additional drain on farm labor through recent draft changes.

Monday, May 13.

Artillery activity on the Amiens front gives signs of an impending big battle. A few local engagements along that front were won by the French. French soldiers also improve their position near Mont Kemmel in Flanders by taking enemy territory and capturing.

(Continued on page 646).

The Only Legless Farmer in the U. S.

By J. H. BROWN



Mr. Briggs' car has extension from foot pedals to cushion, which enables him to operate the clutch with the four-inch stump of his left leg by pushing on the wooden crossbar. The other lever attachment has a handle with which he operates the foot brake.

JUST look at that, will you? Did you ever see such a sight in all your born days?

Tom's wife had accompanied him down town from their farm. Tom had bought a brand new automobile, much better than the first one purchased several years ago. They had driven out to Camp Custer in a perfect maze of cars closely lined up both ways on the asphalt concrete pavement. On the way back to Battle Creek over the Goguac prairie graveled pike Mrs. Mason expressed a desire to learn to drive the new car and had taken her first lesson. They had just reached the center of the city and pulled up beside the curb on west Main street. Across the street she suddenly saw something that caused the above exclamation.

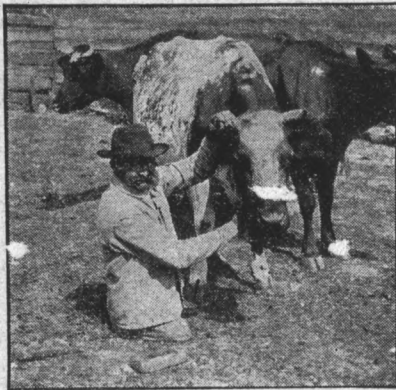
Tom looked. A farmer had stopped his automobile, opened the door, stepped down to the curb and walked into a hardware and farm implement store.

"What of it?" the reader remarks. "Lots of farmers have done the same thing in every town in the country for years. That's no trick at all."

But what amazed Farmer Tom Mason and his wife was to see only the upper half of a man drive up in his big touring car, stop the motor, set the brake, then dismount and quickly cross the sidewalk and enter the store. He had no legs, no artificial limbs or crutches, and no wheeling device whatever, but he seemed to get along all right. He was not only cheerful, but even happy, and was hustling around attending to his own legitimate business and asking no odds of anyone.

"That's Myron Briggs, the legless farmer of Pennfield township," replied Tom, after the man had disappeared in the store. "I've heard about him, but it's the first time I ever saw him walking around. They say he is the only legless farmer in the United States who does anything and everything almost any two-legged farmer can do. The farmers around Battle Creek say he is a wonder and that he whistles and sings as though he had forty legs and all of them working for him by the day. Say, Myra, that man's an optimist all right, and they say he's some farmer, too."

And all this is true. The writer has known Myron L. Briggs, the legless farmer, for years. We have spent many hours with him at different times on his farm, at farmers' club meetings and elsewhere. We have seen him carry a pail of swill to feed his pigs,



Mr. Briggs is an enthusiastic dairyman, and is here seen holding his favorite cow.

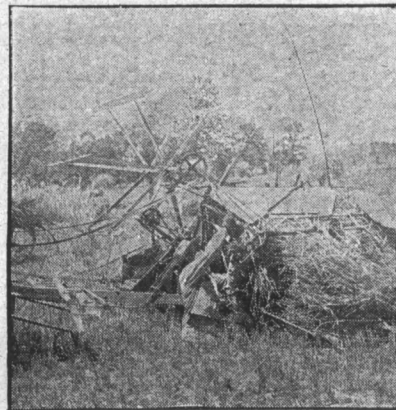
climb the ladder up over the big beam into the upper strata of his capacious barn hay mow to mow away hay, hitch up his three-horse team alone and drive over half a mile to the back lot with a disk harrow, all alone, and he had to open two gates and one rail fence on the way. He milks cows, cuts his own wheat with his binder and then goes across the road and cuts for his neighbor. He hitches up his team and drives to Battle Creek with a load of wheat, all alone, and returns with a load of feed for his dairy cows.

For nearly seventeen years Mr. Briggs has been farming it without a leg to stand on. He has "handled" his farm far better than any other farm in the country was ever handled by any farmer. In fact, this legless farmer has actually handled almost every square foot of the surface soil of his farm. He stands on his hands when walking, using short pieces of wood hand holds, and a wood boat is strapped to his body as shown in the first picture above.

One picture shows Myron on the seat of his disk harrow at work all alone in his back lot. He is not tied to the seat, but never falls off, even when riding over stony ground. He reaches over and grasps the lever handles of the harrow, sulky plow, hay rake, mower, binder, just like any other farmer who has two good legs.

This legless farmer is about fifty-four years old, strong as an ox, healthy, and a fine looking man. He is a very pleasant, genial man to meet, is well educated, a great reader of good literature, especially farm journals, and he swears by the Michigan Farmer. He is a very practical and successful farmer, with progressive ideas of farm method and practice. He has a very devoted wife and helpmeet and they are chums in all that the term implies. About eighteen years ago Myron was a motorman on a Grand Rapids street car. In an accident he lost his legs, both being cut off a few inches below the hip joints. The few inches of bone in each leg below the joint allows him to take a bracing position when "standing" or "sitting." This helps him when riding on the seats of farm implements, as he can change legs, forward or backward, as he chooses. For fourteen months he was in a Grand Rapids hospital, hovering between life and death many times.

When he recovered he and his good wife decided to buy a farm. Both had formerly lived on a farm and liked the life. Their farm is five miles north-east of Battle Creek, has good farm



Oiling the binder while cutting wheat for one of his neighbors.

buildings, sandy loam soil, and contains about one hundred acres. The fields are laid out to follow a three- and four-year rotation of crops. Mr. Briggs is a modern farmer in the full acceptance of the term. He practices level and shallow culture of corn and potatoes and maintains conservation of soil moisture, and does some of the



This is how Mr. Briggs cranks his automobile; he pushes the handle over the top with his left hand.

work himself with a two-horse riding cultivator. Later in the season we will take a picture of Mr. Briggs at work with this cultivator in corn and potatoes for descriptive illustration in the Michigan Farmer.

The optimism of this farmer in these days, when there are so many farmers grumbling with two good legs and all other accessories in prime working order, and able-bodied slackers in both city and county sulkingly doing their duty to themselves, their families and their country, ought to be a great object lesson to all sane human bipeds who have all their gearing set up intact and in good working order. When such a crippled farmer can put the harness on his horses, hitch them up to the manure spreader, binder or sulky plow, then go out in the field alone and work all day long, meanwhile whistling and humming to himself, it seems as though stout, fully-equipped-with-two-legs farmers ought to whistle at least once or twice nearly every working day in the week, and several times on Sunday.

The picture of Mr. Briggs with his cows in the barn yard also shows his means of locomotion. There are two short sticks before him on the ground. These sticks are cut from a piece of two-by-four studding, about ten inches long. Each has a lateral oblong hole, as shown, for hand holes. He uses these sticks, one in each hand, whenever and wherever he walks. His arms are just the right length so that he can swing his body freely between his arms when holding the sticks in his hands on the floor or ground. He uses cheap mittens and keeps his hands covered whenever necessary.

(Continued on page 635).



Our Legless Farmer, in Back Lot Alone, Preparing Corn Ground.



Climbing Down from the Manure Spreader to Open a Big Gate.

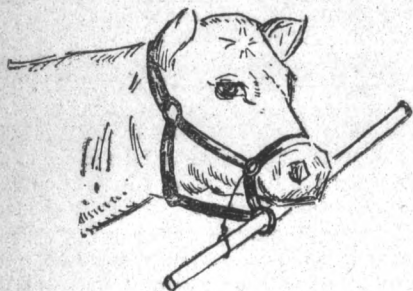
Suggestions for Our Busy Farmers

DISC THE GREEN MANURE.

Spring green manure crops should be plowed under while the plants are still green or full of moisture, and the plow should closely follow after a disking operation. This enables the green material which has been well chopped by the disking to very readily become a part of the soil and to be prepared for use by the crop.—D. K.

PROTECTING WIRE FENCES.

To prevent a cow without horns from reaching through woven wire fences put a common horse halter on her. Then take a stout stick about two and one-half feet long (a piece of a fork handle makes a good one), and slip it through the ring of the halter to about the middle. Then run a piece of wire from each side ring of the halter through gimlet holes in the

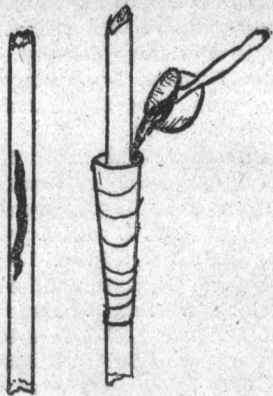


stick on each side, as shown in the drawing. This will effectually prevent cows with this habit from stretching and sagging down fences.—I. Cushing.

REPAIRING BURSTED PIPES.

Is your cistern pump out of use now because the water froze and bursted the pipe last winter? We had this luck and as the pipe was set in a brick filter we anticipated a general tear-up to fix it. Considering the trouble to be encountered we experimented a little and found we could babbitt the bursted pipe without even removing it. We wrapped some stiff cardboard around the pipe very loosely, in fact so loose that by holding it an equal distance from

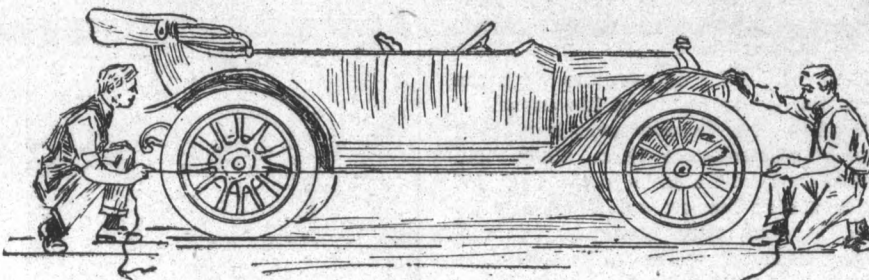
the pipe on all sides a space of about a quarter of an inch intervened. We tied the cardboard with strong string and also wound string tightly around the bottom of the roll. We used an old skillet to melt the babbitt, setting it on



the hot coals in the stove. We carefully poured it in around the pipe to get it as even as possible as it hardens quickly, and also to not get any on ourselves as it sticks and burns bad. The pump was ready to use again as soon as the babbitt was cold. In about an hour we had satisfactorily fixed three feet of bursted pipe at an expense of seventy-five cents for the babbitt.—R. L. Sunderland.

KEEP THE AUTOMOBILE WHEELS LINED UP.

We have found in operating the automobile that a great saving in tire expense is effected by keeping the front wheels in perfect alignment with the rear wheels. This is not a difficult



thing to do; the method is illustrated by the accompanying picture. The front and rear wheels on one side of the car are first put in a straight line through the use of a string. This is done by adjusting the front wheels until the string touches the tire on both sides of both wheels. The string should then be carried to the other side of the car where the process is repeated. Should the distance between the string and either side of the front wheel be more than a quarter of an inch an adjustment should be made. The greater this distance, the greater will be the wear upon the tire.

On the ordinary medium weight car this care will probably save from \$15 to \$30 tire expense in a single year where an ordinary amount of driving is done.—G. N. B.

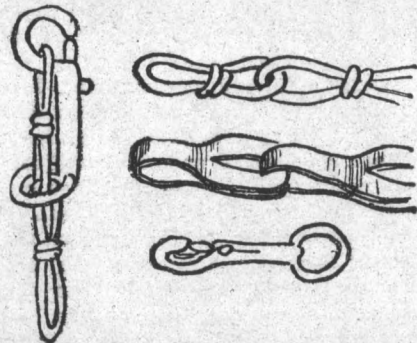
FARMERS DIG WOODCHUCKS WITH DYNAMITE.

In those sections of the north central states, the farmers have experienced a great deal of annoyance from woodchucks, a cheap and simple method for their extermination has been adopted. A stick of dynamite, ready capped and fitted with a four-foot fuse, is attached to the end of a ten-foot stick. The fuse is lighted and the charge is pushed into the woodchuck's burrow. As it takes about two minutes for the fuse to burn down, there is plenty of time to push down the charge and close up the mouth of the hole, before the explosion occurs. When the dynamite lets go, the den is destroyed and the animal, even if it es-

caped annihilation from the explosion, is asphyxiated by the gas. This method is far quicker than digging the animals out and has the added advantage of choking up the holes.—D. C.

THE COIL CHAIN ON THE FARM.

I am sure not one farmer in a hundred is making use of the extremely convenient coil chain, and the reason probably is that it cannot be tied in a knot like a rope. But this is no objection, but a benefit, when you know how to use it. With the flat link, or the steel wire link chain, alike at both ends, and the bolt style of rope snap, this chain can be arranged for a multitude of uses, and you do not have to tug and strain to untie a closely drawn rope knot to unfasten it. The snaps should cost you about thirty or forty cents a dozen, and as they are malleable, the round eye can be bent back to an angle of about forty-five degrees. Then pass the end of the chain up through the eye and over the hook of the snap, and there you are. In an instant the snap is put on or taken off,



and two or more short pieces can be used and instantly connected without stopping to hunt a hammer or any other tool.

The chain should cost you not over \$1.75 or \$2.00 per hundred feet for the size mostly used, and a little less for smaller, and a trifle more for larger sizes, and a hundred feet will wear out many times that length of rope.—J. S. C.

GIVING NEW-GROUND POTATOES THE RIGHT START.

(Continued from page 619). takes off the top of the knoll and, stopping again and raising the teeth, we go on to the next one. A few doses of this will level off the knolls and put the ground in pretty good shape.

Putting in the Seed.

The next step is the planting. While the drill method works very well in old ground, I prefer planting in checks in new ground for two reasons: First, the soil can be thoroughly stirred around the hill, promoting a healthy expansion of the tuber-cluster and killing the briars and grass that would otherwise line the rows. Second: When the crop is harvested there is no living thing in sight; the wild growths have been thoroughly subdued and the field is in excellent shape for any crop that I want to plant the following year.

As to seed: I always plant the nicest potatoes that I have, cutting the seed to two eyes and planting one piece in a hill; this is better than cutting to one eye; first, because it eliminates the possibility of having blank hills occasionally; and second, because the larger piece of seed gives the plant a quicker and more vigorous start. If small potatoes must be used I would plant them whole or cut once in two.

How we Cultivate.

The style of cultivator used depends upon the condition of the land and the equipment of the farmer. We generally use a riding cultivator; but when there are stumps or stones in the way

or the ground is too rough, a regular five-tooth adjustable cultivator is the proper thing to use. With this style of cultivator we always go twice-in-a-row, that is, we cultivate both sides of each individual row. If the soil is very heavy the crop should be laid by with a double-shovel plow just before the plants commence to blow. This stirs the soil deeper than before and gives the hill plenty of room. If properly done, there will be no need of hilling them up.

Good Spraying Necessary.

The matter of spraying is quite as

important as any other step in the production of the crop. I always strive to prevent the bugs from getting a good start, especially just before the plants blow, as the little tubers are setting on about that time. It stands to reason that if the vitality is sapped from the plant at this critical period there will be fewer tubers set on and they will not be so vigorous as they will in the case of a healthy plant.

I graduated from Paris green several years ago, both because of the quality of work obtained and the matter of expense. I use nothing but arsenate of

lead. The arsenate of lead does its work most thoroughly when properly applied and there is no danger of damaging the plants by using too much, as is the case with Paris green; the lead stays on the plant indefinitely while the Paris green washes off with the first rain.

Use Lead in Paste Form.

I prefer the lead in the paste form; I place two to three tablespoonfuls in a twelve-quart pail and fill it with water, then stir until the lead is all dissolved; I apply with a whisk-broom and keep constantly stirring the solution while I am applying it.

I wait until the first crop of young bugs begin to hatch and then I apply freely to every hill, being careful to get the dope well into the center or heart of the plant, as here is where the young bugs first congregate; I treat every hill the same whether there are any bugs in it or not. When I am done the potato patch looks as if it had been whitewashed; the bug trouble is ended for some time. If there are no other potatoes near this one application is all that is required; but if your neighbor neglects his bugs they will often invade your crop and necessitate another application later on. I have never had to use more than two applications and usually only one. Last year I raised a patch of potatoes in an isolated spot and treated them in this manner; after a period of two weeks I carefully examined the plants and failed to find a single bug, young or old, in the whole patch; and I didn't see another one during the rest of the season.



Bean Threshing Rig is Precipitated into Grand River, near Grand Rapids, when Abutment of Bridge Chumbles.

Results of Dust Spraying Experiments

OF the comparatively new methods fruit growers have been asked to try out within the last few years to control plant diseases and safeguard their orchards from insect injuries, none have attracted more attention perhaps than "dusting"—which as the name implies, consists in the sprinkling of certain chemical compounds, made up in the form of a fine powder, over fruit trees and orchard bushes. Used in this manner, of course, the dusts are intended to take the place of sprays.

Experiments Impartial.

As might be expected, more or less pretentious claims have been made by the manufacturers of dusting products—which claims, as is the fashion where commercial rivalry and competition prevails, have been more or less combatted and brought into question by spray manufacturers. One of the results of the debate has been that the average fruit grower has been in doubt as to which of the disputants to believe.

Recent dusting work conducted by the experiment station of the Michigan Agricultural College is accordingly not without interest to orchardists, farmers and gardeners.

One of these experiments with dusting was conducted at Morrice, in Shiawassee county, in 1915; others at Morrice and Grand Ledge in 1916, and still others at Morrice, Belding and Muir, in 1917—all with a view to determining, if possible, to just what extent sulphur and arsenate of lead dusts can be depended upon to prevent and control such troubles as apple scab, codling moth, and moth, leaf rollers, etc.; and also to learn how the cost of dusting compares with that of spraying, and what formulae are best to use.

Finely Powdered Sulphur Essential.

"The sulphur used in this work," writes W. C. Dutton, of the horticultural experiment station of the college, in a report on the experiments, "was very fine, the manufacturers guaranteeing that ninety-five per cent of it would pass through a two-hundred mesh screen, while some of that used in 1917 was finer still. The arsenate of lead was also exceedingly fine, one manufacturer stating that his product would pass through the finest screen obtainable. In some of the work mixtures were used which contained some inert filler or diluent such as gypsum or hydrated lime.

"The dusting has all been done in direct comparison with the standard dilute lime-sulphur and arsenate of lead.

"What were the results?"

"In 1915, scab was not controlled very successfully by either dusting or spraying. A large percentage of the scabby fruit was caused by late infections. The weather conditions were very favorable for scab development after June 13. If extra applications had been made better control of scab would probably have been secured. This brings out the occasional need for an extra treatment in seasons of frequent rains. The results at harvest showed the sprayed trees to have ten per cent less of scabby fruit than the dusted trees. Other factors probably affecting the results in the dusted plot were inexperience with the dusting method, a duster too small for satisfactory work and the application of dust from only one side of trees.

Results of Satisfaction.

"In 1916 dusting failed almost entirely to control apple scab. The control of scab on the sprayed plot of Stark was very poor. This is possibly explained by the fact that the "pink" application was made before the blossom buds had all separated in the clusters. The control in the other sprayed plots was very much better than in the dust

ed plots. The periods of infection were all in the early part of the season. In 1915 they were all late in the season.

"The dusting method gave very satisfactory results in 1917. The results equalled those secured in the sprayed plots. The season was like that of 1916 in that the infection periods were all early in the summer. The control of scab on the fruit was very satisfactory in most plots. The condition of foliage in the dusted plot at Muir was much better than on the sprayed trees because of the spray injury on the latter. At Belding there was little difference in the condition of the foliage of the two plots. At Morrice the foliage of the dusted trees was free from injury but showed some scab, while on the sprayed trees there was no scab but some spray injury.

Results in 1917 Satisfactory.

"It is not possible to tell just why the results with dusting were so much more satisfactory in 1917 than in previous years. This success may have been due to one or all of the following factors; more efficient application of dust, finer materials or more timely application with relation to infection periods.

"Better results were obtained at Morrice and Muir where much of the dusting was done when the trees were wet with either rain or dew than at Belding where the trees were always dry when material was applied. Several growers, however, have secured satisfactory results by dusting when the foliage was dry.

"It is very doubtful if the extra application of dust made in July had any beneficial effect as weather conditions were not favorable for scab infection before the August application.

Comparative Costs.

"Dust can be applied in less than one-half the time required for the actual operation of spraying, exclusive of time necessary for refilling the sprayer tank. The cost of material for dusting and the total cost of dusting was more than for spraying.

"The difference in the total cost of the two methods for extensive commercial operations would undoubtedly be smaller than is shown here.

"No data was secured about insect

control because there has never been enough insect injury on the untreated trees to give an accurate check as to the efficiency of the dust for this purpose. Experiments in New York have shown that the leaf-roller and codling moth can be controlled there by the dusting method. This work leads us to believe that the dusting method will control the insects in Michigan orchards.

Conclusions.

"This summary is intended simply to show the progress of the experiments that have been conducted for the last three years with the sulphur dusts. No definite conclusions are intended to be drawn at this time from this work as the use of dusting material as a substitute for liquid mixtures is still in the experimental stage. If this method of control continues to develop as rapidly as during the past few years, it will prove of great value to many apple growers, largely because of the ease and rapidity of application.

Suggestions.

"For the benefit of fruit growers who may care to use the dusting method at this time a few suggestions may prove helpful.

"A duster of sufficient capacity and power should be used. Efficient work cannot be done with an undersized machine.

"Special dusting sulphur should always be used. The ordinary grades of sulphur are not satisfactory.

"Home-mixing of materials should not be tried unless a special mixing machine is used.

"Applications should be made from two opposite directions and preferably when there is not any wind.

"Unlike spraying, dusting can be safely done when the foliage is wet.

"More applications of dust than are usually made of the liquid sprays will probably be desirable. However, the number will depend very largely upon weather conditions. The applications of dust should, of course, be made before scab infection periods. Cool and rainy weather is favorable to scab development.

"The horticultural department also conducted a dusting experiment with peaches in 1917 but no definite conclu-

sions could be drawn from the results of this work as there was so very little injury by insects or diseases in the untreated plots. This work indicated, however, that peaches can be dusted safely and that peach scab and brown rot can be controlled by dusting.

INEXPENSIVE IRISH POTATO SEED.

The output of Irish potatoes can be very largely increased next season without the expense of buying seed potatoes if this method is practiced.

Several weeks before planting time take the parings which have been carefully cut off without injuring the eyes of the potatoes. Spread the parings carefully on a shelf in the cellar. At planting time cut the parings in pieces, allowing three eyes to a hill. Lay them along in other potato rows with the cut side down, and cover them the same as though they were seed potatoes.

Watch the results—it is an interesting study to see large, sturdy stalks of potato vines spring up in a few weeks' time, from the field planted with potato parings.

We had such an interesting experiment last season with a paring planted field. The field was used as seed was a wonder to all who saw it. And at digging time the wonder increased when the large, fine, smooth potatoes rolled out of the hills. The potatoes from this field were just as fine as those from a field where expensive seed potatoes had been planted.

If every farmer would try out the growing of potatoes from the parings a large amount of potatoes could be produced very economically.

Livingston Co. E. C. WALDEN.

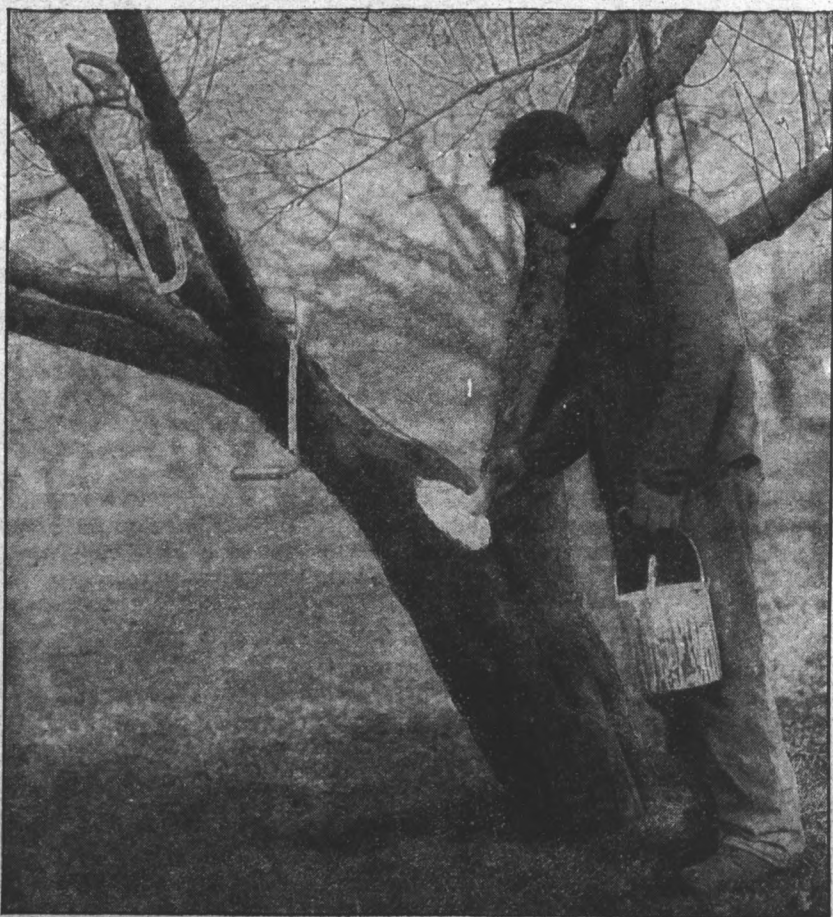
IMPROVING THE LAWN.

The lawn around the farm home frequently receives less care than is necessary to keep it in good condition. The grass runs out and is replaced in many spots by weeds. It loses the thick rich appearance which improves the looks of the farm. To bring a lawn back into condition the mowing should begin early in the spring before the grass gets long and tough. If the mowing is started before the grass grows too long it will not be necessary to rake up the cuttings. Raking a lawn injures the roots of the grass plants and the cuttings are valuable if allowed to fall down on the roots where they form a mulch which conserves moisture and keeps the lawn looking bright and green in spite of the dry weather.

We believe that some seeding is necessary every year to keep a lawn looking at its best. When making our garden seed order we always include a small order of lawn grass seed and use it to replenish any spots in the lawn that seem to be growing thin. This is less expensive than seeding the entire lawn every year and it keeps up the stand of grass in a very satisfactory manner.

Some fertilizer will often be needed to bring a lawn back into condition. We have found poultry manure mixed with earth to be very satisfactory. By scattering it lightly over the grass it falls down near the roots and furnishes them an abundance of plant food without giving the lawn the appearance of a freshly manured corn field. Many of the commercial fertilizers are fine for lawns as they quickly furnish available plant food and have little odor.

The care of the lawn mower is an important factor in the management of the lawn. Frequent oiling with a good quality machine oil will pay. It is best to oil the mower both before



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Mention The Michigan Farmer When Writing Advertisers

and after using. A sharp mower saves
time and does a neat job on the lawn.
Some farmers have their lawn mowers
sharpened by specialists in that work,
but a very satisfactory edge can be
placed on the blades with a good file
and an abundance of elbow grease. The
adjustment of the mower is important.
It should not cut so close that ground
is shaved or the hot sun may kill many
of the roots. It should not cut so light-
ly that the lawn needs the mower
again in three or four days. The size
of the mower should depend somewhat

on the member of the family who is to
be responsible for the work. A strong
man can use a large size mower and
save time by cutting a wide swath at
each trip. A boy should not attempt
to work like a truck horse with a
heavy mower or he will lose interest
in the upkeep of the lawn. If the boy
is to mow the lawn it will pay to give
him a mower that is not too heavy.
Mowing lawns is usually the boy's job
but it is not light work by any means,
especially when the lawn and the mow-
er have both been neglected.—G. S. R.

This Summer's Garden

By J. A. KAISER

THE 1917 garden was a splendid
success. It was a big factor in
feeding the world's millions.
Those who ridiculed the movement,
have seen their skepticism put to
flight. The most ardent enthusiasts of
the garden proposition have seen their
utmost expectations realized. In this
as in every case, those who put forth
the most strenuous efforts, profited
most from the undertaking.

The Garden a War Essential.

But if the 1917 garden filled a big
place in the life of the nation and of
the world, the 1918 garden is destined
to play no less a part. Under present
conditions, the garden will be just as
essential this year as last. No matter
how huge the crops this year may
prove to be, the world can not be flood-
ed with food stuffs. Exertion along the
line of food production, is a prime nec-
essity. It is more than a personal mat-
ter, it is a patriotic duty.

Nor is this too early to make plans
for next summer's garden. Indeed, now
is the time to plan for the undertak-
ing. The wise gardener knows early,
what seeds he needs, what ground he
has that is available, and where fertil-
izer is most needed. From last year's
experience gardeners know well if
their ground is productive or not. The
first essential is good soil, and plenty
of fertilizer of the right sort, is a prime
essential to success. Many who plant-
ed gardens last season already have a
portion of the seeds necessary to next
summer's planting.

High Prices and Gardening.

In the garden movement last year,
some factors figured which will not en-
ter into so great a degree, this year.
For instance, many were prompted to
plant gardens last year, because of the
potato famine. In many localities,
throughout the entire winter and
spring, tubers sold at an unheard-of
price. Not only this, but much of the
time it was impossible to procure this
much-used article of food, at any price.
With this condition prevailing and
fresh in mind, thousands of people who
had never made a business of garden-
ing before, hastened to prepare the
ground and plant potatoes. The result
was a huge crop of early potatoes. Ad-
ded to this, too, was a scarcity of near-
ly all garden products. As with pota-
toes, so with cabbage, tomatoes, and
other similar eatables. They were high
in price beyond anything ever before
experienced, and so scarce that money
could not obtain them much of the
time.

Prices Will Stay Up.

But for personal reasons, the 1918
garden ought to be just as important
as that of the preceding year. War
prices are high prices. Nothing can be
cheap while the great conflict lasts. A
general failure of crops would produce
conditions terrible to contemplate. Ban-
ner crops must still mean high prices.
From the personal standpoint, there-
fore, every person possessing available
ground, should plant a garden this
year.

But if not from personal reasons,
then from patriotic reasons, the garden

should be planted and cared for. Sure-
ly it is enough that our country needs
every ounce of food that can be pro-
duced. America needs food, her Allies
need it. It is absolutely essential to
the successful prosecution of the war.
True, your garden products may not go
to help feed our men in the field. But
they will help to feed the gardener and
his family, thus releasing for our arm-
ies other food that would not other-
wise be available. Should the garden
movement prove less of a success, this
year, because of weather conditions, it
will still have an important bearing on
the perplexing food problem. It is up
to all of us to do our part, even though
that part be a small one.

Gardening Has Other Values.

If you were not a partner in the gar-
den movement last year, get into the
game, and plan to plant in the spring.
You can not be a loser by the under-
taking. Many a man whose ordinary
employment is indoors profited in the
way of health and renewed vigor from
last year's undertaking. Indeed, those
who engaged in the 1917 enterprise are
confirmed advocates of the movement
for the coming season. Since the race
began there has been a peculiar satis-
faction in growing one's own fruit and
vegetables. There is something fasci-
nating, too, about the cultivation of
growing things. It is this that has
made many a man a farmer, and it is
this that has made gardeners innum-
erable. Back to the soil is no sham
phrase. It is real, genuine, human.
Gardening has the double advantage of
being both a profitable and a healthful
occupation. To many who engaged in
it last year, it proved a source of un-
expected enjoyment. It was recreation
to the man in the office and the shop.
It meant dollars and cents, renewed
vitality, added pleasure.

Keep the Land Busy.

The foregoing are some of the rea-
sons why every man who has it in his
power, ought to be a gardener in 1918.
And is it too much to expect that one
of the good things to result from the
terrible war will be permanent garden-
ers without number? If the waste
places of our land are of vast import-
ance in the present crisis, why are they
not important in normal times? In the
Old World land is not permitted to re-
main idle and unproductive. In this
very fact may be found much of the
strength and resourcefulness of France
and of little Holland. Let the garden
of 1918 be the herald of innumerable
gardens in the years to come.

TRANSPLANTING INTO THE GAR- DEN.

A cloudy day, or toward evening, is
the best time for transplanting young
plants into the garden. It is also well
to pinch off some of the leaves. If all
are left on they may throw off more
moisture than the roots that have been
reduced in number and length can sup-
ply. The plants will also stand trans-
planting better if the soil they grow
in has been allowed to get rather dry
for the last week or two.



ECONOMY TALK is all right— ECONOMY PRACTICE is better.

INSTANT POSTUM

is an economy
drink—absolutely
no waste. Besides,
it is convenient,
saves fuel and
sugar, and leaves
nothing to be
desired in the
way of flavor.
TRY A CUP!



Just Like Starting a Bank Account!

You start a bank account to save money. Put Hassler
Shock Absorbers on your Ford for the same reason.



For
Ford
Cars

Shock Absorbers

Hassler Shock Absorbers pay one hundred percent in-
terest the first year, and keep it up every year there-
after. They save one-third of your up-keep bills because
they reduce wear and tear on the car. They give you
more miles per gallon of gasoline because a car that
rides easily and smoothly requires less power to propel
it. They pay for themselves in increased tire mileage
because they take the weight of the car off the tires and
cushion it from every jolt and jar. 300,000 Ford Owners
recognize their economic necessity.

Better than any bank account, they give an actual
physical comfort to riding that cannot be computed in
terms of money.

10-DAY FREE TRIAL OFFER

Write today for Free Trial Blank and we will
have a set of Hasslers put on your Ford without a
cent of expense to you. Try them 10 days. Then,
if you are willing to do without them,
they will be taken off without
charge. Don't ride without Has-
sler simply because someone dis-
courage you from trying them.
Accept this offer and see for
yourself. Over 300,000 sets in
use. Write today—NOW.

ROBERT H. HASSLER, Inc.
365 Naomi St. Indianapolis, Ind.



For Potato Bugs And Blight use

SULFOCID

and

CAL-ARSENATE

—a new combination which bids fair
to replace the old Lime Sulphur-Ar-
senate of Lead and Bordeaux-Lead mix-
tures, in both orchard and garden.

It is more powerful and much less ex-
pensive. 1 gallon and 4 1/2 lbs. makes
150 gallons of spray.

Send for circular

B. G. PRATT CO., Mfg. Chemists
50 Church St. Dept. 22 New York

Please Mention The Michigan Farmer When Writing to Advertisers

Why Some "Co-ops" Succeed

(Continued from page 619).

dividend as the patron who sells \$500 worth to it, each selling the same product, the dividends being a certain per cent on the patronage. If this idea is to be worked out with justice, the amount of the patronage dividend must be figured on each article of merchandise or produce handled. As a member one would naturally expect to get a higher rate of dividend on his wheat than his neighbor, also a patron, would get on his barley, if the wheat was bought and sold by the association at prices which yielded a higher per cent of the net profits than the barley yielded. Such computation is possible only through accurate and scientific accounts.

Why Complete Records.

Dividends on the basis of patronage entail more book-keeping than dividends on the basis of shares of stock. The accounts must show just what the costs of handling each article are and just what the revenue from each article is. To do this, a complete record of each man's purchases and sales of each article must be kept. With this information accurately preserved justice can be done to each patron. Not only is this true, but the manager from these figures can tell just how far he can go in meeting the competition of private dealers. He knows just what branches are paying and can reorganize the business if necessary to make it pay better.

This particular manager explained to me that another year he would do so and so differently and thereby increase his profits, other things being the same. He was going to discontinue the marketing of a certain product for the patrons, for he could not meet the local situation satisfactorily and other branches of the business paid the patrons better. It may be added that this corporation paid the patrons a fine dividend and everybody was pleased. The pulp factory in this business paid the patrons more than one hundred per cent more than they could have secured had they not developed this part of the business but sold their pulp tomatoes as they had formerly.

Another Case.

Very recently, I have inspected the records of another cooperative corporation that has been less fortunate in the management of its business. My visit was in response to a request from the directors, who were rather at a loss to account for a failure to pay dividends after enjoying a period of big business and favorable prices. The manager and book-keeper now in charge had succeeded their predecessors because of the dissatisfaction on the part of the stockholders. The records prior to January 1 had been kept in a very unorganized and inaccurate fashion. The system used consisted of old-fashioned day-book and a ledger. Being old-fashioned and unimproved it necessitated useless time and labor.

An Inexcusable Condition.

An examination of the books showed that many postings were not made to the ledger from the day-book; and several accounts that had been paid by patrons still remained on the ledger as debit balances. When business was rushing, probably the book-keeper did not have time to record things as he should have. But had he used a system that was up-to-date, employing the special column device, he could have kept it up in good shape, for, relatively little time would have been required to attend to it. The actual inventories of January 1 were far from being the values and balances as shown, by the books. A thorough audit would throw some light on the situation and account for much.

However, the fact that original records are actually missing is proven by the desire of certain honest patrons to

pay certain balances that they claim to owe, but records of which are entirely missing. While I was in the office of the concern two such patrons came in to pay their accounts, one for some fertilizer and amounting to a considerable item. I was told that on the day before a farmer came in and paid his account for some feed purchased, amounting to a little more than eighty dollars. The present management knew nothing about this account and had to simply act and look wise, take the money, and thank his lucky stars that the gentleman did not say too much about having a bill, which he had a perfect right to insist upon. A short time before, a car of bean meal had arrived that the management knew nothing of. Probably the invoice for it was around somewhere, but it could not be located.

Business May Have Been Good.

In view of these facts it is not hard to understand why the books do not balance properly or why they do not represent the exact situation of the business. They are practically worthless. They do not furnish accurate records of business transactions that are necessary to make the transactions good, nor do they furnish any records of costs and profits on particular transactions or branches of the business. Everyone seemed to suppose that the business was doing well. Even the former manager told me that he knew that there ought to be good net profits. He didn't know where the surplus was, though. It would seem that some of it might be in some of these accounts that would be good if there were a record of them. As it is these items can hardly be considered good assets.

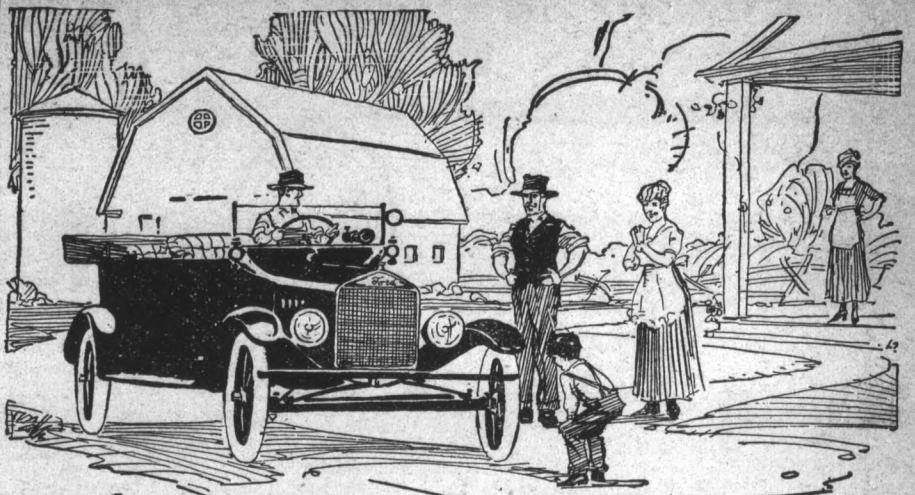
Secures a Better Market.

At the present time, the corporation having learned its lesson, is conducting its affairs in a more business like fashion. I noticed the book-keeper using a duplicate order form in making a purchase, which would furnish, if properly filed, and original record until the transaction is completed and entered upon the books. The books that he is keeping, too, are simple, clear and systematic. To operate them takes comparatively little of his time. It might be said that the present book-keeper applied for the position when the business was begun, but was then told that it was the policy of the stockholders to economize on the office force. After affairs had become badly tangled they solicited his services at a salary higher than he originally asked.

Get the Best Experience.

Unfortunately we too often stand for the dear teaching of experience when intelligent attention and consideration would give us the right and proper adjustments. This is human nature undoubtedly, but not the highly evolved, rational sort. Progress may be insured if a person can learn from the mistakes of his neighbors as well as from his own. If adequate accounting seems necessary to succeed in the business field why go wrong by adopting a makeshift system? The Bureau of Markets at Washington has done much to eliminate this weakness in the cooperative movement. It has employed experts, who after much study and research, have prepared bulletins that outline accounting systems for all sorts of marketing organizations. These systems invariably embody the characteristics of simplicity, accuracy, system, and time saving. They are capable of adaptation to all sorts of situations and local conditions.

Any sort of an organized record is an accounting system and if conscientiously kept may be adequate. However, unless one utilizes modern improvements and devices in these matters as well as in the mechanical operations of his business he is foregoing



Stewart Accessories For Your Ford

It Is a Pleasure to Equip Your Ford With Stewart Accessories



ELECTING accessories for your Ford should give you more real pleasure than any buying you do—even more than the purchase of clothes and personal effects. It will if you do it the same way, for buying accessories is of equal importance.

When buying a suit of clothes, you don't merely tell the clerk to wrap up a suit for you. Of course not! You select it with care. You aim to get a suit with just the right cut—the correct lines—in a harmonious color and pattern. You are discriminating.

You want to be satisfied—to appear well dressed—to be complimented on your taste. But, you say, that is only sensible buying. And you take much pleasure in buying that way.

You should buy accessories for your Ford in the same way. Use some taste and judgment. Be particular. Buy for looks as well as service.

You take pride in the efficiency and performance of your Ford. You swear by its reliability. You take pleasure in buying accessories for it—accessories that will increase its comforts, its service, and add to its appearance.

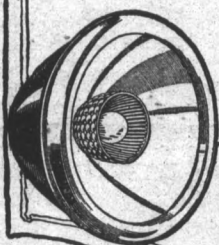
Stop and think! How do you buy accessories for your Ford? Do you merely ask the clerk for A speedometer, A searchlight, A warning signal? Or do you go in and say, like most careful buyers, "I want a Stewart Speedometer, and a Stewart Searchlight, and a Stewart Warning Signal?" The latter method stamps you as a careful buyer who is realizing the fullest pleasure in buying accessories for his Ford.

You don't want your friends to ask, "What kind of a speedometer is that you have?" You want them to say, "Ah! I see you have a Stewart Speedometer." You like to hear nice remarks about your Ford's equipment—the speedometer, searchlight, autoguards, signal, lens, etc. You will if they bear the name Stewart.

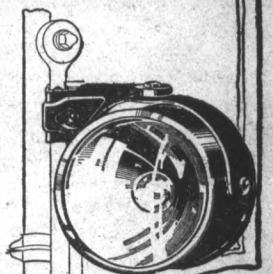
There is something about Stewart Accessories that distinguishes them from the ordinary kind. Besides having 100% quality, a

Stewart Accessory has that indefinable something called "Class" and "Style". You recognize it instantly. It is all in the design and finish. That is why Stewart Accessories add so much to the appearance of any automobile. You can always be proud of your Ford when it is Stewart-equipped. You need never apologize for its accessories. The mere fact that you bought Stewart Accessories for your Ford indicates your good taste and judgment. There is pleasure and satisfaction in knowing that your Ford is equipped with the best accessories that money can buy.

**STEWART-WARNER
SPEEDOMETER CORPORATION
CHICAGO, U. S. A.**



Stewart Lens
Per Pair \$2



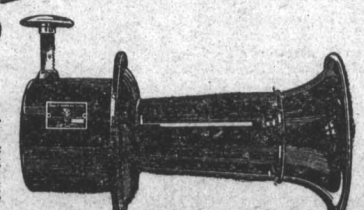
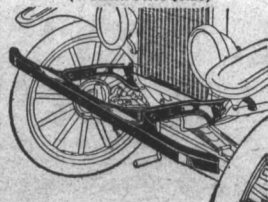
Stewart V-Ray
Searchlight \$5

Stewart V-Ray
Spark Plug \$1



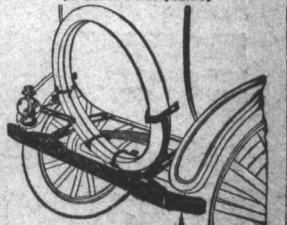
Stewart Speedometer and
Instrument Board for Ford Cars \$12
Western Price \$13.00
Sedan and Coupelet Model \$15
(Western Price \$16.00)

Stewart Autoguard
for Ford Cars \$7.50
(Western Price \$8.25)
(With Nickel Rail \$8.50)
(Western Price \$9.25)



Stewart
Hand Operated
Warning Signal \$3.50
Motor Driven Type \$6

Stewart Autoguard
Tire-carrier for
Ford Cars \$11.50
(Western Price \$12.50)
(With Nickel Rail \$12.50)
(Western Price \$13.50)



Plan Now For Greater Conservation Of Grains

Saving your grain to sell is doubly important this season—for the nation and for yourself. The more grain you can raise and sell the better fortified will the nation be. By using *more ensilage* and proportionately less grain feeds, you will make more money with which to buy *Liberty Bonds* or improve your farm for still greater production next season.

To cut your own ensilage economically and make money filling your neighbors' silos get one of the famous

Kalamazoo ENSILAGE CUTTERS

"The World's Standard"

—the only *real* center-shear cut machines on the market—the machines that have made good from the start and are now recognized as the strongest, safest, fastest cutting machines in the world.

Excess strength in every part—that's why they stand up so well. Malleable, unbreakable knife wheel insures durability and safety. The remarkable construction of the cutter head, which is the blower, makes fast cutting practical.



Write Today for complete new catalog showing all sizes of Kalamazoo Feed, Ensilage and Alfalfa Cutters. If you need a silo ask for Kalamazoo Silo Catalog.

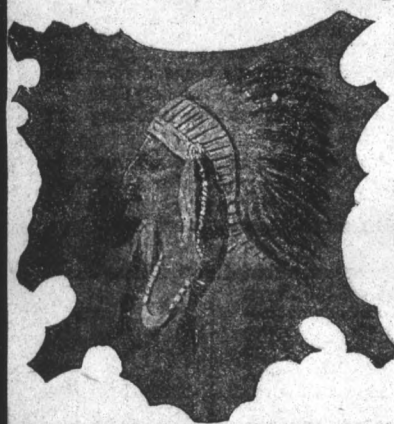
KALAMAZOO TANK & SILO CO.
Dept. 123 Kalamazoo, Mich.

CUT OUT THIS AD

Take it to your dealer with your name and address.

Buy a Pair of ROUGE-REX SHOES

and mail the front of the box with your name and address to us and receive Free, a Rouge-Rex 1918 Diary



Ask your dealer to see the one we sent him.

While the retail price of one of these Diaries is 50c the saving on a pair of Rouge-Rex Shoes over "just any" shoe amounts to much more.

Every pair of Rouge-Rex shoes is made from selected hides, tanned in our own tannery and made to fit the particular needs of the farmer.

The Rouge-Rex name should mean more to you than the name of any particular brand of tobacco, coffee, etc.

When you buy Rouge-Rex shoes you not only help yourself but you help your Government in its campaign on saving.

HIRTH-KRAUSE COMPANY

Hide to Shoe
Tanners and Shoe Manufacturers
Grand Rapids, Michigan

P. S. Mr. Dealer, kindly mail us this ad and the name of your customers who presented it.

SEED CORN

If you have been disappointed in your Seed Corn, come to us, we have it. We have had the same varieties from the same growers for years and have found this corn always the most reliable to be obtained, true to name and suitable for Michigan. If you want corn you must act quick, as stocks of good reliable Seed Corn are getting low.

White Cap Yellow Dent
Pride of the North Yellow Dent
King of the Earliest Yellow Dent

Reid's Yellow Dent
Improved Leaming Yellow Dent
Longfellow Flint

All shelled corn. 56 lbs., price \$8.00 per bu. f. o. b. Ypsilanti, bags extra 50c each. Cash with order, we ship immediately.

Stowell's Evergreen Sweet Corn 40c per lb.
Early Minnesota Sweet Corn 35c per lb.
Golden Bantam Sweet Corn 45c per lb.

MARTIN DAWSON COMPANY, Ypsilanti, Michigan

Binder Twine—Granges, Farmers Clubs get our price. Farmer agents wanted. Write us. THEO. BURT & SONS, Melrose, Ohio.

Exchange \$817 Equity on Lot for 125 cords of wood or some horses. W. ECKEL, 599 30th St., Detroit, Mich.

For Sale. 40 horse gasoline or kerosene engine in A-1 condition. The SUNDAY BEDDING CO., Lansing, Mich.

Seed Corn: Early 90-day Yellow Dent, 90% Germ. Guaranteed \$8.50 bu. Samples free. THEO. BURT & SONS, Melrose, Ohio.

Sir Walter Raleigh Seed Potatoes. Free from blight and scab. 60 cents per bu. Also marketable size if you prefer them. DAVID LEENHOUTS, R. 2, White Cloud, Mich.

CEMENT STAVE SILOS

ARE BEST

BUILD YOUR OWN

We furnish staves, hoops, doors. Cheaper and Easier to build than wood or tile. Stock limited. Write now.

LESLIE H. BONINE, Vandalia, Michigan
Member National Cement Stave Silo Ass'n

For Sale -- Moline Tractor Model (B), equipped with two 14-inch bottoms and carrying truck. Used only 30 days and in good condition. Address V. SITTS, Mason, Michigan.

signal opportunities of greater success through greater efficiency. Especially is this true as applied to accounting systems, for it costs less to operate an up-to-date set of records than a set using, for instance, the old-fashioned day-book principle. It costs less because it takes less time to make the records accurate and reliable.

The cooperative movement would be greatly benefited if standardized accounts could be kept by all similar associations. This would make possible comparative figures and statistics that would be invaluable to the movement. For instance, if all cooperative elevators would keep their records so that they could prepare a grain report annually as recommended by the Bureau of Markets at Washington, comparative figures on wheat would be had

that would enable a less efficient business to profit by the methods of a more efficient business.

Any new corporation that wishes to start an adequate system, or any older corporation that wishes to have the advantage of an especially adapted and modern system, if they do not already have one, can secure from the government the literature describing such systems. Any such organizations in the state that wish advice in these matters, or desire assistance to start a new method, have perfectly free access to the State Bureau of Markets and to the Field Agent in Marketing. These agencies realize the importance of the problem and are anxious for the various types of organizations in Michigan and adequate records for every cooperative enterprise in the state.

Cutting Cost of Pork

As a result of what has been learned through experiments conducted by the college, and the experience of Michigan's most successful swine breeders and feeders, the Department of Animal Husbandry of M. A. C. is calling attention this spring to the usefulness of forage crops as money-savers in pork production.

"Numerous tests here and in farm feed lots have demonstrated that from one-half to one-third less grain is required to produce a given amount of pork on pasture than is necessary in a pen or dry lot," a recent announcement from the department declares.

"It cannot be emphasized too strongly that some pasture crop or crops should be provided for hogs this season. There are many crops that may be used, but a plot or two of oats and peas, sown early, and rape sown somewhat later, should prove an excellent combination.

"Fairly early pasture can be provided by sowing one and one-half bushels each of oats and peas per acre as soon as the ground is fit in the spring, though this should not be depended upon for summer feed as it will not grow up again after being eaten off unless the season is very wet. This crop provides excellent feed for early summer.

"Rape is the best emergency pasture crop for hogs in Michigan, as well as one of the best regular pasture crops.

It makes a rapid growth and furnishes, at a low cost a large amount of succulent feed which remains fresh and green throughout the dry summer months, supplying forage when most other pasture crops are shrivelled up. Rape is also relished very much by the hogs and when supplemented by a medium amount of grain insures rapid gains. It gives best results if sown from early spring, as soon as the soil warms up nicely, to June 1, though it may be sown as late as July 1 or even later, depending upon weather conditions. Dwarf Essex is the best variety for our conditions. The seed of rape is very fine and requires a well fitted seed bed, containing considerable moisture if it is to germinate evenly and strongly. Usually it is sown broadcast at the rate of about five pounds per acre, but as the crop requires a great deal of moisture it may be advisable on light sandy soils to sow in drills about twenty-eight inches apart and cultivate between the rows, using from three to three and one-half pounds of seed per acre. The pigs should be turned in on the crop when it is eight or ten inches high. This is usually six weeks or so after it has been sown. If not pastured very closely, and if the animals are removed to another lot for a short time occasionally, new shoots will develop and keep the crop fresh and green throughout the season."

Permanent Pasture for Sheep

What is the best kind of grass seed or seeds to sow for permanent sheep pasture? June clover dies out too quick, and I thought maybe you could advise me as to something better than that.

Ingham Co.

R. W. B.

Common red clover does not last long enough in the pasture to be depended upon as the principal grass in the pasture. What we want in a permanent pasture is a mixture of grasses and, really, the more grasses we have the better. Of course, some are better than others but all are good.

A splendid combination for a permanent pasture would be timothy, red clover, orchard grass, sweet clover and alfalfa. Now, you can add to this, if you want the best white clover, meadow fescue, bromus inermis, and red top, mixing them all together.

If you only wanted to use two grasses for a permanent pasture then I would say bromus inermis and sweet clover would make the best combination. Whichever combination you use you should use a liberal amount of seed as you want to form a heavy sod just as soon as you possibly can, and fifteen to twenty pounds of seed per acre will be much better than to sow a less amount.

All permanent pastures should not be pastured very close the first year. What we want is to get all of these grasses well rooted and developed before they are tramped upon very much

or eaten off. Many people think that it pays not to pasture at all the first year, to simply clip the grass or to take off a crop of hay if it does well and then pasture it the next season, but if it is not pastured too close you can use it for pasture the first year.

TRADE IN FEEDERS.

Many states are buying feeder cattle in the Chicago market, and prices have undergone large advances in recent weeks, as is usual on the approach of the grass season. A short time ago a fresh high record was made by the sale of a carload of prime Angus 1050-pound feeders to a Wisconsin buyer at \$13.90 per 100 pounds. Quite recent shipments to Ohio have embraced a good many thrifty female cattle, indicating that the farmers of the Buckeye state are preparing to engage in breeding and raising beef cattle more extensively than heretofore. During recent weeks feeder cattle have been shipped from Chicago to Maine, Connecticut, Pennsylvania, Virginia and Kentucky, and many other states.

LIVE STOCK RECEIPTS IN APRIL.

Receipts of cattle and hogs at forty-four cities in April showed increased over the receipts in April a year ago, according to the stockyards report just issued by the Bureau of Markets, United States Department of Agriculture. Figures for April, 1918, from the forty-four cities, which include all large yards, were: Cattle, 1,901,582; hogs, 3,527,536; sheep, 974,829. Figures for April, 1917, at the same cities were: sheep, 1,027,784.

Feeding Potatoes to Swine

JUST now, with a great surplus of potato stocks, dried pressed potatoes should be of immense value in stock feeding. In fact, two investigators of the Department of Agriculture, have been making experiments with feeding dried pressed potatoes to swine. Five tons of dried pressed potato manufactured at the Arlington Farm, were shipped to the department farm at Beltsville, Md., for this purpose. The experiment was conducted to determine the value of dried pressed potato in a ration for fattening hogs when supplemented by feeds rich in protein, and the effect of dried pressed potato on the quality of meat produced. The experimental feeding was continued for fifty-six days. The animals selected for the work were twelve high-grade Berkshire pigs between five and six months old, averaging approximately 150 pounds in weight, and quite uniform in age, quality, breeding and weight. The rations for the experimental feeding were as follows:

Lot 1.—(Check lot), six parts corn meal, one part tankage.

Lot 2.—Six parts dried pressed potato, one part tankage.

Lot 3.—Six parts dried pressed potato, one part linseed oil meal, old process.

Lot 4.—Six parts dried pressed potato, one part fish meal.

The pigs in all of the lots ate well and regularly, and not one went off feed during the test. Small quantities of feed were left in the troughs after feeding time, but this was due to the fact that the pigs were given an excess quantity of feed. All of the pigs were in good, thrifty, and growing condition when the experiment began, and they maintained good condition and health during the progress of the test. At the end of the test it was found that Lot 1 excelled all the others with respect to rate of gains, amount of feed consumed to produce 100 pounds

of gain, and average final weight. They consumed a daily ration of 6.4 pounds, made a daily gain of 1.57 pounds, and required 403 pounds of feed to produce 100 pounds of gain. The lot receiving dried pressed potato and fish meal (Lot 4), was a very close second to the check lot, and there was but thirteen pounds difference in favor of the hogs in Lot 1. The pigs in Lot 4 consumed a daily ration of 5.7 pounds, made a daily gain of 1.32 pounds, and required 428 pounds of feed to produce 100 pounds of gain. The pigs in Lot 3 consumed a daily ration of 5.3 pounds, made a daily gain of 0.91 pounds, and required 584 pounds of feed to produce 100 pounds of gain. The pigs in Lot 2 returned a smaller amount of gain for the feed consumed than any other lot.

Judging from the results obtained from the feeding experiment, the department feels justified in concluding that dried pressed potato, when supplemented with a high-protein feed, is very efficient in producing rapid gains and a high finish when fed to swine. Although dried pressed potato is a rather bulky feed, it has been demonstrated that pigs are able to consume a sufficient quantity to lay on good gains. Mixing or soaking with water for fifteen or twenty minutes before feeding has proved to be the best method of feeding dried pressed potato. To give the best results, dried pressed potato must be fed in combination with other feeds in which the percentage of protein is high.

Judging from the carcasses of the different lots, it was found that dried pressed potato meal fed with any of the three supplements used in the experimental feeding produced pork equal in quality to that produced by a ration of corn meal and tankage. When supplemented with old-process linseed oil meal, a carcass is produced which for degree of finish excels even that of a corn meal fed hog.

Mules Will Do the Work



The desirability of a good team of mules should not be overlooked when considering the horse power problem. Mules are strong and hardy and capable of performing a great deal of work and will do it on lighter feed than the ordinary horse requires. Then, too, a mule is ready for work at two years of age while other colts should not be put into the harness until three. No animal exercises better common sense in safeguarding his own health than a mule. He does not over-eat nor over-drink when hot, and his reputation for avoiding overwork is characteristic of his kind. However, I have yet to see a foundered mule and a good team of them will do enough work to suit anyone.

Some farmers have a natural prejudice against mules, but if they were to work a good team of mules, long enough to become thoroughly acquaint-

ed with them, they would breed for mules rather than horses to handle the heavy work of the farm. In their capacity for work they stand next to the tractor, while their period of usefulness greatly exceeds that of the ordinary horse.

GOOD DEMAND FOR HORSES.

There has been a large demand for horses in eastern farming districts recently, with mares especially wanted, as they can be used for work in the fields, as well as for breeding purposes. O. H. Turner, of Missouri, who a short time ago passed through Chicago with two carloads of horses for Pennsylvania, stated that the demand in that state is running very strong on good horses weighing 1600 pounds and upward. The land is rough in the vicinity of Berwick, Penn., where his horses were shipped, and it is impossible for tractors to take the place of horses in carrying forward farm work.



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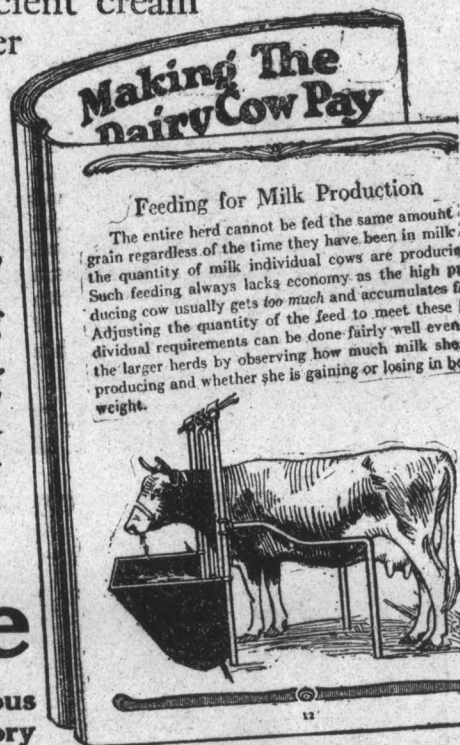
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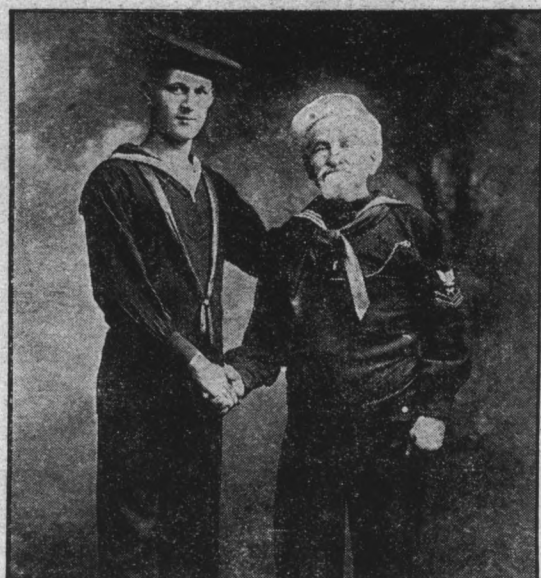
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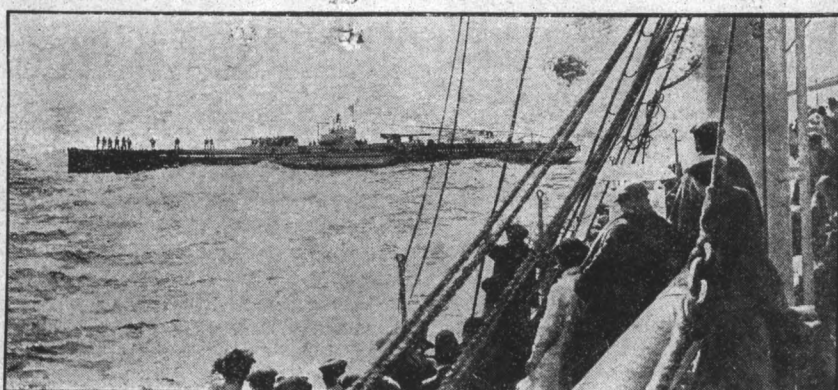
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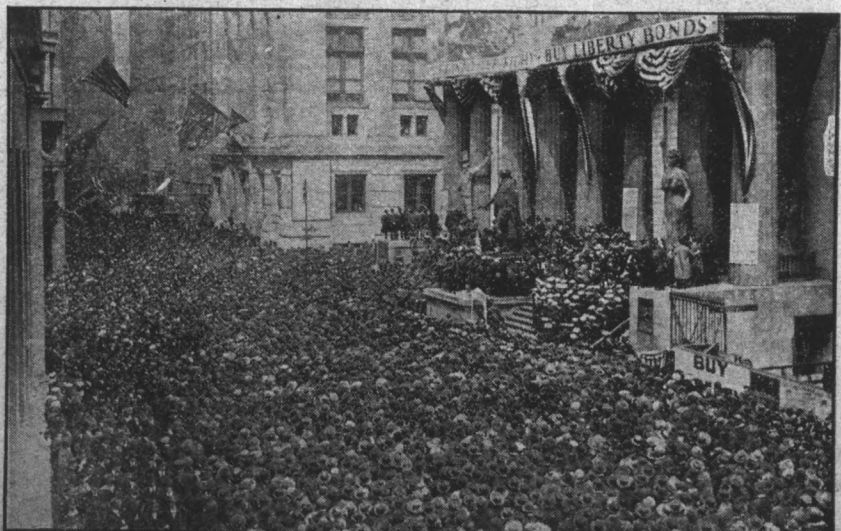
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Ruins of Ypres, which Germans Strive to Take.—(Australian Official Photo).

A FLYING FIGHTER

by L.T.E.M. ROBERTS, R.F.C.

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Synopsis of Preceding Chapters.

F. M. Roberts, an American, born in Duluth, Minn., with an inherited love of adventure, was up in the foothills of the Rockies, drilling for oil, when the war broke out. In October, 1914, he started on a trip to Calgary, and on the way learned of the great conflict taking place in Europe. Reaching Calgary, he enlisted in the Tenth Canadian Infantry Battalion. On account of his knowledge of mechanics he was given a positoin as driver of a heavy motor truck or "lorry," and later was made sergeant of a mechanical transport section. After months of training they were sent to England and Roberts was later selected by draft for the mechanical service in France. On the morning of the first day of the second battle of Ypres, he was repairing his officer's automobile, when the German shells drove him into a bomb-proof. During a lull in the shelling he resumed his work, but was again forced to seek cover and decided to drive the car to a safer position. He had gone but a short distance, however, when he was overtaken by the officer and relieved of the automobile.

The fire continued and I could not see what good it would serve to stay in it. While I was walking along the road, about three-quarters of a mile behind the lines, the firing increased in intensity. The noise fascinated me. For about two hours I watched the spectacle of a front in eruption.

There was heavy firing all night, and the next morning I suddenly smelt something like chloride of lime. The stench increased all the time, and presently my lungs began to feel sore. I had a hard time breathing, and coming to a ditch I looked into it to see whether the smell was coming from there, chloride of lime being used genearily for sanitary purposes. But I saw nothing in the ditch and my lungs began to hurt more and more. Finally I took my bandana handkerchief and tied it over my mouth. A few minutes later an ammunition lorry came tearing down the road. It picked me up and took me to the railhead, where, with four others I was sent to a hospital and treated for gas poisoning. In three days I was sent to England with about twelve hundred other men who had been gassed or wounded.

That was only one ship-load, however. Several thousands of other wounded and gassed men followed us. Many of them were Canadians whose organizations had lost heavily, in the second battle of Ypres, for it was the first time gas had been used on the Canadians. They were a heart-breaking sight, and I thanked my stars that I still had a whole skin.

The effects of the gas poisoning were not so easily gotten rid of, however. The cure was painful. It consisted for the major part of taking a lot of salt water and other emetics so that the system might be cleared of the gases assimilated by the lungs. The lungs remained congested for quite some time, and a peculiar irritation in the throat caused me on several occasions to cough myself into insensibility.

The gas patient is a hard case for the hospitals. I got very little sleep, mainly for the reason that I was tied up in bed in a sitting position, which, in the course of time, made me very ill-tempered and caused me to use language which I afterward regretted. Also I discovered that the hospital was under martial law, and that this law was enforced as rigorously here as

anywhere else. That helped me to settle down and take things as they came, but there were times when I thought very seriously that it would be better to die.

One day a doctor came to the hospital and picked out two patients he wished to cure at home. I was one of them. The other man had been wounded in sixteen places and was a terrible sight. When I saw him first it was believed that he would die, but within a few days he recovered sufficiently to stand the transfer from the hospital to a place called Hawkhurst, near the doctor's home in Kent.

The two of us were given a large front room. But I could not stand the sight of my companion in misery. So he was presently taken to another part of the house. I can't remember the name of the man, but I know that he belonged to the artillery and that a Hun shell had burst about a foot above his head. His scalp was terribly lacerated and a piece of shrapnel had entered at the side of the nose and emerged at the side of the neck. One of his eyes was black and closed, and the other eye he seemed unable to ever close. The only part of his body that was not bandaged was his right forearm, and that moved day and night.

I think he was conscious part of the time, for now and then he would utter a loud groan that made me jump. Fearing that the man was dying, I would call the night nurse and she would summon the doctor, a man who had the patience of Job, as was shown one night when he was called six times and still managed to be pleasant and cheerful. He really deserved a medal for his unfailing good temper.

The people in that part of the coun-

try were very anxious to make us as comfortable as possible, and they even got permission to take me to their homes. One old gentleman, of the name of Hardcastle, took me all over his place. He was somewhat of an American, having operated at one time a cattle ranch in New Mexico.

Of course the odor I had mistaken for that of chloride of lime was that of German chlorine gas. I had breathed only a little of it and the effect had been bad enough. The troops on the firing line had suffered terrible losses from the gas. Shortly after that gas masks were issued and though they were very inconvenient, they were indeed life-savers and we welcomed them.

After my discharge from the hospital I was attached to a mechanical transport column in England and in August, 1915, we received orders to proceed to France. The trip to the nearest seaport had to be made over the country roads. I was section sergeant and in this capacity had to scout the roads ahead of the column, on a motor cycle, thereby gaining the title of "The Human Sign Post." In addition to that I had to keep the convoy together. We passed through a lot of little English towns and lived mostly on bully beef and hard tack, though occasionally the farmers and villagers along the road would ask us to eat with them.

Trouble seems to come in bunches, and I had several such bunches on that trip. As section sergeant I was riding a motorcycle, usually at great speed, with the result that my face was all wind-burned. The men, moreover, seemed bent on raising Cain before getting to France. There are a good many parallel roads in the parts of England we were going through, and often there are no signs on them. Since some of the fellows did not like the big clouds of dust that were being raised by the motor trucks in front, they would hang back and take some other road, usually the wrong one. That kept me busy. Keeping the convoy together at night, when often I had trouble with the headlight of the motorcycle, which had gone on strike, was no easy work. The

full speed into a high hedge. The motorcycle landed in the ditch and I was catapulted over the hedge in a somersault. I had just come to a sitting position when somebody spoke to me. It was the colonel of an artillery camp who was on his rounds of inspection. He found my sudden arrival in his camp very funny, and laughed over it. Then he helped me back over the hedge. I found that the machine was still in working order, and decided to take time to fix the headlight. Fortunately, I was none the worse off for the fall.

The convoy made good progress, however. Accidents were few. The most serious of them happened one day while we were going through a little village. One of the lorries hit a milk cart in the stern and drove the horse through a store window. But nobody was hurt. Another few miles brought us to our goal—the seaport—though before we actually reached it I hit a cement block about a foot high while going at the rate of thirty miles an hour and had a very fine spill.

It did not take us long to embark the convoy and a few days later we arrived at Rewan, in France, where we spent two days resting up. Then the convoy was formed into column and started for the front.

We were required to travel as fast as we could, stopping only for our meals of bully beef and hard tack. For three weeks that was the only thing we had to eat, and upon our arrival at the first parking place, we began working day and night, to gather up and feed the Second Division, which was just then pouring into France ready to get into action.

Some of the machines were detailed to pick up stragglers, who were dropping out of the ranks during the long route marches over cobblestone roads, while others were engaged in filling up the railhead with provisions and for age. This sort of thing continued until we got closer to the advanced railhead, and there our real work began.

But before we got that far, two others and myself who had motorcycles made a trip to the nearest first line trenches where we had some friends. To do that was not easy, but we had no real trouble until we got to where the road pickets were. These we bluffed with the usual statement that we had dispatches. I may say that we did not always get away with the bluff. Some of the road pickets would want to see our identification papers as dispatch riders, and being unable to produce the goods we were often turned back. In that case we would ride a short distance down the road, get off our cycles, cover them with leaves and branches so that no one could see them, and crawl around the picket on hands and knees until we were out of sight.

We were all right as soon as we got to the communication trenches, so long as we knew the name of the battalion we wanted to visit. Many queer things happened on these side trips. A pal of mine, named Emory, was caught in the wrong sector and though he had proof of his identity, the Commanding Officer, to teach him a lesson, made him go out into No Man's Land to a

(Continued on page 632).

A Poet's Prophecy

(Written about 1850).

For I dipt into the future, far as human eye could see,
Saw the Vision of the world, and all the wonder that would be;
Saw the heavens fill with commerce, argosies of magic sails,
Pilots of the purple twilight, dropping down with costly bales;
Heard the heavens fill with shouting, and there rained a ghastly dew

From the nation's airy navies grappling in the central blue;
Far along the world-wide whisper of the south wind rushing warm,
With the standards of the peoples plunging thro, the thunder-storm;
Till the war-drum throb'd no longer, and the battle-flags were furled,
In the Parliament of man, the Federation of the world.

From "Locksley Hall," by Alfred Tennyson.

try were very anxious to make us as comfortable as possible, and they even got permission to take me to their homes. One old gentleman, of the name of Hardcastle, took me all over his place. He was somewhat of an American, having operated at one time a cattle ranch in New Mexico.

Of course the odor I had mistaken for that of chloride of lime was that of German chlorine gas. I had breathed only a little of it and the effect had

roads all had high trees on each side, which made them look very much alike and kept them all the darker at night.

Hunting stray motor trucks under these conditions was not easy and generally so many were missing that I had to keep racing back and forth at high speed. One night I was hurrying along one of these roads, steering by a speck of sky visible under the tree crowns. Suddenly I came to a turn in the road, missed it in the dark and ran

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(Continued from page 630).
listening post. After having been thoroughly scared by the Huns and reprimanded by the Commanding Officer of the battalion, Emory was sent back to his unit.

CHAPTER IV.

Sped by Machine Guns.

LITTLE excursions to the firing line were the only diversion the men of the column had. And they gave us a chance to see a little more of war than running a lorry allowed. I had friends in nearly all of the battalions, and among my pals in the infantry was a fellow named Brown, who came from the Pacific Coast. I used to supply him with cigarettes and the like.

On one of the windy and rainy afternoons they get in the autumn in Flanders, I had gotten through a little earlier with my work and decided to see Brownie, for whom I had bought some socks. I managed to get past the road sentries all right and entered a little town called D. B. The place has long since been razed. On the other side of the little town there is a shallow lake about a mile and a half wide, which I would have to wade in order to reach my friend. Going through that lake was not an easy matter. While one could be guided by the blasted tree stumps, along the submerged road, the ground had to be carefully inspected with one's feet if the many shell holes in the road were to be avoided.

Going along the road this afternoon I fell into three shell craters and had to swim to get out of them, which was not an easy job on account of the clothing I had on. I managed to get to the other side of the lake, but found that only a few of the communication trenches were safe. Though I was none too pleased with my trip by now, I decided to go on. To keep under cover I made my mind to go through a little woods, on the other side of which the British lines were located. I had a disagreeable experience among the trees. I stepped on a grave and the odor that came out of it was sickening.

It had grown dark. I hung my coat on the cross at the head of the grave and lit a match to read the name on it—Private Bolton, Black Watch, the number of his regiment and the date of the action in which he was killed.

Before the match died out I could see that there were more of these crosses and from inquiry I learned that some nine hundred Black Watch and Scots Greys were buried there. I was also told that the continual rains were gradually washing away the earth of the graves and thus exposing the dead.

My informant was a sniper and he and I talked war until a working party came up. It was going the same way I was and I decided to go along. We had to cross an open spot about fifty yards in width, and the Huns, who were on the side of a slope about a hundred yards away, knew it. Working parties and others going to the first line trenches also had to cross the exposed field. Every fifteen or twenty minutes the Germans sent up flares or star shells to light up the approach to the trenches. Whatever they saw was sure to be machine-gunned. Many a poor chap went down on that lonely and barren spot.

The locality was dismal in the extreme. On the few trees that were standing hardly a branch was left. The ground was mucky despite the efforts that had been made to regulate the rain water by means of sand bags. It seemed to me that in Flanders they have nothing but rain. It came drizzling down in a world that was all gray except when lighted up by the star shells of the Germans, which would throw a ghostly light on the surrounding country and then make it look all the more lonesome. I only wished that I were back in North America.

I did not like the idea of going over

the exposed field and decided to cross it by means of an old French trench I had noticed. But I had not gone very far in the trench when I found it was closed with sand bags to keep out the water that was coming from the other side, so that a part of the trench might be used as shelter against the German machine-gun fire.

There was nothing to do but to get out of that trench again, but before I did that I picked up some French cartridges which I wanted to keep as a souvenir. In doing that I discovered that dead men had been buried in the trench but had evidently been uncovered by the rain. There was nothing to do but go to the front line with the working party which was just starting across the exposed spot one at a time. The men would start as fast as legs could carry them. Spurred by the thought that the German machine guns might hit them they traveled some.

The Boche had learned, however, that the working party was on its way across, and as each man started to run the machine guns would speed him on his way.

The machine guns worked with a rapidity of six hundred shots a minute. The fourth man of the working party was half way across the open field when he pitched head first to the ground and lay still. The next man rushed to where the other had fallen, picked him up, swung him on his back, and then continued his running as fast as he could.

The star shells of the Germans came closer together now, and the machine guns fairly rattled at the two men.

We stood there with open mouths,

was carried past it; I landed head over heels in a telegrapher's dugout and knocked his stew and fire all over the shack.

I had deprived that man of his supper after he had risked his life to get some wood across the open space. He was drawing for his fuel supplies on a shell-blasted house about two hundred yards behind our line.

The man cursed me roundly, for which I do not blame him. He had been flirting with death to get enough wood for his supper and now I had spoiled it all. For two weeks he had lived on bully beef and hard tack.

I squared myself by giving him a pocket alcohol lamp which I always carried with me. That appeased his wrath, and he was kind enough to direct me to the first line trenches.

To get to the first line trenches I would have to take a certain communication trench, said the telegrapher. I started off through the deep mud, entered at the opening of the communication trench, but found that the ditch had been plugged up with sand bags to keep the water out.

It was the practice during the rainy weather to cut off sections of the communication trenches in order that they might remain passable. The rain water collected in the deeper lying parts, from which it was lifted by means of hand pumps.

To get out of the communication trench at the "plug" meant to run once more into the machine-gun fire of the Germans. But there was no help for that. So I went over the top and reached the next stretch of the communication trench on the double quick.

ed a little further away. But they were in the habit of using the ferce as cover. They would be fired upon promptly every time they reached the gap. The British were now sending up star shells so constantly that the countryside was lit up almost as well as if it had been day. The machine guns kept up a lively racket and presently they were joined by the rifles of the men in the trenches. The field artillery also took a hand in the affair and before long a very lively scrimmage was going on. They seemed to have plenty of ammunition just then. It was either that or the probability that somebody had mistaken the nature of the fight, which caused the howitzers and the heavier pieces also to be heard from. For over an hour the slam-banging continued and since there was no telling what the thing might develop into. I wished Brownie good-bye with a promise that I would see him again soon.

On my way back I fell from one mud hole into another and generally had a very good taste of what soldiering at night means. Walking in the mud was the hardest of work. It was a case of pulling your foot out of twelve inches of muck, sticking it in again and then repeating the operation. By the time I got to the dugout of the telegrapher I was dead tired. The thought occurred to me that I would ask the man to let me stay with him for the night, but I feared that he was still angry over the loss of his stew.

There was nothing to do but go on. I managed to cross the open field without being shot at and so got into the little woods. On the edge of the lake I fell into a smokebox hole. In my struggle to get out of it I exhausted myself so that I had to lie down in the mud and rest up a while. Then I waded through the lake, weighing a ton by this time, so it seemed. My clothing was wet, I was tired out, and the mud also added to my burden.

I was thankful when I got back on the main road where the mud was less sticky and not so deep. It was three o'clock in the morning before I got into camp, and at five o'clock I was on the road again with my convoy to fetch material for the Royal Engineers, to whom I was then attached.

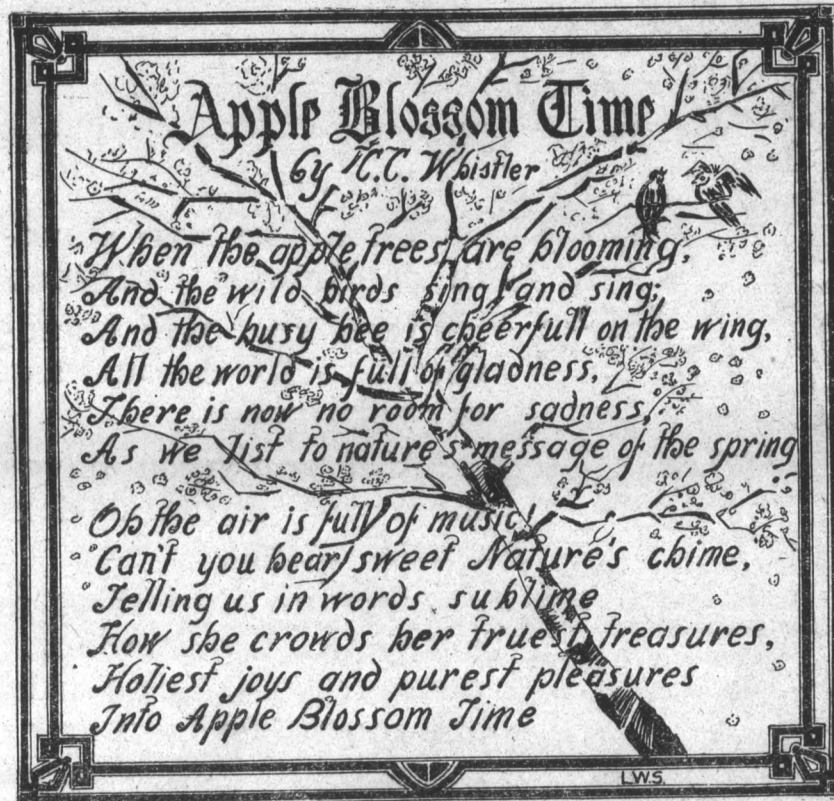
I had not had a chance to take off my clothing. When I looked myself over in daylight I saw that I was mud from head to foot and that there were six bullet holes in my raincoat. The bullets must have gone through the coat while I was running across the open ground with the coat standing out straight behind me owing to the speed I was making. The boys found my adventure of the night quite interesting, and I bet some of them two weeks' pay that I could outrun them under any circumstances.

CHAPTER V.

Running the Gauntlet.

OUR work at that time consisted principally of carrying barbed wire to the front through mud and slash of which there seemed no end. Northern France and Flanders seemed to be all mud in the winter—perhaps in summer, too.

A few nights later the section commander ordered me to make up a convoy of seven three-ton trucks and proceed to H—for twenty tons of coal. The drivers of the unit were men from all over the world. I had a Canadian, an American, an Australian, an Englishman, a Scotchman, a Swede, a Welshman, and a Frenchman. They were all men who had lived well in civilian life and the eternal stew of bully beef, and the hard tack, made for them a very monotonous bill of fare. The motor truck drivers anyway never lost a chance of getting better grub than the army ration, so at the railroad, where the French were unloading a merchandise train, some of my men looked around for something to eat. We found only six tons of coal, which we loaded on two of the lorries,



hoping that the man carrying the wounded would not get hit and in our hearts we cursed the Huns who were doing the shooting.

The man finally gained a trench on the other side of the open ground, much to our relief. At least one of the men was safe.

The race with death started anew. Other members of the working party rushed across the open space as fast as they could. One of them fell, but he rose again and continued his mad race for the trench opening beyond.

It got to be my turn. A rubber coat I was wearing hampered my movements and also reflected much of the light of the star shell which just then went up. I was nearly in the middle of the exposed field when Fritz started his machine gun and caused me to move faster than before. My speed was a surprise even to me, and, despite the fact that I was hampered by the weight of wet clothing, I approached the opening of the trench on the other side with such momentum that I

After a seemingly interminable wade through the mud, which formed the bottom of the trench, I finally got into the British first line to find that my pal was on picket. It would be an hour before I could see him.

That time I spent in the company commander's dugout watching through the periscope the star shells of the Germans. It was a splendid free fire works show.

Brownie showed up finally and appreciated both the cigarettes and the socks I had brought him.

I hadn't seen my friend in quite some time and there were many things we had to tell one another—in whispers, of course, because we were only a few yards away from the Hun trenches.

Of a sudden some machine guns began to pump lead. Peeping over the parapet of the trench we saw that the British had taken under fire an ammunition party of the Germans, which just then became visible through a gap in a stone fence. It seems that the Hun ammunition carriers had been observ-

and while the men were doing that I went to the base commander's office to find out about the rest. While I was away from the unit the idle men looked over the French army supplies, and soon found that they could use some of them. They helped themselves to a lot of canned goods. The prospects of getting a square meal were too tempting to be overlooked. The trouble was that the boys were not satisfied with little; instead of taking a few cans they took several cases, and when I came back a French officer had my men lined up and a couple of gendarmes were going through the lorries looking for the stolen goods.

I was not surprised for I knew my ever-hungry horde too well to think that they would overlook such a chance to get something to eat. But for the sake of appearances I asked some of the men if there was anything wrong. The French officer told me that they were being searched for stolen goods. That settled it, for I knew that they had been found out, otherwise the French officer would not have gone so far as he did. There was a fine chance for all of us being placed under arrest and courtmartialled. I thought the thing over quickly, went over to one of the lorries, pulled the gendarme out of it, and then shouted at the other. I asked them who had given them permission to search my lorries and was told that the French officer had ordered it. There was nothing else to do now but try issues with the officer. I went over to him and asked him by what authority he was searching British lorries without my consent or the consent of the British base commander. That was walking on thin ice, of course. The base commander was an Englishman and I was a colonial; I doubt very much if he would have given me protection. I asked the French officer for his name and address, and told him that I would report him to my commanding officer. That helped. My strategem succeeded, and rather than have more fuss the French officer thought it best to call off the gendarmes. And on returning to camp I was given an invitation to a canned chicken dinner by my men. Of course I knew where it came from.

I was coming down the road one night with a load of barbed wire and pickets when I noticed a man who had a flash lantern in his hand. I did not know what the man wanted and stopped the lorry. When I got down in the road I noticed that he was dressed in an officer's uniform and saluted him. He wanted to know where we were bound for. The officer wished to go in the same direction and asked me to take him along, which I did. When we had started again he told me that he was the commanding officer of a Canadian pioneer battalion. I had been under the impression that I knew the man, but had been unable to recall who he was. Finally, I thought I had him placed, but was still not altogether sure. At any rate I told him that I had seen him before; just then I remembered that the last time we had met it had cost me \$30. The officer looked at me in surprise as I mentioned this interesting fact, and I inquired whether he was not Magistrate Saunders of Calgary, Alberta. He said that he had filled such a position at one time and that his name was Saunders. Then I told him who I was and I reminded him how on a certain occasion he had not allowed me to say anything for myself but had just tacked on the \$30 fine for exceeding the speed limit with a motor car. We had a good laugh and parted the best of friends.

(Continued next week).

The first thing to do, if you haven't done it, is to fall in love with your work.—Rules by Which to Rise.

Waste and extravagance are Germany's silent allies.

"By the Way"

HE "LOVED TO STEAL."

At a service held in Bridgeport, Conn., a number of years ago, the minister gave out the old hymn beginning, "I love to steal awhile away."

The chorister, whose duty it was to set the tune for the congregation, began singing, "I love to steal—" but did not get the right tune; so he began again, "I love to steal—" Still the wrong tune. "I love to steal—" he repeated in desperation; but here the minister interfered.

"It is to be regretted, brother," he remarked, dryly. "Let us pray!"—Methodist Centenary Bulletin.



ODE TO THE BUCKWHEAT CAKE.

BY LULU G. PARKER.

Hi diddle, diddle,
The cake on the griddle,
With good maple syrup to boot,
We need not be saving
When victuals we're craving,
Since buckwheat is wheat substitute.

Then stir up a plenty
We'll eat ten or twenty,
While wheat goes over the sea;
Now while the pork gravy
Feeds army and navy,
Buckwheat and molasses for me.

THE REASON.

An old hen was picking at some stray carpet tacks in the yard.
"Now, what do you suppose that hen is eating those tacks for?" said Henry.
"Perhaps," responded his little sister, "she is going to lay a carpet."—Farm and Home.

THE PESSIMIST.

I met my pessimistic friend, Jonas Jempson, the other day, and wishing to put his pessimism to a test, I said, "Fine rain we had last night, Jonas, and much needed, too; it hasn't made the roads bad either."

"Not enough rain to do any good, and just enough to make the roads sticky," replied he.

"And by the paper, I learn that your wife's operation was successful, and she is convalescing nicely," I said dauntlessly.

"Yes, but the operation cost me as much as all last year's taxes, and then some," grumbled Jonas.

"But you don't mind that if she can only regain her health, which is one of the greatest blessings in the world," I persisted.

"It is, and it ain't," retorted he, "some folks is real peaceable like when they're sick, but health brings back all their natural perversities."

TRY IT AGAIN.

Johnny, standing on a corner one morning, was accosted by a stranger. "Good morning, Johnny? Can you tell me the way to the post office?" "How did you know my name?" asked Johnny.

"Guessed it," replied the stranger. "Well, guess the way to the post office, then," said Johnny.

This spring the real young American's fancy ought to turn to something else.

The profiteer is a man who is more interested in getting his bite than in giving his bit.



You May Stay at Home — But You Can Help Win the War

YOU—"The Man with the Plow"—may look far afield, your thoughts may [be of the boys in the trenches, you may even feel a strange tugging at the elbow, but your task now is to plow and plant and produce. Your fight is in the "supporting line." And from that line must come the strength of the

AMERICAN RED CROSS

—The great organization of mercy, whose activities know no bound in territory, no limit in service

The atrocities of our enemies have made war's suffering doubly great, but that suffering is being relieved by the Red Cross. In Belgium, in France, in Serbia, in Armenia—wherever war has spread its misery, the Red Cross is at work, nursing the

sick and wounded, feeding and clothing the destitute, rebuilding devastated lands—even preparing crippled soldiers for new lives of greatest usefulness and independence. And for this great work your money is needed.

Your Red Cross is an All American, largely volunteer, organization, authorized by Congress, headed by President Wilson, audited by the War Department, enthusiastically approved by your Army, your Navy and your Allies.

The work covers both military and civilian relief in every war-torn Allied country and full reports of all expenditures are continually being published, or are available through the Chapters.

Every cent of every dollar received for the Red Cross War Fund is spent for war relief. All administration costs and relief work for other than war purposes (such as the Halifax and Guatemala disasters) are taken care of out of membership dues, and the interest which accrues from the banking of the War Fund has made actually available for war relief at least one dollar and two cents for every dollar contributed.

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FOR Sale: Late Petoskey Seed Potatoes free from scab. Blight proof: 80c per bu. Sacks free, 10 or more bu. 75c. GEO. BILLS, Hale, Mich.

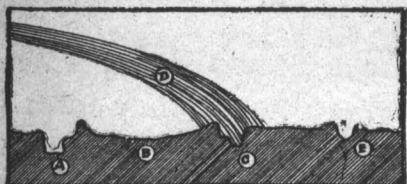
EARLY White Pea Beans, 1 bu. \$8.50; 4 bu. \$3.10 per bu.; 8 bu. \$7.90 per bu. Hand picked, sacks free. Change your seed. Frank Bartlett, Dryden, Mich.

Creeping Barrage or Curtain of Fire

By GAYNE T. K. NORTON

THE barrage, or barrage artillery fire, has been one of the most significant developments of the war; largely because of it Secretary of War Baker has said: "Fourteen out of fifteen soldiers will come back,"—a statement based on facts, and probably the most comforting and cheering statement ever issued by a war department of any government.

Barrage fire, while often spoken of in news stories is not generally understood and is of particular interest to Americans. It will not only be the means for saving thousands of American lives, but was successfully used by American artillerymen for the first time a few weeks ago, when they sup-



ported French troops in the action of Tahure, the first action in which soldiers of France and this country acted jointly.

Barrage, or curtain fire as the British call it, was unknown a few years ago, and impossible. It signifies the confinement of shell fire to a narrow strip of determined length of enemy territory and exploding shells in that territory so continuously that no living thing can pass through, or continue to exist on, that territory. Such a tactic was impossible before the invention of the quick-firing field gun—the whizz-bang. The rate of fire of the old field guns was not sufficiently rapid to operate a barrage, even though a great number of the pieces were concentrat-

ed; and these guns did not absorb their own shock, relaying and repointing was necessary after each shot because the shock drove the tail into the ground, shifting the carriage. But the piece in use today, which absorbs its recoil without in the least changing its position or aim, can be fired almost as rapidly as it can be reloaded, being subject only to the heating of the breech to a point where there is danger of a premature discharge. It is said that the quick-firing guns in use now fire up to thirty shots a minute.

The speed and accuracy with which shells could be fired from these guns made the barrage possible. The French artillery developed the gun and needless to say, all the warring nations were quick to make use of the new tactic.

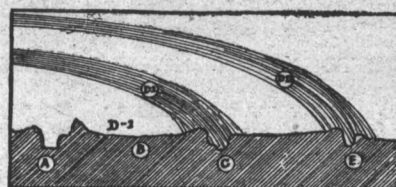
When first used the barrage only covered the advance of infantry; the fire was rigid, laid down and taken off along the entire front attacked, at a single order. The idea was new and the commanding officers were not sure how advancing troops would take shell fire coming over and near their heads from behind, and exploding so near in front of them. In the beginning the barrage, or line of exploding shells, was always at least three hundred feet in front of the troops.

As time passed practice and theory have greatly refined and improved the barrage. Signaling has improved and with airplane photographs of enemy positions and increased accuracy and quality of shells the curtain has been shortened until troops advance within twenty-five yards of the exploding shells.

The barrage, which has been preceded by big gun fire, keeps the enemy in his dugouts and gives no chance remaining machine guns opportunity to open up on advancing troops. The nearer attacking troops can approach

before it is lifted the less chance has the enemy of putting up a strong fight. When the barrage is lifted the troops have but a short distance to run—less than from base to base on a standard base ball diamond.

But the development of the barrage did not stop here. The creeping barrage, a British improvement, came next. Trenches are never exactly parallel, and usually there is considerable difference in alignment between opposing front lines. The gunners are supplied with photographs, possibly with a large scale map, of these front lines and detailed instructions. At the proper time they lay down a barrage in no-man's-land which conforms to the contour of their front line trench, gradually this creeps forward and conforms to the front line enemy trench. The great advantage of the creeping barrage is that it gives maximum protec-



How U. S. Gunners "Laid Down" their First Barrage.

The barrage (D) in general use today is "laid down" first at (D-1) and creeps forward (D-2) conforming to the curves of the front line enemy trench (C) which is attacked. At the same time a second barrage (D-D) is laid down by long range guns to prevent reinforcements from the second line (E) aiding the first line defenders. As the barrage moves forward the troops "go over the top" (A) and cross No-Man's-Land (B) under it, often within twenty-five yards of the exploding shells.

tion to advancing troops and allows them, regardless of the curves of the trench attacked to approach equally near to it before the barrage is lifted.

The creeping barrage requires an

even higher degree of skill on the part of the gunners, for each gun acts independently, has a separate task to perform, than did the rigid barrage; it was developed very rapidly and has reached an exceedingly high degree of accuracy. The creeping barrage is in general use today and the number of shells that go wild is remarkably low. Such confidence have the troops in their gunners that there is much danger from their approaching their own gunfire as there is from their being wounded by enemy fire.

The last measure which has been taken to increase the efficiency of this tactic is the adding to the first of a second barrage. The objective of this second barrage is the communication and second line enemy trench system and any strong points that may be within range. The theory is that it will prevent re-enforcements from aiding the defenders of the first line.

As soon as the creeping barrage is lifted from the front line enemy trench it is added to the second barrage. In this way counter artillery fire or attacks are prevented, giving the attacking infantry time to overcome the confusion of the run across no-man's land, send back prisoners and consolidate the newly won positions.

If the "push" is big, calculated to capture the second as well as the first line trenches, then the tactic is repeated; the big guns pound both lines and the double barrage covers the advance.

This first is a signal victory for American gunners and attests to their skill; not one order or signal was misunderstood, and the lines of exploding shells were advanced at just the proper speed. This single action, of small value in objectives gained, is highly important in the encouragement it has given our allies and the confidence it has given our soldiers. Great enthusiasm was expressed by the commanding officers when the completeness of the success of the action was known.

The Friendly Scorpion

By G. W. TUTTLE

In the early California days the aggressive scorpions were very plentiful in some localities. When Long Beach, Cal., was in its infancy some friends of mine were enjoying—or trying to enjoy—an outing at the embryo city.

Scorpions seemed determined to make their tent a rendezvous for the entire scorpion tribe. One morning a member of the party—a very stout lady—found a dead scorpion in her bed. She had rolled upon it in the night and the poor, discouraged scorpion had given up the ghost. Henry, the wag of the party, and the only male member as well, calmly asserted that no other result could have been expected.

But Henry's inning was at hand—his scorpion Waterloo, possible I should say. Up to this time five or six scorpions had been killed either in the tent or in its immediate proximity. Now came the climax; the friendly scorpion who preempted Henry's best pair of trousers.

Henry dressed, as usual, one morning, then went into the part of the tent occupied by the ladies. Suddenly his cousin Lucy shrieked, "O, Henry, a scorpion's tail is hanging out of your hip pocket."

Henry stood as if paralyzed with fright. He may have remembered the old adage, "When in doubt, do nothing;" or, not having eyes behind and before, he may have feared to make the slightest move lest the scorpion use the threatening sting that waved to and fro as if to say, "Touch me if you dare."

Lucy—Henry's cousin—was frantic. Terrible yarns had been spun to her of the danger from a scorpion's sting. Suddenly she had an inspiration, and seizing the scissors she caught the scorpion by the tail and pulled him out.

Soon Henry recovered his composure and his wit. "Lucy," said he, "you remember what that old timer said, that in case of being stung by a scorpion it was always necessary to amputate the part that was stung. Think of amputating me in the middle."

BIRDS ARE DEFENDERS OF GARDENS.



Birds appeal strongly to the interests and affections of mankind. Not only do they charm by their graceful forms, harmonious colors, sprightly actions, and usually pleasing notes, but they have an even more important claim upon our esteem because of their great economic value.

Birds feed upon practically all insect pests. They are voracious, able to move freely from place to place, and exert a steady influence in keeping

down the swelling tide of insect life.

For economic as well as for esthetic reasons, therefore, an effort should be made to attract and protect birds and to increase their numbers. Where proper measures of this kind have been taken an increase of several fold in the bird population has resulted, with decreased losses from depredations of injurious insects.

As defenders of gardens from the assaults of insect pests, birds are being given a hearty endorsement by the Department of horticulture of M. A. C.

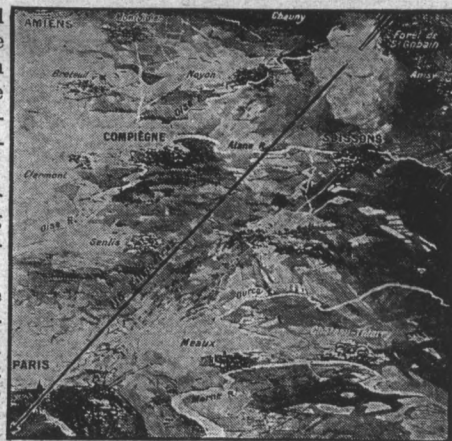
"Attract birds to your garden," the department is suggesting to prospective tillers of the soil, "for you will find them not only cheerful friends but very useful as well in protecting your crops from insects. Bluebirds, wrens, phoebes, cat-birds and many others common to Michigan can easily be coaxed to make your garden their summer home if you will supply them with food and put up a few bird houses in which they can build their nests. A bird bath or a drinking fountain is also a convenience highly prized by our more discriminating feathered allies. If the garden is partly surrounded by berry-bearing shrubs, so much the better."

A SPRING SOLILOQUY.

BY LULU G. PARKER.

The first robin stood 'neath a sheltering pine
While wintry shivers played tag down his spine,
The wind roughed his feathers, the cold nipped his feet
He had searched all in vain for a morsel to eat.
He said to himself, with a tear in his eye,
"The early worm stayed south, and why didn't I?"

RANGE OF THE GREAT GUN THAT IS SHELLING PARIS.



Copyright by Underwood & Underwood

The interesting map that is reproduced here shows the country that is traversed by shells from the big German gun, in the forest of St. Gobain, in its daily bombardment of the city of Paris. It is shown by the map that the actual distance is 116 kilometers, or 71.92 miles. It will be observed that the flight is in a southwesterly direction, and the range will require an elevation that will take the projectile eighteen or more miles high at the crest of its trajectory. American and Allied ordnance experts have not determined the exact character of this gun, and there are many interesting speculations as to its plan and construction.

The Paris reports say that the shell is 9.5 inches in diameter, and that it costs about \$7,000 to fire each shot. One shot from this gun killed five American women who were worshipping in a Paris church on Good Friday.

Only Legless Farmer in U. S.

(Continued from page 621).

Mr. Briggs is a dairy farmer and progressive in his methods. He is a silo enthusiast and built one several years ago. He even helped on the job and one picture shows him climbing the ladder about as fast as any boy. He was anxious to have a picture taken of his favorite cow, so he held her head and ordered her to look pleasant for the occasion.

We took the picture of this legless farmer dismounting from his manure spreader to open a heavy farm gate. He is a strong and healthy man and



Climbing into his automobile in front of his fine farm residence.

his arms are as stout as those of a rawny blacksmith. The grip of his hands is like a vise and he can throw his body into almost any position he desires. Just notice in the picture how he is dismounting from the spreader seat. With his left hand on the seat end dropped his right hand to the spreader foot board. In a second he swung his body down to foot board.

Then he placed his left hand on the corner of the manure box and dropped his right hand to the wheel tire. It was at this instant that our camera went off and got him. His next move was to swing his body down on top of the tire. He quickly turned and placed one hand on the tire and the other instantly dropped to the wheel hub. With the same continuous motion he swung his body to the ground. In fact, he "climbed" down from that manure spreader seat faster than some able-bodied two-legged men we have seen on such a job and who were apparently working by the hour under union regulations.

This legless farmer has a world-wide reputation. Several years ago we took a number of pictures of him at work on his farm and sent them to several periodicals with a story about him. This illustrated story appeared even in London, Paris, Cape Town, South Africa and elsewhere. Letters have been received by the writer from a number of distant points around the world, and it has been practically proven there is not another legless farmer anywhere to be compared with him.

Yesterday we drove out to the farm again to take pictures showing how he hitches up and drives his automobile. He was in the bedroom of his fine farm residence shaving and changing his clothes.

"Did you help him get his car started and out of his garage?" the reader may inquire.

Not a bit of it. Mr. Briggs left the house, walked to his new combined tool house and garage, and before we knew it he had started the motor and packed the car out into the yard and on to the lawn in the position we pointed out.

One picture shows the front section of the fine farm residence, the stone work of the porches, the automobile and Mr. Briggs stepping into the pilot's seat. Mrs. Briggs sits on the seat. Two pictures, taken close up, show

better than a mere description how this famous legless farmer solved the problem of conquering an automobile. One view shows the left foot lever bolted to an attachment that runs up to the front edge of the seat cushion. This attachment has a flat crossbar for Mr. Briggs' left leg stump to push against. A section of the front of the cushion is cut away for more convenient operation of the left lever, which operates the clutch. The right lever is connected rigidly to an extension and handle by means of which the brake is worked by the right hand. The steering wheel throttle is used in place of the foot accelerator when driving. Mr. Briggs has driven this car for a long time and never had any accident whatever. He is an expert mechanic and a careful driver, and keeps his fine car in good condition all the time.

"What do you do when you are out on the road alone and your electric starter fails to work?" we inquired.

"It very seldom fails, but if it does, I get out and crank it," he replied. And then he showed us the trick while we took a snap shot. Instead of lifting up on the crank handle, as has been the custom, he pushes over the top with his left hand while he hangs on to the frame with his right hand. With a fully retarded spark there is no danger of a kick from the motor.

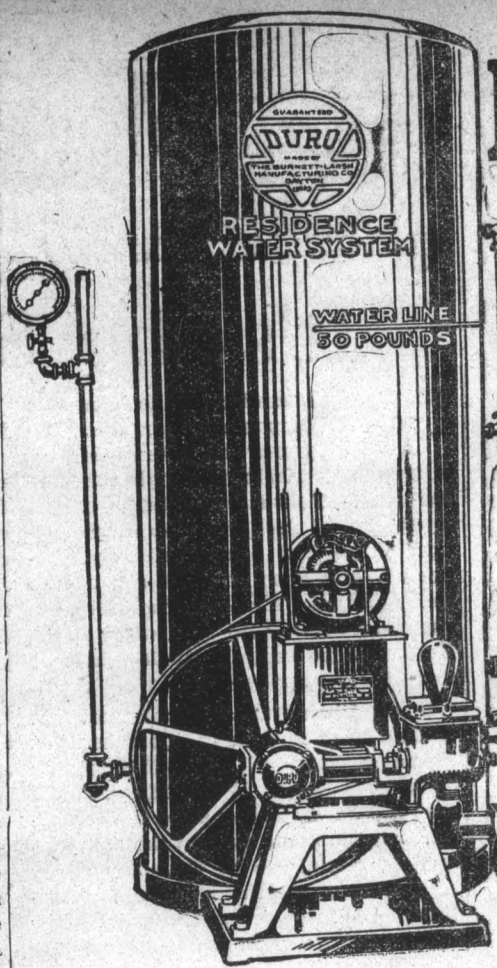
Thousands of people visiting Battle Creek have inquired about the famous legless farmer of Michigan, and many skeptics have driven out to the farm to see for themselves whether the story, spread all over the country, was true. They found it even so, and then some.



Tightening the hoops on the silo is a task none too difficult for this plucky man.

SPADE AND HOE TO BEFRIEND THE RIFLE AND BAYONET.

War is making bare the world's cupboards; the granaries are being emptied, the flock thinned, the herds butchered, the mines scraped. War is making everything dear except human life; the destructive monster is consuming more food essentials than it is producing. Food production is as essential to victory as food saving. The spade and the hoe must befriend the rifle and the bayonet.



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The Kerosene Equipment, a simple mechanical device, makes cheap kerosene (Coal Oil) the most satisfactory and economical fuel for Ford cars. Every Ford owner has been waiting for it. It means freedom from high-priced gasoline. Drive your car twice as many miles and buy your fuel for less than half. Think of the saving! The Kerosene Equipment is the only genuine carburetor of its kind on the market. It is the result of patient, painstaking experiment. But it's ready for you now—the greatest money-saving invention of the motor world! Fuel that costs half as much, carries you twice as far.

Improves Engine Operation

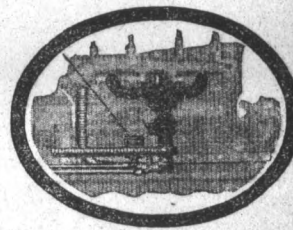
Besides its tremendous saving in fuel cost, the Kerosene Equipment actually improves the operation of your engine—consumes the carbon; avoids carbon deposits; throttles down smoothly; idles without loading; reduces speed changing.

You are paying out the full purchase price of the Kerosene Equipment every few months and are enjoying none of its benefits. Stop the waste of money! You owe it to yourself. Keep half your fuel money in your pocket. Double your present mileage with every gallon. Order an equipment immediately at the present price. Our guarantee gives full protection. Our Company has ample capitalization to back every claim. Get the Equipment. You can install it yourself in 30 minutes. Then prove it out. It must satisfy you. Or your money is returned without question.

Free Descriptive Circular for the Asking.

Some Sales territory still open.

Kerosene Equipment Co., 381 Kresge Bldg., Detroit



Buy Now

Order direct from this advertisement. Enclose purchase price \$25 for complete equipment on 30 days Trial

If you find it doesn't do all that you expect—if you think it isn't an immense money saver—return it within a month from date shipped, and get your money back. No risk. Send order today on

**Absolute
Guarantee**

AJAX FENCE

Put Up Fence That Lasts

You want your fence to be strong, to stretch evenly and look neat, to last for years. It must be close meshed for all animals—smoothly made, so as not to injure them. Just such a fence is Ajax.

Write for Fence Bulletin No. 8110 and Free Samples

Gives you our latest low prices—shows quality of wire. Act quickly; avoid the growing shortage of fencing.

Montgomery Ward & Co. Dept. 0-110 Chicago

21¢ A ROD UP

Write for Greatest money saving fence bargain book ever printed. Brown fence is made of Heavy DOUBLE GALVANIZED Wire. Resists rust longest. Also Gates and Barb Wire. Low Factory Prices. Freight Prepaid. Write for free fence book and sample to test.

THE BROWN FENCE & WIRE CO.

Dept. 49 - Cleveland, Ohio

LIME

Pulverized lime rock for "sour" soils. WE SELL YOU DIRECT. Shipment from our Muskegon, Mich. yard. Write for sample literature, analysis and price.

LAKE SHORE STONE COMPANY,

P. O. Box 175, Milwaukee, Wis.

Mention the Michigan Farmer when writing Advertisers

It is real economy
to use good tea.
Low-priced tea is
generally old & dusty
and has no flavour.
By insisting upon the
genuine

"SALADA"
TEA

you can always be
sure of rich, clean
flavoury tea that is
most economical in
use since it yields far
better in the tea-pot.

Your grocer sells it.

Black, Mixed, Green

B 369

Be Proud of Your Roof

Radio Roofing, with colored-slate surface, will make your buildings look well and last long.

RADIO SLATE SURFACE ROOFING COSTS LITTLE
It's Guaranteed 15 Years. Costs less to buy and less to lay than wood shingles. And looks much better. You can easily lay it yourself; nails, directions and cement for laps included.

Write for Roofing Bulletin No. 9110 and FREE Samples

Shows our low prices on popular styles of Prepared Roofings. The samples will demonstrate the quality—backed by our guarantee.



Montgomery Ward & Co. Dept. K-110
Chicago Kansas City Ft. Worth Portland, Ore.

Start a CANNING Business at Home

Help win the war. Produce, conserve and sell more food. Can fruits and vegetables with a

ROYAL
STEAM PROCESS
CANNER

pays for itself every day. Prices to fit the purse. Sizes to suit the needs of Family, Gardener, Orchardist, Farmer.

Write for illustrated folder.
ROYAL SUPPLY COMPANY
226 West Fourth St.
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30 DAYS FREE TRIAL

and freight prepaid on a new 1918 "RANGER" bicycle. Write at once for our big catalog and special offers. Take your choice from 44 styles, colors and sizes in the famous "RANGER" line. Marvelous improvements. Extraordinary values in our 1918 price offers. You cannot afford to buy without getting our latest proposition. Factory-Direct-to-Rider prices and terms. Boys, be a "Rider Agent" and make big money taking orders for bicycles and supplies. Get our liberal terms on a sample to introduce the new "RANGER". TIRES, equipment, sundries and everything in the bicycle line at half usual prices. Write Today.
MEAD Cycle Company Dept. W-77 Chicago

Homes and Farms in the "Sunny South". Nature has blessed this section with mild, healthful climate. Farm land in Va., W. Va. and N. C. at \$15 per acre and up. Fruit, truck, poultry and general farming in successful here. Write for information.
F. H. LA BAUME, Ag. and Ind. Agt.
N.W. Ky., 221 Ky. Bldg., Boone, Va.



Woman and Her Needs

At Home and Elsewhere

It's the Slackers Who Whine

IN a recent number of the Woman's Home Companion, Margaret DeLand discusses the absence of fear in travelers passing through the danger zone. This she attributes to the psychological fact that "no single human mind can experience two emotions at the same time; it can not be both angry and afraid." Therefore, the voyagers, being filled with anger at the Hun have no room in their minds to fear the submarine.

It is probably the psychological fact that no two emotions can possess us at the same time, but I doubt if the ruling emotion is anger. It is hardly possible that the boys going over to the trenches, the girls going over to the canteens and hospitals, are so intensely angry they are unconscious of any other emotion. It is more probable that the consciousness of doing something, the knowledge that they are actively engaged in whipping the Hun, the intense interest in their work so fills their mind that every other emotion is crowded out, even anger, as well as fear.

It works out that way on this side. Haven't you noticed that the folks who are hard at work to help win the war are contented and at peace? You all know that woman who, a year ago was a bundle of nerves and worry. Her one mission in life seemed to be to fret and stew and worry over everything. She was always filled with apprehension and thinking up things which might happen to her family. Her boy was drafted and you said right away:

"Well, Mary will just naturally lie down and die. This will certainly kill her. She's worried about nothing all her life and now that something really has happened it will be the end of her."

But did Mary die? Not a bit of it. She got better right away. You went over to see her and sympathize with her and to try to reason her into seeing the justice of the war and the opportunity for her to help democracy, and what did you find?

You found Mary, if she was at home, busily knitting her boy a sweater, and she told you with a smile, although it might be a bit quavery, how proud she was of him and how fine he looked when he marched away, ever so much trimmer and handsomer than any of the other lads, and what a glorious thing it was to have a son so brave. More likely you didn't find her at home at all. She was down at the Red Cross sewing away on pajamas and robes or folding gauze or giving knitting lessons. And her face wore a calm, contented look, for the first time since her babyhood.

Her mind is filled at last with real things, and as it can not experience two emotions at once, of course the trifles which once occupied it are wiped out. Life is at last something more to her than a round of meals and dishwashing and keeping things "picked up." It is something big and noble, a gift to be prized highly and experienced, not simply moaned through.

And the faultfinders who are still with us. Have you ever gone into their lives? If you have, you've found out they are the ones who are not helping. You'll find, if you investigate, that beyond spending a dollar to join the Red Cross and giving another to the Y. M.

C. A., they haven't done a thing since April 6, but complain because we are mixed up in Europe's quarrels and grumble at the rye and barley bread and the high prices. They may have bought one bond, but if they have it was only one, and that of the smallest denomination. They have no part in the war, they are doing nothing, and that is why they are grumbling at the hardships they've had to endure.

We don't find fault with a work we are interested in. No sacrifice is too great to make to insure its ultimate

success. We count "these light afflictions as but for a moment, for they work for us a far more exceeding and eternal weight of glory."

You'll find it isn't the folks who are "giving until it hurts" that are wailing at the hard times and the substitutes. It's the shirkers and slackers, the ones who will neither fight nor give nor go without, that are complaining. If they would get into the game and help fight their mind would have no room for carping.

DEBORAH.

War vs. Incompetent Mothers

By MARY M. ALLEN

WE have learned many lessons from the war. We are learning to deprive ourselves of the foods we used to relish; we have learned to wear cotton and wool clothing in place of the all wool. The importance of self-denial has been drilled into us until we are beginning to see its necessity at last.

One great lesson to American mothers is brought before us in a magazine article entitled, "The Cradle More Fatal than the Trench." This article states that in three years the loss to Great Britain in men killed outright and afterwards dying of wounds has been seven per cent of the number engaged. This is an average of two and one-third per cent loss yearly. These figures are corroborated by the English life insurance companies.

Now, according to statistics gathered by the Chicago infant department covering the United States for a period of eight years, one out of every seven children born in this country dies the first year, or fourteen and two-sevenths per cent die before they are a year old. According to carefully compiled statistics collected by the Child's Welfare Department of ten leading cities, fifty per cent of these deaths were preventable and thirty per cent, or four deaths per hundred, were due to ignorant, incompetent mothers. Then mothers say, "War is the most terrible thing we have to contend with."

We can understand how a busy mother doing her own work for a family of small children, might not know who Hoover, or Garfield, or Prudden, or Pershing, or Joffre, or Lloyd-George are. We can appreciate the fact that history is being made too rapidly these days for her to keep up. We know, by experience, what it means to sew, cook, bake, wash, mend and care for a family; but we can't conceive of any reason why a mother can remain so grossly ignorant of the needs of her own infant as some women do now with the present means of enlightenment at her disposal.

Under my own personal observation has come a case of faulty nutrition that was the result of gross neglect. A handsome, bright boy, born in a good community of typical American farmers, was fed solid foods at three months; ate everything at the table when a year old. Irritation of the intestinal tract brought on a serious disturbance of a high-strung nervous system, resulting in severe convulsions. The child is now a mental defective, maimed for life by the bullet of ignorance—just as fatal as German machine guns.

A child of my own up to the time it

was two years old could not digest whole milk. This condition made it necessary to feed her twice during the night. One woman remarked to me: "I would never keep that baby's milk in the ice box and get up twice and warm it for her. I would warm it all at bedtime, put it in a thermos bottle, set the bottle on a chair by the bed and feed her without getting up. When you have raised three and lost four like I have, you won't be so silly."

That woman's children probably died of ptomaine poisoning which developed in the milk she kept warm so long for them.

A few years ago some deluded mortals tried to talk that a college education prevented women from marrying, made them so independent they had no desire for a home, and that when they did marry there were fewer children in their homes than in the homes of women who had not enjoyed similar educational advantages. Statistics show that the death rate among children of college women is lower than in any other class.

We have been teaching hygiene and food principles in Michigan schools more than twenty years. We have long had a compulsory school law. Mothers now have no excuse for such utter disregard of the knowledge they have acquired or of the orders of a physician.

Women are now demanding the right of suffrage. If they are too ignorant to comprehend the principles of feeding and caring for a child of their own under the guidance of a physician how do they expect to acquire a knowledge of the initiative, the referendum, the primary, the short ballot, the Australian ballot, direct taxes and a thousand other technicalities necessary to intelligent voting? If they can't attend to the wants of a little child when directed by a physician, how can they go and vote, even when told by someone how and when?

Some time in the future when we regard a little child as highly as we do a thorough-bred cow, we who disregard the cries of the infant, will have a specially trained person come to direct us in the care of the child. She will be sent by the state at the request of our physician. She will be designated as the visiting nurse. We will then be classed where we belong—among the incompetents.

Milk is the best single food for the proper development of growing children. Expert dieticians urge its liberal use; a quart of milk a day for each child is a good rule to remember.

Food

MORE POTATOES—LESS WHEAT.

The Food Administration sends out the following:

"Our comrades across the sea need wheat. They need every bit we have in this country. What would Germany do under these circumstances? If the Hohenzollern family demanded wheat for the preservation of autocracy the German people would be compelled to send the last grain, and they would be compelled in the name of autocracy to eat potatoes. We can improve on that. Of our own free will we can send wheat for liberty, out of love we can eat potatoes for democracy.

"Substitute now cheerfully, for the time is not far distant when you must sacrifice whether you will or no. Therefore, take the training."

NEW FLOURS IN OLD RECIPES.

Many housekeepers have experimented with the substitute cereals and know just how to use them in muffins and other breads. Weight for weight these flours and brans absorb the same amount of moisture and require the same measure of baking powder to raise them, as wheat flour. You can use the new flours in old recipes if you substitute equal weights for the wheat flour called for. A cup of wheat flour sifted and measured lightly weighs four ounces; the equivalent of four ounces of substitutes expressed in cups.

Weight Equivalents.

One cup (four ounces) of wheat flour equals:

- One and one-third cups barley flour.
- One cup corn flour.
- One cup fine corn meal.
- Four-fifths cup coarse corn meal.
- Four-fifths cup of buckwheat.
- Four-fifths cup of rice flour.
- Four-fifths cup hominy grits.
- Two-thirds cup rolled oats (ground).

The above equivalents represent an average on these flours, but different mills turn out different grades of flour and weight is the safest guide. If you have no scales sift flour and measure lightly in a measuring cup.

FOUR BAKING POWDER BREADS.

These baking powder breads made with substitutes may be made into toast and sandwiches. To prepare the "ground oats" mentioned, run rolled oats through your food chopper.

Corn Flour and Oat Bread.

- Three-fourths cup milk or water.
- Four tablespoons fat.
- Four tablespoons syrup.
- Two eggs.
- Six teaspoons of baking powder.
- One teaspoon salt.
- One and one-third cups corn flour.
- One cup ground oats.

Mix melted fat, liquid, syrup and eggs and combine with well mixed dry ingredients. Bake as a loaf in a moderately hot oven until thoroughly done, usually one hour. Nuts, raisins or dates may be added if desired.

Rice and Barley Bread.

Same as above, using one cup rice flour and two cups barley flour instead of corn and oats.

Corn Flour and Buckwheat Bread.

Same as above, using one and one-third cups corn flour and one cup of buckwheat.

Barley and Oat Bread.

Same as above, using two cups barley flour and one cup ground rolled oats.

HOME QUERIES.

Household Editor.—Can you, or any of the readers of the Michigan Farmer, give me the pattern of the quilt called "Star and Crown"?—Mrs. M. L. S.

SYSTEM AS A HOUSEKEEPING AID.

For many years before becoming a farmer's wife, I was one of fifty teachers in a large school whose head teacher was a woman of remarkable executive ability. Methodical, orderly, statistical, she demanded that each teacher provide for her use and guidance a general outline of work for the term, a general program of work for each week, and a detailed program of the work for each day. These daily schedules must be elastic to allow of seizing unforeseen opportunities or for unexpected occurrences.

My first few weeks at housekeeping were a horrible tangle till I bethought me to apply to my housework the same method of preparing a program, so to speak, of the proposed or necessary activities of the day, and it has meant untold comfort, pleasure, and ease in the accomplishment of the day's duties. It requires thought, planning and judgment to make things dovetail to best advantage, and like the school program, it must have sufficient elasticity to admit of being altered more or less as occasion demands. An interruption, a fire slower than we had expected, a telephone visit may disarrange our well laid plans, but some way, if we have it written down in tabulated form it is a little easier than if we are anxiously thinking, "what was it I was planning to do next?" or to have to say, "Dear me, I intended to do so and so but I forgot."

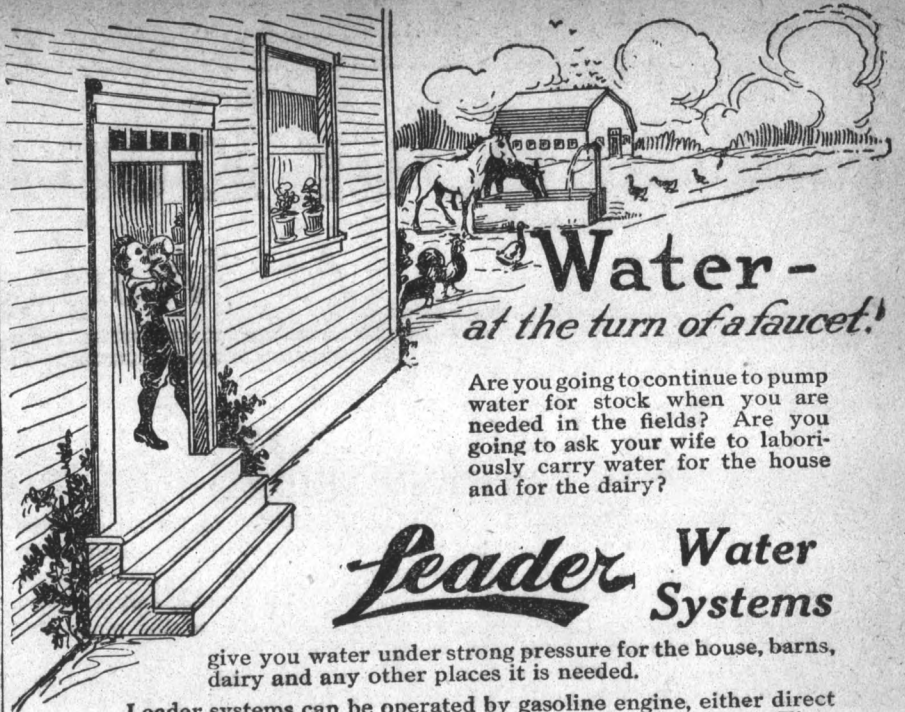
I find a school slate hung on the wall with pencil hung beside it the easiest place on which to jot my daily program. Of course, the general plan of routine duties changes little from day to day, but I have found it well to have it "put down in writing," especially for the guidance of hired help somewhat as follows: After breakfast: 1, clear table; 2, put sitting-room in order; 3, do chamber work; 4, wash dishes; 5, prepare vegetables, etc.

The daily program must be more specific, indicating what must be done while something else is doing, for it is this fitting of duties into their proper niches which lightens and shortens labor and makes the difference between efficiency and slovenliness.—Grace C. Stutsman.

WAR WORK COUNCIL BUILDS HOSTESS HOUSE.

Along with the work being done for our boys by the Y. M. C. A. goes the work being done by the War Work Council of the National Board of the Y. W. C. A., which is shortly to ask us for help. And perhaps the most important part of the work of the War Council is the establishment of hostess houses at the cantonments where the women who go can find a spot to await the arrival of husband, son or sweetheart and to visit with him in quiet and comfort. Ten of these houses have already been built and twenty-five more are in process of construction. The council aims to build one hundred such places. Every woman who has gone to a cantonment and experienced the difficulty of finding a building to take care of her will realize the importance of the work.

In addition to this the war council is looking after the foreign speaking women whose men are in camp and who have no knowledge of our business ways. They are taking care of the girls who are at the cantonments as typists, telephone and telegraph operators, etc., and, besides, are sending trained workers to France and Russia to help out in Y. W. C. A. work there. Of the girls who have gone abroad, two are from Michigan, Miss Elizabeth Boies, of Hudson, and Miss Henrietta Roelofs, of Grand Rapids. A million dollars have been appropriated to the needs of France and Russia.



Water - at the turn of a faucet!

Are you going to continue to pump water for stock when you are needed in the fields? Are you going to ask your wife to laboriously carry water for the house and for the dairy?

Leader Water Systems

give you water under strong pressure for the house, barns, dairy and any other places it is needed.

Leader systems can be operated by gasoline engine, either direct connected or belted, by electric motor or by hand power. They can be furnished either with open tank to be installed in the attic, or with pressure tank for the basement. Many styles, many sizes, many prices—we can supply just the style and size you need at just the price you can afford to pay.

Light - at the twitch of a switch!

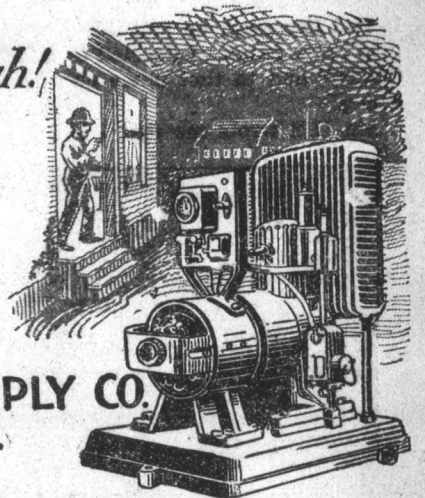
No more lighted matches, or carrying dangerous lanterns in the barn—no more smelly, smoky kerosene lamps for the house. Clean, bright electric light from our Farm Lighting Systems can be yours at a very low cost. Either direct connected or belted outfits furnished.

Write for details and prices

KERR

MACHINERY & SUPPLY CO.

E. Fort & Beaubien Sts.
Detroit, Mich.



160 ACRE FARMS IN WESTERN CANADA FREE

Get under the Shower of Gold

coming to farmers from the rich wheat fields of Western Canada. Where you can buy good farm land at \$15. to \$30. per acre and raise from 20 to 45 bushels of \$2. wheat to the acre it's easy to make money. Canada offers in her provinces of Manitoba, Saskatchewan and Alberta

160 Acre Homesteads Free to Settlers

and other land at very low prices. Thousands of farmers from the U.S. or their sons are yearly taking advantage of this great opportunity. Wonderful yields also of Oats, Barley and Flax.

Mixed Farming is fully as profitable an industry as grain raising. Good schools, markets convenient, climate excellent. Write for literature and particulars as to reduced railway rates to Supt. Immigration, Ottawa, Canada, or to

M. V. McINNES,
178 Jefferson Ave., Detroit, Mich.
Canadian Government Agent.

MANVEL SELF GOVERNING WIND MILL

For safety, sure operation, smooth-running and long life the MANVEL direct-stroke mill has no equal. Scores erected 25 to 40 years ago are still giving perfect service. Many have cost hardly a dollar for repairs in 20 or 25 years of service.

Has ball-bearing turntable; always stands squarely into the wind. Self-governing—will not run faster in a 40-mile gale than in a 12-mile wind. Spider pressed onto the main shaft—perfect oiling system—all working parts enclosed. Galvanized channel steel rim is used for holding sails—no bolts, rivets or pins used. Sails are driven into the channel frame, making a wheel that is stiff and strong, yet light in weight. Made in 10 and 12 ft. sizes. We also make Kalamazoo back-gear mill (8 ft.) with either galvanized steel or wood wheel.

WRITE TODAY for wind mill circular and money-saving price list of galvanized and wood tanks for farm use.
KALAMAZOO TANK & SILO CO., Dept. 323 Kalamazoo, Mich.
Mfrs. of the famous Kalamazoo Ensilage Cutters and Kalamazoo Tile and Wood Silos.



IT WILL PAY YOU

To send for some of our special offer coupons to hand to your neighbors. For full details address

THE MICHIGAN FARMER, Detroit, Michigan

Our Boys and Girls

At Work and play

My Calf, "Lady"

By H. KATHRYN FRIDAY

One day, early in the spring of 1917, Mr. R. L. Nye came to our school to talk to the pupils on the Calf Club, what it was and who could become members, and the benefits one could derive from it. I was much interested and listened attentively. After talking with mother and father I decided to become a member and purchase a heifer calf. I sent in my application to Mr. Hill and in June my pretty white heifer came. She was a fine calf and I surely was happy to think she was my own.

The first thing to do after we had looked her over, up and down, was to give her a name. I decided to call her "Lady," and to that name she always comes.

Mr. Hill wrote me that I had \$21 to

When "Lady" came we thought she weighed about seventy or seventy-five pounds. We think now, she would weigh 275 or 300 pounds, and it is just seven and one-half months since she came to me.

She has never had any set-back and is a healthy growing heifer. I have fed her good hay, some ensilage and oats every day since we put the stock in the barn this fall.

If other boys and girls could have as good success in raising a calf as I have had with "Lady" they surely would enjoy having one and I expect she will pay me back for all my care, also the money she cost.

If it can be arranged, I am going to have another in the spring, for I plan on my calves to pay my way through

one issues a garnishment proceeding against you, it would do so quite effectively because a banker holds the secrets of his customers' business absolutely inviolate unless compelled by the law to disclose them.

Now here let me suggest to you, that no matter how well you know your banker or how well he knows you, don't presume on this friendship to ask him about the private affairs or how much of an account any other customer may carry with him. It is not out of good form to ask your banker if he considers such and such a person as reliable or if he thinks their check would be good for a certain amount, but don't embarrass him or yourself by asking as to the details of any other customer's business. It is rather embarrassing to him to have to refuse a good customer and it will be still more embarrassing to you to be refused, as you surely will be, for just stop and think

person may have and the bank is compelled by law to observe the mandates of the court but you will likely not be able to learn if there was any account to garnishee or not until the date that the court may set for the bank to make the so-called "disclosure" and if there should be no account you would have the expenses to pay, but our boys and girls out on the farms will have little use for this information as our folks pay their just debts and "the rest of us" want only what is just.

I only mention all of these things to you to impress upon you some of the reasons why your business secrets are safe with your banker and why you will not get and should not ask for information concerning the accounts of others who are also his patrons. Of course, if you have a genuine claim against any person and you have reason to think he has a bank account it is perfectly ethical and proper to enter garnishment proceedings if you are unable to get a settlement in any other way, but many times such proceedings have worked a real hardship in tying up an account where the person entering such proceedings perhaps has not lived up to all of the agreement in the case, and hence is not entitled to a settlement until such time as he does so fulfill. An unjust garnishment ties up one's bank account not less rigidly while it exists, whether placed rightfully or wrongfully.



Saginaw County Club Members Are Hustlers. They Raised Seven Thousand Dollars Worth of Food Last Year.

pay, for which amount I gave my note, endorsed by my father. This note I have not paid yet, though I have the money saved. When my country's call came for us to purchase Thrift Stamps and Baby Bonds I drew my money from the bank and purchased bonds, thinking it would be easy to get the money together again to pay for my calf by spring.

college when I finish high school, which will be in four years.

You see, I am planning big and a long way ahead.

But when the time comes and my dreams come true, I will send Mr. Nye and Mr. Hill a card of thanks for making things possible by bringing the Calf Club to my attention and bringing my calf, "Lady," to me.

a minute, would you like to have him retelling your affairs to some other interested or inquisitive person? Most certainly not, and remember that he is in honor bound to honestly guard the business matters of any other customer as he would be to guard yours in a similar position.

One reason for guarding these secrets is to prevent actions of garnishments. If a person owes you money and refuses to pay or there is a disa-

MANY BOYS AND GIRLS IN CLUB WORK.

At least 12,000 boys and girls on Indiana farms will be enrolled in corn, pig, potato, calf, tomato, potato, poultry, canning, sewing and bread clubs this summer according to reports from every county in the state to Z. M. Smith, state club leader. This is an increase of 5,000 over last year, and does not include the thousands of boys and girls who will be signed up in garden clubs in cities throughout the

How the World's Business Is Transacted - By COMFORT A. TYLER

OUR boys and girls in the country will not probably ever encounter a condition that sometimes occurs in the city viz., the difficulty in even opening a bank account without identification.

I suppose you will ask about the first thing, why, if I go in with some cash and checks will not that be all the identification I require to open an account?

Well, now, it would seem so, would it not, but yet it is not always so. As I said, out in the country towns where our boys and girls go, it is always easy to establish your identity and, in fact, it will be strange indeed if the banker does not know you before you do him and in any event he knows your father and your mother and your uncles and aunts, and everybody else you know—almost, but every banker wants to feel and know that his clients play on the square and in a city bank it is almost as necessary to establish your identity to open a bank account as it is to cash a check.

It is a fine tribute, and one worthy of mention, that our country boys and

girls almost always do play fair. From some years of observation in both city and country I feel confident that the efforts to defraud are many times less in the country and our country banks than in the city.

The city banker does not know if you come to him as an entire stranger un-introduced, whether you came by that cash and those checks honestly or not, and again he does not know if you are the kind of a person that he wants for his customer. When he accepts your account he, in a way, becomes sponsor for you and likes to feel that he can say to any inquirer, "Yes, sir, that boy is all right. He banks with me and I know him to be on the square." Above all things he dislikes to feel that when any inquiry is made of him that he is sort of on the defensive, that he must qualify his endorsement or limit his approval. It is as disagreeable to him as to you and he will avoid such a customer most religiously.

Again, you might be trying to open a bank account for the express purpose of concealing funds and unless some-



Allegan County Bean Club Inspecting their Plots.

greement as to settlement between you you may, if you know where he keeps his bank account, have a garnishment action served on the bank which will tie up the account so that neither the owner or any other may draw upon it until the matter has been settled by the action of the court.

This means has sometimes been taken for the very purpose of embarrassing the owner of the account where there is a real or fancied grievance. Of course, you may "take a chance" and serve the bank in an action of garnishment on any account that the

state. Fifteen thousand were in these clubs last year and upwards of twice this number will be engaged in the work this season.

A resume of the 1917 club work just off the press of the Purdue University Extension Department shows that last year of the 22,612 boys and girls engaged in some sort of club work, aiding Uncle Sam to increase food production, 15,308 finished their tasks. The total value of all their products was \$321,664, but the expenses were \$127,617, leaving a profit of \$194,047. Conservative figures were given each line

of work, such as potatoes selling at forty-five cents a bushel and every grower who sold his "spuds" got more than this amount.

Arrangements have been made for closer supervision of the club members this year, the number of vocational teachers having been increased from twenty-two to forty-five; township club supervisors from forty-five to sixty-three; county agents from forty-one to sixty-four, and home demonstration agents from none to twenty-two. These persons, particularly the supervisors and vocational teachers, will devote all their time during the summer to overseeing the work of the boys and girls so that they really will produce the most food possible and get the best results from their efforts and money expended. Figures for last year show that in practically every case, ninety-eight per cent to be exact, best results were obtained where paid supervisors were on the job so as to give closest attention to the work of club members.

Montgomery county has the most complete organization, a county leader and eleven township supervisors to direct the club work. The enrollment is well above 1,000 now.

A Patriotic Appeal

We can no longer say, "when we get into the war—" We are in! Fighting of the fiercest nature is raging "over there" and our men are in the midst. They are doing their part. The question for every farmer is, "Am I doing my part? Am I trying to meet the situations that have developed here at home through the withdrawal of 40,000 laborers from the farms of Michigan?" The time has come.

To the Farmer: This country knows that you will not allow an acre of land to remain idle if you can prevent it—not while your sons and nephews and cousins are facing the fire of battle and enduring the hardships of war. Thousands of willing boys have raised their hands and sworn to aid our country by working for you. They are unskilled, but strong and at an age to learn quickly—they are filled with a patriotic desire to do real work that money alone does not always secure. Take them, teach them. Use them.

The United States Boys' Working Reserve is not an experiment. City boys and country boys under draft age can do farm work that has formerly been performed by men. They can enable the farmers of this state to increase food acreage and food production.

To these boys I can only give praise and encouragement. You are offering a great service to your country. The work will be hard, the hours long, vacation days few, but so are those of your older brothers in the trenches. You must help win the war—learn quickly and work patiently and hard.

And you boys in the towns and cities should remember this: All of you can not carry rifles, but all of you can make sacrifices, even though these may not be as great as those being made by our boys abroad. You can serve here at home—our farmers need you to help produce the food our soldiers and allies must have. No badge you can wear is more honorable than that which signifies that you have enlisted in the Boys' Working Reserve. Can you find a more noble use for your summer's vacation?

Our motto should be team-work, using what we have and making the most of it, and remembering the while that production of food must not diminish.

FRANK S. KEDZIE,
President Mich. Ag. College.

"The one sure way to supply the supreme need for food," reads a proclamation by Governor Bickett, of North Carolina, "is to man the bread line with the woman power, the boy power and the girl power of the state."



Boys' and Girls' Club Notes

Conducted by E. C. Lindemann



Seventy-nine state, district, county and city club leaders attended the regular monthly training school at Saginaw on April 26-27. Rural teachers of Saginaw county planned the banquet which was a marked success.

The following new club leaders have been appointed: John Kuder; Munsing; Ralph Tenney, Menominee; Hazel Deadman, Houghton; F. F. Musselman, Marquette; Russel Simmons, Jackson; Ella M. Clark, Alma; Blaine Curtiss, Gratiot County; Frank Davis, Marshall; Percy Angrove, Ionia; Floyd Ferguson, Mt. Pleasant.

The May Club Leaders' Conference and School for Leaders will be held at Detroit May 28-29. Mrs. Wm. A. McGraw is chairman of the local entertainment committee.

Fifty boys completed the requirements of the handicraft club in Saginaw county. Over two hundred useful articles were exhibited at the spring round-up.

There are seventy-eight paid club leaders at work in Michigan at the

Northern State Normal School at Marquette have volunteered to assist in supervising boys' and girls' clubs in their home communities during the summer season. It will take about five thousand volunteer workers to make this gardening and canning a success.

One hundred and fifty Saginaw county girls exhibited garments and made reports at the Spring Round-up.

Kent County Achievement Day was celebrated on Saturday, April 27. Five hundred and sixteen boys and girls received the 4-H emblem for achievement. Mr. Charles Garfield gave the principal address.

Over four hundred boys and girls in Holland have joined gardening clubs.

The 16,000 boys and girls who were members of gardening, crop and live stock clubs in Michigan during 1917 have liberally repaid the state for the investment that was made in them, a report from the office of E. C. Lindemann shows. The work of organizing the boys and girls into clubs and interesting them in agricultural and home



Willard Smith, Member of "Young America's Calf Club, and Prize Shorthorn.

present time. These leaders expect to organize an army of fifty thousand boys and girls who will produce and conserve food.

According to reports filed with the college, the number of boys and girls who are now enrolled in these clubs is more than 30,000.

Over two hundred students of the

enterprises cost the state only sixty-three cents per youngster, but each club member who reported added an average of \$22.70 worth of food stuffs to the national supply.

Kent county now has over 1800 club members. The spring round-up for garment making and handicraft was held on May 4.

Letters from Our Boys and Girls

I am thirteen years of age and have always lived on a farm. My father keeps quite a lot of stock. We have nine horses, nine cows, besides thirty-two other cattle. I take great pleasure in keeping track of each one's age. I have a book to mark their age in, and when they want to know the age of the cattle they come to me to find out. We had a bull that started to get ugly and my father cut his stub horns off during hot weather. We put tar on so as to keep the flies off. After that I used to get on his back and ride him outdoors. I guided him by the ring in his nose. We also have six pigs. I have two brothers older than I am. When we were thirteen years old my father gave us a lamb and its increase. My oldest brother now has nine sheep, my next brother has six and I have a lamb. My father has some sheep and altogether

there are 190 sheep on the farm. Once in a while we get an ugly buck. In a short time they run when they see anyone coming. The way we cure them, we get some oil of tar and kerosene, mix it half and half and pour it in his nose. We don't wait till they come after us, but every time we are around them. It isn't long until they will run so we can't get them. We bought a buck this fall that was very ugly. The man we got him of said we wanted to watch out. He treed me a few times, but he behaves himself when he gets the tar. He doesn't bother much now. We have two other bucks besides him. They all weigh over two hundred pounds each. Help was very scarce last summer and I had to help build a new barn. It seemed kind of high at first, but I didn't mind it in the least.

FRED NASH.



Blighty is the shirt with the Military touch — for outdoor wear. Stripe patterns on Khaki ground.

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with patented Hynde Cuffs — with Both Sides, Right Sides. The Quality is Kept Up in all Hallmark Shirts. — Ask your dealer. HALL, HARTWELL & CO., Makers TROY, N. Y.

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Get a set today. See how they increase riding comfort; reduce wear and tear on engine and transmission; double life of your Ford. If your dealer cannot supply you, write us direct.

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Galloway's Greatest SPREADER

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ELEVEN PATENTED SPREADER FEATURES

THE new No. 8 Galloway low down is easy on the man and easy on the horse. Has wide spreading V rake. Patented roller feed. Patented automatic-stop uniform clean-out push-board. Short turn, all wheels under the load. All steel beater — tears manure to shreds — cannot twist, warp or break. Spreads from four to twenty-four loads per acre.

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FREE BOOKS: Send at once for Galloway's "Spreader Book" and "Spreading Book." They point the way to big savings. Close shipping points save freight. **WRITE NOW—BUY TODAY.**

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Farm, Garden and Orchard Tools

Answer the farmer's big questions: How can I grow more crops with least expense? How can I cultivate more acres and have cleaner fields?

IRON AGE Riding Cultivator

will help you do this. Has pivot wheels and gangs with parallel motion. Adjustable to any width of row. Every tooth can be raised, lowered or turned to right or left. Lower adjusts balance of frame to weight of driver. Light, strong and compact—the latest and best of riding cultivators. We make a complete line of potato machinery, garden tools, etc. Write us today for free booklet.

No. 78

Bateman Mfg. Co., Box 24D, Grenloch, N.J.

Drug Store For Sale

Best paying business in Highland Park. Have enlisted, must sell at once. Box B-518, Michigan Farmer.

Figuring Milk Production Cost

By E. HUTCHINS

AN ordinarily good cow would perhaps be one that produces 4,500 pounds of milk testing four per cent of butter-fat in a year. This would be 2,070 quarts of milk, or 180 pounds of butter-fat. This is fully equal to the average cow. Admittedly the most economical way to keep such a cow would be to feed corn silage and good hay during the winter season, with good pasturage in summer. She would require thirty-five pounds of silage and twelve pounds of hay daily for 200 days, making three and a half tons of silage and 2,400 pounds of hay. Compared with an equivalent food value in timothy hay, to which it closely corresponds in analysis, or with the value of the corn which might be cribbed from

Allowing these figures the expense of producing milk from such a cow is \$3.95 per 100 pounds, or eight and one-half cents per quart. Where cream is sold and the skim-milk is fed on the farm the value of this product for pig feed is said to be five times as much per 100 pounds as a pound of pork is worth. Pork is now worth about fifteen cents per pound, so 100 pounds of skim-milk under this rule is worth seventy-five cents for feeding to pigs. The cream takes about ten per cent of the milk and the remaining ninety per cent or 4,050 pounds of skim-milk is worth \$30.37. Making this allowance for the value of this by-product and the butter-fat has still cost nearly eighty-two cents per pound to produce it. The

jogging along in the same rut that they will continue to produce milk on the best terms that they can make. That cows or meat animals will greatly increase in numbers is uncertain. But if anyone imagines the figures are overdrawn and that there is lots of money in making milk at present prices, let him answer why it is that men are not engaging in the dairy business and buying all of the feed for the cows.

SOY BEANS FOR ENSILAGE.

I have read much about soy beans this spring, and as I am about to put up a silo I was wondering if it would not be a good plan to mix some of them with my silage corn. Would they interfere with the cultivating or cutting of the corn? I have never grown them so don't know anything about them, thought maybe some of the readers could let us know some of their experiences.

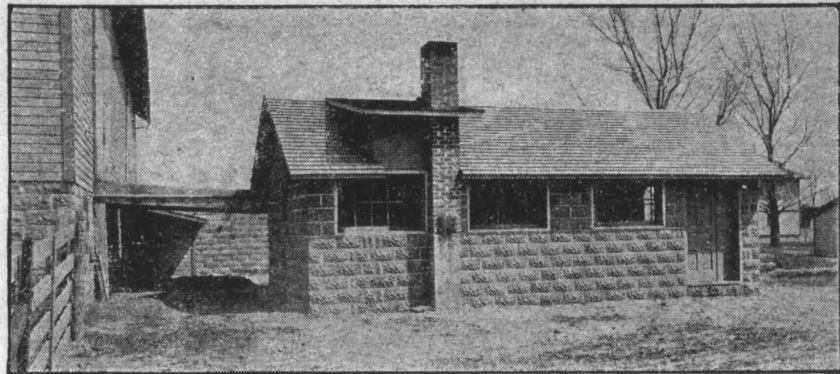
Allegan Co.

C. J. L.

The practice of mixing soy bean seed with ensilage corn seed at planting time and growing both crops together is getting to be quite popular. People have found out that you can grow quite well developed soy bean plants right along with a good, vigorous stand of ensilage corn. One plant doesn't seem to interfere so much with the growth of the other as one would at first suppose. It doesn't seem to be like planting corn too thick; the principle is different; the plants are not of the same nature and will stand growing thicker together than plants of like nature.

The object in growing soy beans with corn is to not only increase the total volume of silage per acre but it is to increase the protein content of the silage as well. Soy beans are a leguminous plant belonging to the same botanical family as peas, vetch, etc., and contain a larger per cent of protein than clover or alfalfa.

Since these plants seem to grow fairly well even in a good stand of ensilage corn, the cheapest way to get this added protein and added bulk of ensilage is to grow them with the corn. Of course, if you plant them in a separate field you will get a bigger crop undoubtedly of soy than you will to grow them in the corn but it is not nearly as convenient when you want to put them into the silo. Where you grow them with corn they are already mixed in good proportion. Where the soy beans and corn are grown in separate fields



The Well-constructed Creamery at Long Beach Farm.

the same material, this silage should be worth \$7 per ton. The hay is now costing \$25 per ton at the barn, with hauling expense added. Such a cow should also have seven pounds of mixed grains for each pound of butter-fat produced, or one pound of the grain for three and a half pounds of milk. She should also have some grain while dry. The ground required for pasturage during the summer would probably be worth not less than \$200, and the farmer should have at least six per cent on this amount besides taxes. In Bulletin No. 277 of the Michigan Agricultural College Experiment Station giving the results of a survey of several farms during 1914 and 1915 the average labor expense per cow per year was found to be \$28, estimating labor at sixteen cents per hour. But as labor is much higher now the labor cost would probably be as much as \$35. The expense would probably be larger proportionately where smaller herds are maintained than with larger droves. The same is true of the buildings required to house and care for cows, but probably the average expense of barn, silo, ice house, milk room and yardage would be not less than \$100 per cow. The value of the cow herself should be \$75. On such investments the farmer is entitled to six per cent interest. There are losses in every herd at times from accidents, diseases, like milk fever, tuberculosis, etc., aging cows and veterinary fees, and the bulletin above referred to found this depreciation to amount to five per cent of the value of the herd. The farmer is further entitled to some compensation for extra service in superintending his business. In all other lines of business it is the policy of the government in fixing prices that shall encourage as large production as possible to add a profit of ten per cent to producing expenses.

For convenience in adding we may tabulate these expense items:

Three and one-half tons silage...	\$24.50
One and one-fifth tons hay.....	30.00
1,260 lbs. mixed grains.....	32.00
Pasturage	12.00
Labor	35.00
Six per cent interest on value of buildings and cow.....	10.50
Depreciation in value of cow....	3.75
Depreciation, repairs and insurance on buildings	10.90
Taxes	1.75
Add 10 per cent profit.....	16.15
Total	\$177.65

value of the calf at birth just about offsets the cost of bull service, and the farmer has the manure to pay for bedding and for extra compensation as superintendent.

Some farmers think it is more economical where land is high in price to keep the cows up and feed them the year around rather than to pasture during summer. Droughts frequently make pasturing uncertain. We may construct a table showing the expense of keeping a cow under such a system.

Seven tons of silage.....\$49.00
4,380 pounds of hay..... 54.75
1,260 lbs. of mixed grains..... 32.00
Labor



Bull Pen and Yards on Farm of Mr. Penfield, Kalamazoo County.

cents per quart, or 1.033 per pound for it is some little bother to mix them producing butter-fat after allowing as when you put them into the silo.

If the soys and corn are planted together and in drills they do not interfere with cultivating the corn and they do not interfere with the corn harvest. In cutting the corn they are bound and tied up in bundles with the corn and can be handled without extra labor.

There is some little difference of opinion with regard to the proper variety to plant. Personally, I believe that a late variety is better for ensilage than an early variety, either the Late Yellow, Late Green or Late Black.

The instant we begin to think about success and the effect of our work—to play with one eye on the gallery—we lose power and touch and everything else.—Rudyard Kipling.

Get a 2 Man Silo Filler

DON'T be forced to wait for a traveling crew. Fill your silo when your crop is right and when you are ready for it. Refill your silo again later in the season without extra cost. You can get a 2 or 3 man machine in

Silver's "Ohio"

The Logical Silo Filler

4 h. p. up—40 to 300 tons per day capacity.

Silver's "Ohio" is the machine you want this year to make the most of your silage crop. Produce good, cheap feed at home when prices are higher than ever before. "Ohio" cut silage means better silage—fine, even cut lengths—the kind that packs air-tight in the silo. Makes better food for stock.

Remember, the "Ohio" features are not found in any other machine—the direct drive that saves power—the single lever control that means safety and convenience—the better feed (on the 4 larger sizes) that saves a man's work at the feed table.

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25 cents.



Feed silage and help win the war. Produce more feed on less acreage. That's one way the farmer can do his bit.

Saginaw Silos—the Steel-Built, and Leader, are ready for service—give greatest results in sweet, clean, palatable silage.

The Liberty Silo, a new type of silo, a real help win the war silo, simple construction, tight as a drum and easy to erect.

The McClure Milker is now ready for you, the most modern milker on the market—many new features; does the work quickly and economically. Send for Booklets. Address Dept. 270.

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Saginaw, Mich. Cairo, Ill.

(6)

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\$29 Buys the New Butterfly Junior No. 2. Light running, easy cleaning, close skimming, durable. Guaranteed a lifetime against defective material and workmanship. Made also in five larger sizes up to No. 8 shown here. Earns its own cost and 30 DAYS' FREE TRIAL more by what it saves in cream. Postal brings Free catalog-folder and "direct-from-factory" offer. Buy from the manufacturer and save money. **ALBAUGH-DOVER CO., 2105 Marshall Blvd., CHICAGO**

Dirty Milk Unnecessary

REDUCTION of bacteria in milk does not depend on the kind of barn or expensive equipment so much as on simple inexpensive precautions. Milk with low bacteria count can be produced in barns of ordinary type with less than \$20 worth of extra equipment. The dairy specialists of the United States Department of Agriculture have proved this in a practical experiment.

For the purpose of this experiment, four cows were put in an ordinary frame barn. An untrained worker was employed to milk and care for the animals. No extra attention was devoted to cleaning the barn. At the end of six months the barn was no cleaner than many commercial barns.

What the Small-top Pail Did.

Without any changes in barn management the specialists had two cows milked into small-top pails and the two others were milked into ordinary open-top pails. The milk from the open-top

clean, in the final stage of the experiment the manure was removed daily, clean bedding was supplied, and the cows were cleaned with a currycomb and brush. With these final precautions the bacterial count in the small-top pail averaged the very low one of 2,154 per cubic centimeter, or 1,197,847 bacteria less than were found in a sample when the barn and cows were dirty and utensils were not steamed.

COW NOT DOING WELL.

I have no clover hay so am feeding my cow timothy. She eats very little of it and then acts hungry. I mix bran and ground rye for her feed in the morning and roots at night, with plenty of salt. She is failing in her milk, and the last butter was so soft it couldn't be made in rolls. She was fresh in January and has been bred and is in good order.

Osceola Co.

F. McC.

I have seen timothy hay that wasn't as good as the poorest straw. You let

Any Farmer Can Produce Clean Milk

MILK with a low bacteriological count can be produced in practically any cow barn. Any dairy farmer with a healthy herd can produce such milk with an investment of only \$10 or \$20 and a little extra care.

The United States Department of Agriculture in an experiment produced low bacteriological count milk in a poor dairy barn.

The only changes made were:

1. Simple steam sterilizer for utensils.
2. Clean cows, especially clean udders.
3. Small-top milking pails.
4. Proper manure removal and good bedding.

The bacterial count fell from as high as 1,200,000 to an average of 2,154.

Low bacteriological count is the beginning of good milk, but milk must also be safeguarded from other contamination likely in a dirty barn. There is no legitimate excuse for the production of milk from dirty cattle or in a filthy stable. In addition, milk must be properly cooled to prevent the multiplication of bacteria.

pails averaged 497,653 bacteria. The milk from the small-top pails averaged 368,214.

The use of the small-top pail without any extra precaution made a difference in the average count of 129,439 bacteria per cubic centimeter.

Steaming Utensils Death to Bacteria.

The pails and cans were sterilized with live steam, which can easily and cheaply be done with a simple steam sterilizer, which can be made at home or can be purchased complete for about \$10. Other conditions remained as before. The milk from the sterilized small-top pails averaged only 17,027 bacteria—a reduction of 351,137 in favor of this simple sterilization. With the open pails, sterilization reduced the bacteria to 22,677—a decrease of 474,976 compared with milk from the unsterilized open pails.

Simple Cleanliness Sends the Count Still Lower.

In the third step of the experiment the manure was removed from the barn twice instead of only once a week. The udders and teats of the cows were washed before each milking. These reasonable measures of cleanliness reduced the count in milk drawn into the sterilized small-top pail to 2,886 bacteria, and in the sterilized open-top pail to 6,166 per cubic centimeter. Ordinary cleanliness, it can be seen, caused a reduction of over 10,000 bacteria per cubic centimeter.

Daily Manure Removal and Clean Bedding Also Pay.

To make it easier to keep the cows

timothy get real ripe before it is cut and then perhaps get wet during the making and it is pretty poor stuff. The cows, of course, will eat such food if they have to in order to live, but they will not produce a very liberal flow of milk.

Ground rye is not a very good food for dairy cows; they don't like it, but, of course, a cow ought to eat enough bran and rye mixed together, and timothy hay so that they would keep from getting hungry. The roots at the night feed also are an excellent thing to keep the cows in good condition. The only thing I can suggest is to feed more liberally of the grain and roots and simply use the poor timothy hay as a sort of filler.

The cause of the butter being soft must be due to the temperature. I don't think it is any condition of the cow that produces soft butter. I never saw any butter that by varying the temperature one way or the other it could be made into rolls. I have known where people couldn't get the butter to gather in rolls or lumps simply because it was too cold. By washing the butter in lukewarm water it became easy to gather the globules of fat and work them into rolls.

THE DAIRY CATTLE CONGRESS.

The ninth annual Dairy Cattle Congress will be held September 30 to October 6, 1918, in its permanent home at Waterloo, Iowa. This is the great yearly event of the dairy industry in the middle western states

Not made over— Not added to— Built right, basically

That's the Sharples Suction-feed Cream Separator.

No loss-alarm tacked onto it to remind you to turn faster.

Sharples skims clean at any speed, so it is not necessary to put on a contraption to prod you up to a fixed speed. You can judge how important this is when tests show that 95 per cent. of all separators are turned under speed much of the time, causing a waste averaging 10 pounds of butter per cow yearly. Sharples saves all this—*automatically*.

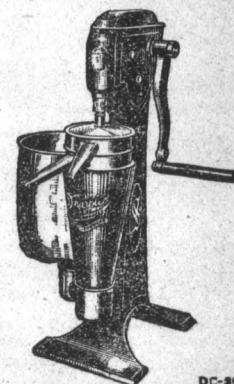
SHARPLES SUCTION-FEED CREAM SEPARATOR

The skim-clean-at-any-speed principle (suction-feed) is built into the Sharples, just as Nature built teeth into you. When you don't have any Nature-teeth, store-teeth are better than none, but they never measure up to the built-in kind. Think that over! Sharples construction has also eliminated troublesome discs—the simple tubular bowl containing but one piece. There are only half as many parts as in other separators—that's why a Sharples lasts longer than any other. Write for catalog to nearest office, addressing Dept. 18

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Thousands Giving Good Service In Operation Today

Following letters are only sample of letters received: Burn Oil Device Co., Center, N. D., Sept. 6, '17. Gentlemen:—Enclosed find check in full for ten devices. I can say for your Burn Oil Device that it does more than you claim. I make 28 miles per gallon of cheap kerosene. Yours truly N. O. Nelson. P. S. I am waiting for my contract for Oliver and Marten counties; have sold 20 devices without asking anyone to buy from me.



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No new carburetor required. Easy to attach. Price is low. Soon pays for itself. No trouble with spark plugs. Nothing to get out of order. Nothing mechanical added to your motor. Hence, what our device does on one car, it will do on another. This is the greatest economy device for Ford cars ever designed. It pays its purchaser dividends every time he buys fuel. We want good live agents everywhere. Get our proposition now. BURN OIL DEVICE CO., Inc. Dept. MF, Peoria, Illinois

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It's the wonderful Kirstin One Man Drum Stump Puller that does it. Nothing like it. Double leverage gives man or boy tons upon tons of pull-power! Enables you to pull any stump, big, little, green, rotten, low-cut, tap-rooted, brush, anything—from one anchor. No horse or help needed! Clears acre from one anchor. Has time, light, all steel. A 3-Year Guarantee, flaw or no flaw. Four great offers—including 30-Day Free Trial; No-Money-Down; Six-Months-to-Pay, and a SPECIAL OFFER to one man in community. Amazing Book Free tells all—a veritable stump pulling encyclopedia covering entire subject—tremendously interesting, instructive! Write for copy before perhaps TOO LATE.

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Easy Milking and a Full Pail

are the natural result of a healthy udder. When a cow freshens, her udder should be given careful attention. Caked Bag, so likely to occur then, is quickly removed by applying Bag Balm, the great healing ointment. Sores, cuts, chaps, bruises, cracks, bunches and inflammation quickly respond to its healing, penetrating effect. Try Bag Balm and you will never be without it.

Sold by feed dealers and druggists, in large 50c packages. Send for booklet, "Dairy Wrinkles." DAIRY ASSOCIATION CO., Lyndonville, Vt.

B-V-T-Silo

Built of everlasting Brazil Vitrified Fire Clay. Reinforced with steel ribs bedded in cement. You'll never have to rebuild it. Your neighbor has one. Ask him. Send for Booklet D. Brazil Hollow Brick & Tile Co., Brazil, Indiana

Get 1/4 to 1/3 More Silage

into your silo—quicker, easier. The HOOSIER SILO EXTENSION ROOF insures a full silo even after silage settles; no refilling needed. Strong, economical, permanent; attaches to any silo. Fire and rust proof. Easy to put on, and open or close. Guaranteed. Pays for itself in a season. Send for catalog. SHEET METAL SPECIALTY CO., 405 New York St., Coshen, Ind.

Mention The Michigan Farmer When Writing Advertisers

THERE is something of a study about finishing off the flock of chickens to get the best out of them. We have three different classes of poultry products in that flock. The first to take our attention is the broilers, then the inferior pullets and cockerels that prove less valuable than we had expected when separating them from the broilers, and finally the pullets and cockerels we propose to keep.

As soon as the flock begins to develop feathers we will have to begin our study of their characteristics. Last year I picked out one cockerel that I planned to save, provided he showed no bad characteristics, before he had half his feathers. He was so much larger than any other bird in the flock. Two or three pullets soon showed early maturity, and were chosen, subject to later developments. When the cockerels were of the broiler age my selected cockerel weighed ten ounces more than any other in the flock, and the pullets were not disappointing me. These were White Orpingtons, and all continued to show good points, but I have had Buff Orpingtons that would show up well at this stage and later show bad undercolor or black in the wings or tail, or some other bad feature that did not show at once.

Picking Out the Good Ones.

One year we picked a fine buff pullet early, and she kept on developing as fine as she promised, and when she was a trifle over six months old she weighed seven and a quarter pounds, and was almost perfect in form and color. She began to lay early, and she kept it up, being one of the best layers we ever had in our flock. When all the pullets were fully developed many looked as fine as she did, but I would not have exchanged her as a breeder for any two of them. She had early maturity, heavy weight, good color held from the first, and splendid laying qualities, and we felt she would be likely to hand these characteristics down. If we had given little attention to the individuals of the flock early we would not have been able to distinguish her points. Early maturity is very important, and this feature can only be secured by close attention during growth.

When we have decided on what chicks we are going to market as broilers we should separate them at once and finish them off so they will bring the best price and come in on a high market. If we take these when they weigh about a pound and a half and shut them up we can put the other half pound on them in half the time we could do it with them running loose, and the gains will be made at less cost. Nor is this all. The time saved may make several cents difference in the price received. Quite often broilers drop a cent or two every day when the breaking point is reached. It will al-

ways pay to force broilers, for they will put on weight instead of growing in frame if they are shut up where they get just enough exercise to keep them healthy, and get fattening food all they can eat. As they have little else to do but eat they do lots of that, and, so long as their digestion is good none of this food is wasted. It goes into fat and flesh. Plump broilers bring the top price, too.

When the pullets are finally selected which we want to keep, and the young cockerels selected also, we will begin to feed them for vigor and health with not so much attention to flesh or size. It is no benefit to give a hen over-development. If the size is shown during her early growth, and she matures early, she does not need to be forced any later. Let her range all she pleases, give her a well balanced ration, and never try to get her to eat more than

well for breeding, as they will be better than many a pure-bred flock given ordinary selection, and a price secured that will give a profit on these. These are not stable markets, but still there is a good chance for them in any community.

POULTRY QUERY DEPARTMENT.

Fertile Eggs.

In the eggs I used to hatch there was a small eye, I call it, in the yolk, but those I get now do not have any in them. I don't know why. Some of them are old hens and the most are young ones. I don't want to set the eggs unless they will hatch. I never saw eggs like them before. There is lots of white in the eggs. B. F. S.

The small eye, as you call it, that you find in the yolk of the egg is its germ, and without it the egg will not hatch as it is not fertile.

Undoubtedly, you have not enough



Can be Raised with Profit on Most Every Farm.

she shows an inclination to eat. Let her develop normally. This same rule applies to the cockerels, though here we want to be on the lookout for the least fault, for we do not want to breed from anything but the best, or sell inferior birds to others for breeding purposes.

It is the culls from the flock of pullets and cockerels that we saved for breeding purposes that stands to give us the most trouble and the least profit. They will not sell as broilers any more, and they will bring a low price as springers. Better than the part of the flock sold early, they will hardly bring us the profit these did. There is one market for these that will often save us and that is for breeding purposes to the farmer who is anxious to get better stock to mate with his ordinary mixed flock. These cockerels are fine, of course, or they would not be saved in the first place, and the small faults which cause their rejection finally will not be an objection to many who keep pure-breds even, when they only want them for home use, and this market may take the supply at a fair profit. The cull pullets may be sold

male birds in your flock to assure the fertility of the eggs. If your chickens are of light breeds such as the Leghorns, you ought to have at least one male bird to fifteen hens early in the season; as the season advances, one male bird to twenty-five hens will do. For the larger breeds, such as White Rocks and Wyandottes, about one male bird to ten hens is recommended.

Feeding sometimes has effect on egg fertility, especially if it makes the hens over-fat. Plenty of exercise and proper feeding to keep the birds vigorous will assure better fertility.

Poultry House Construction.

As I intend to build a chicken house this summer I would like to ask you for some advice. I intend to build a chicken house 20x36 feet; thought of using wall board under the siding to make it warmer, but some tell me that it is not necessary, that good matched lumber is enough. What is your opinion? The wall board will cost \$30 per thousand square feet. Will three openings 2½x6 feet, running lengthwise, be enough for an open front, and will three windows with 2½x5 feet of sash do? What do you consider best for roosts, some nice round poles, or 2x4's set on edge?

C. K. I do not believe it necessary to use

wall board under the siding to make the coop warm, but matched lumber that is free from knots and well put together so that it is draught-proof will do.

However, if you prefer, you can use poor quality lumber and cover it with some good quality felt roofing. At one time the writer made some coops the sides of which consisted of nothing but the roofing paper overlapped and cemented on 1x2, and found it entirely satisfactory.

The main thing in the construction of an open-front coop is to have all the sides but the one to the south, draught-proof, and it does not matter much whether it is board, paper or cement that is used for this purpose, provided the walls are so constructed that they do not retain moisture.

I believe that your three openings will be enough for the open-sided coop. The three windows will also be of great advantage when in stormy weather you will have to keep the openings covered with curtains.

The writer prefers 2x4's or 2x6's set on edge with the edges slightly rounded for roosts. These can be set loosely in sockets made in cross pieces, and then can easily be removed in cleaning the coop.

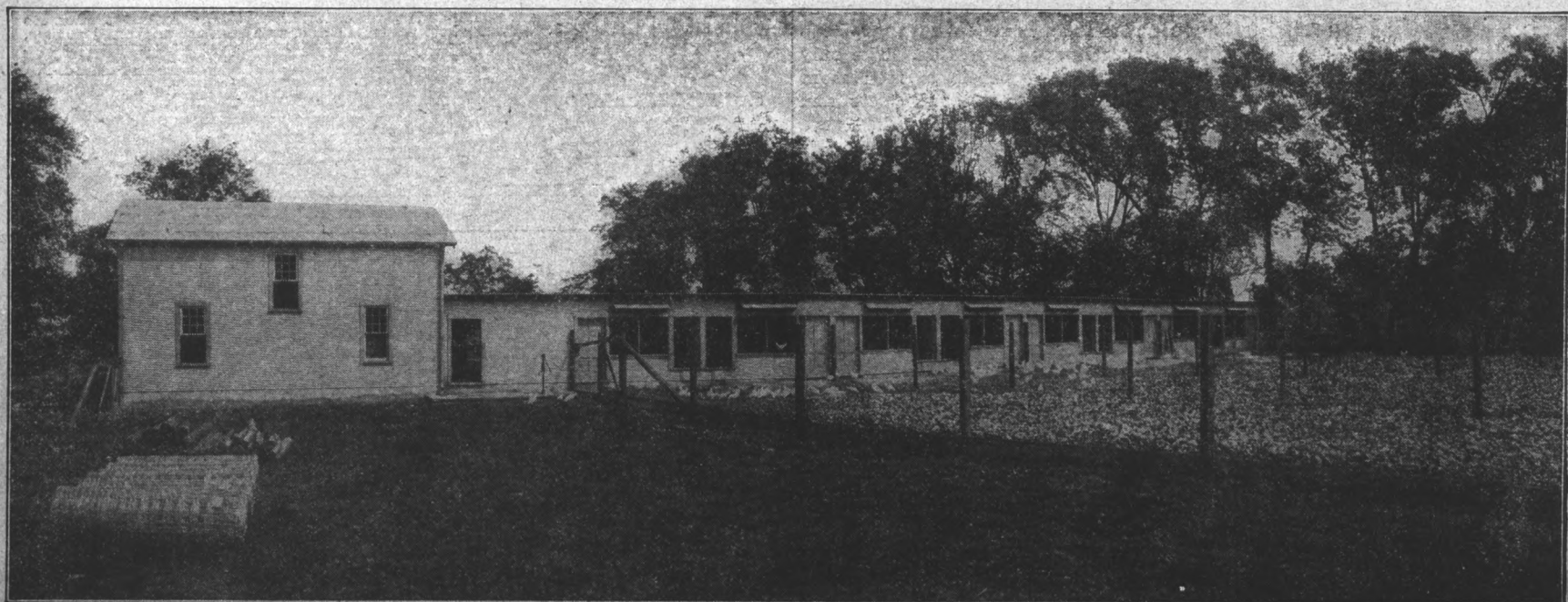
Lice Control—Eye Trouble.

My chickens are bothered with lice. The color of the lice is a creamish white, and long in shape. They are mostly found under the wings. These lice are not found on the roosts, and coops, but just on the chickens. I have been greasing them with lard but this does not seem to do much good. I also have one chicken that has a sore foot. Her foot is swollen up in the middle, and has a few bunches on it, which looks as if they would break open; now a few of the other chickens have sore eyes. It is mostly on one eye, the eye seems to be filled with pus, which runs over the feathers.

Washtenaw Co.

Mrs. G. F.

There are numerous different kinds of lice which attack chickens and it is, therefore, difficult to tell just what kind the one attacking your chickens is. However, the general control for lice which usually stay on the body of chickens is to thoroughly dust them with some lice powder, or a more effective treatment, which is now being used by progressive poultrymen is the use of mercurial ointment, which is applied under each wing and just below the vent. A piece the size of a small pea should be used and should be thoroughly rubbed into the skin. If it is not thoroughly rubbed in, the bird may pick it off and become poisoned, as this is a poisonous preparation. By applying it on these three places, the body lice on all parts of the body are controlled. This preparation can be obtained at most any drug store, as it is a standard U. S. P. preparation. However, the standard preparation usually has lanolin as a base, but for use on poultry lard is as good a base and somewhat cheaper. I am quite sure



A Farm Poultry Plant Equipped for Profitable Production.

that you will find this treatment effective.

The sore foot is most likely due to injury, as the common sore foot trouble called bumble-foot is usually caused by improper roosts and would attack some of the rest of the flock.

The sore eyes are caused by catarrhal

conditions. Either catarrh or roup may cause these conditions, roup being nothing more than chronic catarrh. For treatment, be sure that the chickens live in clean, well ventilated coops and are given clean food and water. Dryness, sanitation and ventilation are the chief preventatives of this trouble.

Controlling Lice and Mites

DURING my experience in the poultry business I find one of the greatest difficulties to overcome is the complete eradication of lice and mites. I do not believe it is possible to completely destroy these, even when we use every method of prevention, but by keeping continually at the work we can reduce them in numbers to such an extent that they will give little or no trouble each year.

The first thing to do in eradicating lice and mites is to keep the poultry house, coops, brooders, and the fowls themselves, clean. In order to do this properly it requires a great deal of care and labor, but it will pay anyone who expects to make a success in raising chickens. Cleanliness is absolutely essential as lice and mites thrive only under dirty, filthy conditions.

A Good Lice Powder.

Lice and mites attack the birds in two ways, one by filthy houses, roosts and nests; the other by direct growth on the fowls. The best way perhaps to rid the fowls of lice is to give each bird a thorough dusting with a good grade of lice powder. I have found this to be very effective. I make my own lice powder by using five parts gasoline, two parts crude carbolic acid and stirring into this mixture sufficient sifted cornmeal to make a moist, and crumbly mixture. Then the mixture is spread out on a paper somewhere away from fire, in order to dry thoroughly. In a day or two the mixture will be ready for use. Caution should be exercised in using and handling, being very careful not to use it when there is fire or a lantern nearby. It is best to apply this powder from a sifter-top can, similar to those that are used when buying the ready-made product.

It must be remembered when using a

dusting powder that one application will not be sufficient, but after three or even four applications, the result will be fowls that are clean from lice and they can easily be detected from others that are still bothered with these troublesome pests. All fowls should be provided with a large dust bath, consisting of ashes, sand and fine earth. This bath helps in many ways to keep lice away from the fowls. The poultry houses should have a thorough cleaning at least twice a year, in early spring and again in the fall. Cleaning three or four times a year would be much better if we can find time to do the work. I always apply with a sprayer a strong solution of lime whitewash to which has been added a small amount of kerosene. This solution is sprayed into every crevice and corner to be found in the building and it is effective, as well as ridding the building of all bad foul odors. Wire nests have proven more satisfactory than those made of boxes, etc., since they are more sanitary and can be easily cleaned, and the cost of installation is only a trifle.

Essentials for Success.

If we wish to have good, strong, vigorous fowls that will be profitable as layers, or as market stock, we must keep up their vitality by good breeding, feeding, and most important of all—keeping the poultry plant free from lice and mites at all times during the year, and especially during spring and early summer, when weather conditions are most favorable to these troublesome pests. All setting hens should be thoroughly dusted as soon as they bring out their hatches. This will be one method of helping keep the young chicks free from lice and vermin which is important.

MRS. E. O. SWOPE.

Doings in Michigan Counties

THE Manistee County Farm Bureau held its annual meeting and reelected these officers: President, Arch Marshall; vice-president, F. A. Mitchell; secretary-treasurer, Arlie Hopkins. Frank Sandhammer has been again engaged as county agricultural agent with salary increase of \$25 a month. Three federal farm load associations and several farmers' clubs have been organized. The 1200 acres of Rosen rye sowed last year promises well. Manistee county has adopted the recommendation of C. W. Waid of the M. A. C., of the Russet Rural type or the "Late Petoskey" potato as the best variety for the main crop.

Saginaw County.

To stimulate war gardens and food production the Saginaw County Agricultural Society offers premiums which amount to over \$7,500 for garden products exhibited at the county fair, to be held September 23-28. The fair association itself offers \$11,000 in premiums this year, as against \$9,000 last year, and the biggest share of this will be for agricultural products. Besides this the Saginaw banks offer special prizes amounting to \$1,175 and twelve townships have offered awards of \$50 each for best war garden exhibits.

Clinton County.

A farm bureau has been organized, with P. P. Pope as county agricultural agent. The program of work outlined includes not only food production as a war measure but food conservation as well, and more efficient and economical

marketing methods. An executive committee has been named, with specific work assigned to each as follows: Austin Cowles, beef cattle; Leslie Brown, food conservation; Theodore Townsend, organization and seed corn distribution; Richard Welling, farm cost accounting; R. D. Lynd, boys' and girls' clubs; Frank Favor, pedigree seed; John Walker, labor; Glen VanSickle, dairying; A. R. Potts, soils and crops; C. L. Shafley, marketing. When the organization is completed there will be at least one representative in each school district, so that it will be possible to reach every farm in the county.

Marquette County.

Directors of the Marquette County Fair Association have voted to pay all fair premiums this fall in war savings stamps and certificates instead of cash as in former years. W. A. Ross is secretary of the agricultural society.

Montcalm County.

Gifford P. Patch, an M. A. C. graduate and instructor in agriculture at the Mt. Pleasant high school during the past year, is the new agricultural agent in this county, at a salary of \$1,800 and use of a car in his work. Greenville will be his headquarters.

Charlevoix County.

The agricultural society has elected these officers: President, Samuel Rogers; secretary, Dwight L. Fitch; treasurer, Martin Ruhling. The annual fair will be held at East Jordan on September 17-20.

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Mr. Woolen is only one of thousands of farmers who have made good in Western Canada. Government statistics show the average yield of oats per acre is 53½ bushels; of wheat 30 bushels.

Wheat --- 30 bu.
Oats --- 53½ bu.
Potatoes 148 bu.
Barley --- 37 bu.
Rye --- 27½ bu.
Flax --- 13½ bu.

This is the 1915 average per acre from Government statistics.

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ANCONAS—Winter Layers. Eggs \$1.50 per 15. W. E. WEST, R. 1, East Lansing, Mich.

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\$5.50 per 50; \$11 per 100. S. O. White and Brown Leghorns. Bred for egg production. Safe arrival guaranteed. Express or parcel post. Catalogue free. Wolverine Hatchery, Box 22, Zeeland, Mich.

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GUERNSEYS must reduce herd, so offer a few choice females of Glenwood breeding also bulls, all stock of A. R. breeding, herd tuberculin tested. T. V. HICKS, Battle Creek, Mich.

Registered Guernseys

A fine 3 year old heifer and her heifer calf—right in every way \$350. F. O. your town. J. M. WILLIAMS, North Adams Mich.

Guernseys 45 Registered head, all th. tested. Nora's May King, son of Imp. May Rose King, heads our herd, 19 of his half sisters sold averaging \$1950 each. His bull calves are booked ahead at reasonable prices. Avondale Stock Farm, Wayne, Mich.

Guernseys 2 Registered bull calves. Good breeding, cheap for quick sale, note accepted in payment. Hicks' Guernsey Farm, Saginaw, W.S. Mich.

For Sale Registered Guernsey bull calves May Rose breeding. JOHN EBELS, R. 2, Holland, Mich.

Guernseys For sale, animals of both sexes from A.R. cows. Prices reasonable. Geo. N. Crawford, Holton, Mich.

For Sale 5 Imported in dam Registered Guernsey heifers, 3 months old, also bull calves. E. A. Black, R. 3, Howard City, Mich.

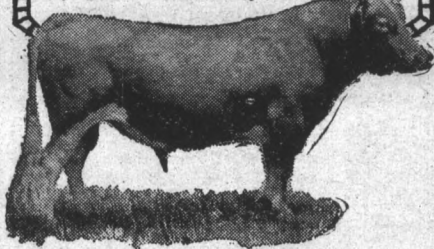
Guernsey Grades For Profit

In the only test where all breeds were represented the Guernseys won the first prize for the highest average score on butter—also for color and for flavor.

But, most important of all, they won the prize for net profit on butter and butter fat production—they gave the greatest return per dollar invested in feed.

These characteristics are marked in Guernsey grades. They have won in test after test. Write for the book that tells the story—"The Grade Guernsey."

American Guernsey Cattle Club
(3) Box 1 Peterboro, N. H.



FOR SALE Two registered Guernsey cows, one 7, one 3 years old. FRANK NASH, R. 3, Box 57, Fremont, Mich.

CLUNY STOCK FARM

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

Write us your wants.
R. BRUCE McPHERSON, Howell, Mich.

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

I Always Have Holsteins To Sell

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

L. E. CONNELL, Fayette, Ohio

OAK Leaf Farm. Hard sire Lenawee Pontiac Calamity King offer Registered Holstein bull calves from A. R. O. cows and the above sire whose dam holds the milk and butter record in the state of Ind. 7 days milk 796.3, butter \$2.51—315 days milk 23782.3, butter 926.75. E. H. GEARHART & SON, R. 4, Marcellus, Mich.

The Traverse Herd Great Values In Bulls

from A. R. O. Cows with records up to 30 lbs. Let us know your wants. We will send extended pedigrees and prices.

TRAVERSE CITY STATE HOSPITAL, Traverse City, Michigan.

Talking to the Crowd

By W. H. JENKINS

NEARLY a year ago I attended a farmers' picnic. I had heard one farmer discussing intelligently some timely subject, and talking easily without thought or embarrassment. Later, when after-dinner talks were called for, this farmer said it was impossible to talk in public, which meant that which he had been able to say in an informal conversation with a neighbor, he was unable to say standing on his feet before an audience. The conditions were all just the same. His fund of knowledge, ability to think, organs of speech, transmission of sound vibrations, etc., but something had taken away their power of action—something which is called "stage fright," which for the time paralyzes a man or causes him to tremble with weakness and forget all he ever knew. This stage fright is a thing to be overcome in farmers, so they can take their rightful place in public meetings, with ministers, teachers, and professional men, who are used to talking, and express themselves in good diction, concretely, and to the point. It is too often a custom at farmers social gatherings, as picnics, etc., to call on the professional men in town to do the talking, while the farmer is keeping his thoughts to himself because he believes he cannot talk in public.

There is a reason for this one-sided development of the farmer and farmers' wives. They have been accustomed to isolated lives, where they have done much thinking and little talking. The farmer when working alone in the field has been thinking out solutions for his problems, and doing little talking. The result is while he may be cultivating the power to think, he is not learning expression—or how to tell his thoughts to another clearly and concisely.

The farmer's wife probably is living in about the same way off in a back country neighborhood, and with her husband lacks the faculty of expression, especially if called on to speak in a Grange, Gleaners' Arbor, Farmers' Club, church meetings, etc. The development of character is one-sided, and a person is more symmetrically and fully developed, when along with the acquisition of useful knowledge and ability to think and do good work, are cultivated the latent faculties of pleasing expression—communicating our thoughts to others, and interchanging ideas, experiences, we have found good in a helpful way and so benefit each other.

The only way to cultivate the dormant faculties of farmers is for them to use them, and becoming members of some organization that holds formal meetings is the best way to do this. Then when a subject is placed on the program for discussion at future meetings in a Grange or Farmers' Club, or whatever the organization may be, to write ones' thoughts about it until they are well expressed. Having the subject matter well in hand, one need not fear when his opportunity comes to speak. If he has studied the subject sufficiently he will probably be so full of it, it will be harder work to keep still than to talk. When one is so full of his subject that he is running over, so to speak, he will think more of it than of himself, and when he loses self-consciousness, stage fright is gone.

If one finds it still difficult to speak before an audience after making due preparation, if he will persist in rising and saying only a few words, his fear will soon pass away. I have seen such demonstrations in the Grange. One member told me that at first when called upon to take part in ritual work or on the literary program, that his knees would shake so they would hardly hold him up. Now he talks well and

easily with no embarrassment. In fact my home Grange of over one hundred members nearly all speak in public now and enjoy debating even when the meetings are open to the public. At our Grange field day picnic, there were plenty ready to respond to after-dinner toasts.

One of the best functions of a farmer's social or business organization is the development of this dormant and unused side of a farmer's character of which I have written. Its requirements oblige him to talk, and its educational and social programs draw him out and wake him up and he finds himself a better developed man.

What I have said for the men in the Grange, includes the women, and especially the boys and girls, for the young people who are members of the Grange will have less to do in after life in overcoming stage fright.

Farmers and their families have made a mistake in not taking part in the social and recreational life of a community, and helping to make it better, and to know each other, to be more neighborly and friendly, and to live more in Christian brotherhood. Because farmers generally have not done this, their interests as they see them, have not been unified, and cooperation in organizations for their mutual good have accomplished but little. They pull apart instead of together in politics, educational matters, and the church, and progress is slow toward the betterment of country life. Isolated individuals, or entities, living each separate lives, having different beliefs, with little social intercourse, do not combine to work for a common good.

ONE THOUSAND MEN IN FIVE-ACRE CONTEST.

Fifty-eight counties in the state already have representatives in the five acre corn contest conducted each year by the Indiana Corn Growers' Association. Each county has an average of fifteen enrolled, but one county, Madison, with the largest number in the state, already has one hundred corn growers signed up, J. A. McCarty, of the Purdue Extension Department, who has charge of this work, reports.

Interest in the results of past contests and the attraction of the bronze medals offered for men in the seventy-five to eighty-five-bushel class, which are given in addition to the gold and silver medals, has drawn many into the contest. Better farming associations and farm bureaus also have shown a desire to have the contests in order to know what it costs to produce a bushel of corn in their county. These organizations also feel that a greater effort will be put forth for increased food production if the men are enrolled in the contest.

Gold medals are awarded to all the men who grow one hundred bushels to the acre and silver medals to all those who grow eighty-five bushels and less than one hundred. Last year there were 330 contestants in twenty-nine counties. The number of counties already has been doubled this year, and the number competing will reach nearly one thousand, it is thought.

A sheep club with thirty-four members was organized at Traverse City last week. The bankers are assisting in purchasing the sheep for the club members.

Put not your trust in money, but put your money in trust.—Oliver Wendell Holmes.

It's hard for an empty bag to stand upright.—Benjamin Franklin.

Use More Milk.—U. S. Food Adm.

CATTLE

"Top-Notch" HOLSTEINS

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

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

A Few Fine Bulls For Sale

Bigelow Holstein Farms, Breedsville, Mich.
\$50 gets 1 mo. old son Pontiac Hesperia 2d. 14 lb. granddam 30.21 lb. Herd free of tuber. Terms 1800 April adv. for females. **M. L. McLAULIN, Redford, Mich.**

Stonyhurst Stock Farm

Has a few fine bulls for sale. Are offering one this week from a 21.79 lb. Jr. 4 and sired by Pet Johanna Sir Hartog whose daughters are just coming fresh. One at 24 years has a 25 lbs. record. This youngster is 3 mos. old finely marked, straight and weighs 350 lbs. his full sister has just made at 1 year 11 mos. 17.94 of butter, 455.5 milk 7 day. Priced Cheap. **F. A. BARNETT & SONS, Rochester, Mich.**

The Pontiac Herd

"Where the Champions come from"

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

Do you want a Pontiac in your herd?
Pontiac State Hospital, Pontiac, Mich.

HOLSTEINS

He works the latest milk and butter producing cows are pure bred

You can make more money with this profitable breed. Write for free illustrated booklets.

The Holstein-Friesian Association of America, Box 164, Brattleboro, Vt.

HOMESTEAD FARMS

A Federation of Interests
Holsteins--A herd of high class Holsteins; Young Bulls, Calves, Bred Heifers and cows.

Will you write to us for full description and photographs?
HOMESTEAD FARMS, Bloomingdale, Mich.

Holstein bull, nearly ready for service, large straight deep bodied, handsomely marked 3/4 white. His six nearest dams have A. R. O. records that average butter 7 days 24.13 milk 534 lbs. W. B. Reader, Howell, Mich.

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

Registered Holstein bull calf, born Sept. 1917, dam daughter of 24 lb. cow, write for pedigree and price. F.O.B. your station. **E. E. STURGIS, R. 3, St. Johns, Mich.**

Holstein calves, 25 heifers, & 2 bulls 15-16ths pure, 5 weeks old, beautifully marked, \$25 each, crated for shipment anywhere. Buy only the best. **EDGEWOOD FARMS, Whitewater, Wis.**

Parkside Holstein bull. Sired by son of Maplecrest Pontiac Application. Yearly record 134 lb. butter. Also Percheron Stallion. **J. E. TIRRELL & Son, Charlotte, Mich.**

HEREFORDS

6 bull calves for sale, Perfection Fairfax and Prince Donald breeding.

ALLEN BROS., PAW PAW, MICH.

Herefords Bob Fairfax 494027 at head of herd. 14 bulls for sale all ages either polled or horned. **EARL O. McCARTY, Sec'y Mich. H. B. Ass'n, Bad Axe, Mich.**

BROOKWATER FARM

2 Bulls

Ready for Service

Sired by butter bred bulls and out of high testing dams.

The Producing Kind with Jersey type and capacity. Prices reasonable. Also a few bred gilts (Durocs) and boars.

Brookwater Farm,
Herbert W. Mumford, Owner,
J. Bruce Henderson, Mgr.
Ann Arbor, Mich.
R. 7.

REGISTER OF MERIT JERSEYS

Choice Bulls ready for service. Also heifers for sale. Strong in the Blood of Royal Majesty. Come and see them or write for particulars. **THE WILDWOOD HERD,**
Alvin Balden, Capao, Mich., Phone 143-5.

DISPERSION SALE

60 REGISTERED HOLSTEINS

LONG BEACH FARM HERD

A herd with a State Wide Reputation.

Tuesday, May 28th, at 11:00 A. M.

30 cows of milking age. 18 A. R. O.

Long Beach De Kol Korndyke, will be sold with 30 of his lovely daughters, 11 have A. R. O. records, 8 above 20 lbs., 10 of his fine sons from A. R. O. dams, from 3 to 10 months old. Our "Baby Sire" a son of Colantha Johanna Lad will be sold. Daughters & Granddaughter of King Segis, Pontiac Aaggie Korndyke, Johanna Rue 3rd Lad, Friend Hengerveld De Kol Butter Boy, Spring Farm King Pontiac 6th, King Korndyke Sadie Vale & King of the Pontiacs.

Herd Under Feeder Supervision. Sale will be held at Long Beach Holstein Farm, Gull Lake. Trolley cars from Kalamazoo, Battle Creek and Grand Rapids take you to Gull Lake Station, there launches will take you within ten rods of the barn. Send for catalog.

F. S. KENFIELD, Prop.

Col. D. L. PERRY, Auctioneer, W. R. HARPER, Salesmanager
All other stock including 50 Registered Hampshire Hogs will be sold June 5th.

For Sale Jersey Bull

Goldie's Foxhall No. 161955. Dropped March 22, 1917. Solid color, black tongue & switch. A fine individual large of his age, will sell cheap. Also a young cow & several bred heifers, all of solid color.

NEWMAN'S STOCK FARM, R. 1, Marlette, Mich.

Choice Reg. Jersey Bull Calves, 2 bulls 3 mos. old from dams that are doing better than 40 lbs. monthly grandsons of Majesty's Western King. Price \$50 reg. & transferred.

FRED A. BRENNAN, Capao, Mich.

Maple Lane R. of M. Jersey herd. For sale bulls, bull calves and heifer calves sired by a grand son of the greatest Jersey bull in the world. Fogs 39th of Hood Farm.

IRVIN FOX, R. 3, Allegan, Mich.

JERSEY bull and bull calves for sale from R. of M. Cows, also heifers and cows of all ages.

C. B. WEHNER, R. 5, Allegan, Mich.

Jerseys for sale Ready for service bulls. St. Lambert, Raleigh, Majesty, breeding. **WATERMAN & WATERMAN**

Meadowland Farm, Ann Arbor, Mich.

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

For Sale A fine, dark, solid color Jersey bull 16 mos. old. Double grandson of Royal Majesty and out of R. of M. cow.

C. & O. DEAKE, Ypsilanti, Mich.

BIDWELL SHORTHORNS

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

BIDWELL STOCK FARM,
Box B, Tecumseh, Mich.

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

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

Richland Farm

Shorthorns.

IMP. Lorne in Service, Grand Champion Bull of Mich. Special offer on 14 head of Shorthorns. Cows with calves at foot, heifers two years old and heifers one year old. Also a number of bull calves. We invite correspondence and inspection.

O. H. PRESCOTT & SONS,

Farms at Prescott, Mich. Office at Tawas, City, Mich.

Francisco Farm Shorthorns

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

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

Fair Lawns Shorthorns

Yearling bulls by Canada's best sires: Missie Augusta 605778 and Imp. Newton Frier 528120.

LAURENCE P. OTTO, Charlotte, Mich.

Shorthorns. Three scotch bulls ready for service. Price reasonable.

W. B. McQUILLAN, R. 7, Howell, Mich.

Shorthorns Maxwilton Monarch 2nd. 387322 half brother to 5 Grand Champions in service.

JOHN SCHMIDT, R. 5, Reed City, Mich.

SON of Harthorth Welfare heads our herd of milking Shorthorns comprising Chifley of Clay bred cows, young bulls ready for sale and service. Write us

Liddel Bros., R. 2, Clinton, Mich., Macon Phone.

1867-1918 Maple Ridge Herd of Shorthorns Yearling heifers and bull calves for sale.

J. E. TANSWELL, Mason, Mich.

Shorthorns Four very desirable heifers 17 to 21 months old, and bull 8 mo. All roans. Price \$1000.

S. E. BOOTH, Morrice, Mich.

Shorthorns-- Sired by a grandson of Cyrus Olney. No stock for sale.

OLLAR BROS., R. 2, Onkila, Mich.

SHORTHORNS-- 20 bulls 2 to 13 mos., mostly from S. Dorthy's Sultan 463045, a grandson of Whitehall Sultan, also a few cows. **C. Carlson, LeRoy, Mich.**

Dairymed Shorthorns of best Bates Strains, young stock of both sexes for sale.

J. B. HUMMEL, Mason, Mich.

Scotch Shorthorns for sale, 5 bulls ready for service.

John Leestler's Sons, Orion, Mich., R. F. D.

SHORTHORNS

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

Scotch Shorthorns: 1 Red Bull 14 months old; 1 red bull calf 8 months old.

W. C. OSIUS, Hillsdale, Michigan.

Grand Traverse Shorthorn Asso. Reg. stock for sale.

M. E. DUCKLES, Sec., Traverse City, Mich.

Red Polls One yearling bull. Also bull calves by Lincoln Lad 2nd.

For prices and description, write **Wells Parish & Sons, R. 3, West Olive, Mich.**

Cattle For Sale

2 Loads feeders and two loads yearling steers. Also 2 can show you any number 1, 2 and 3 years old from 600 to 1200 lbs. **Isaac Shanstun, Fairfield, Iowa, R-8**

Two Registered Aberdeen Angus Bulls for sale, 12 and 15 months old.

Longwood Farm, Charlotte, Mich. Marshall Kelly, Prop

For Sale-- Two Guernsey bull calves born respectively March 22nd and April 7th.

grandsons of "Spotwood Daisy Pearl", great-grandsons of "May Rose King", very strong in "May Rose" blood on both sides, nicely marked. **Edward Lowe, Michigan Trust Building, Grand Rapids, Michigan.**

HOGS

DUROCS

You want more size, feeding qualities. Fall boars ready for service. A few sows bred for June farrowing.

NEWTON BARNHART, St. Johns, Mich.

DUROCS Orion Chief Perfection No. 68945, and Jennings Pilot Wonder No. 73375. Two outstanding boars of big type and excellent quality. All selected large type smooth sows. Thrifty, smooth, large boned spring gilts from these herd boars and choice sows at very reasonable prices. **The Jennings Farms, Bailey, Mich.**

DUROC JERSEYS

E. D. HEYDENBERG, Wayland, Mich.

Duroc fall boars sired by Crimson Ortic T. Satisfaction and Brookwater Principal, priced right. Bred sows all sold.

M. C. TAYLOR, Milan, Mich.

Durocs Can spare two or three bred daughters of Joe Orion 2nd the \$5000 boar.

A. FLEMING, Lake, Mich.

Choice Duroc Jersey Gilts For Sale.

CAREY U. EDMONDS, Hastings, Mich.

DUROCS service boars, bred sows, fall pigs. Express paid.

J. H. BANGHART, Lansing, Mich.

Duroc Jerseys for sale. Service boars & spring pigs also Shorthorn bulls, calves, milking strains.

CHAS. BRAY, Okemos, 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 developed ready for market at six months old. Write for my plan--More Money from Hogs.

G. S. BENJAMIN, R. F. D. 10, Portland, Michigan

Spring Pigs for sale. Pairs and trios not akin. Breeding and prices on request. **J. D. ORANE & SON, Plainwell, Mich.**

Chesters Early spring pigs either sex in pairs or trios. One extra good fall boar.

F. W. ALEXANDER, Vassar, Mich.

Crandell's Big Type O. I. C's

Champion herd everywhere shown in 1917. Herd headed by five champion boars. Our sows won Senior, Junior and Grand Champion prizes at Illinois, Missouri, Ohio and Michigan 1917. Special prices on all spring pigs. Get our catalog it is free.

Crandell's Prize Hogs, Cass City, Mich.

O. I. C's 2 choice May boars & Sept. & Oct. pigs sired by First Premium boar Mich. State Fair 1917.

Clover Leaf Stock Farm, R. 1, Monroe, Mich.

BRED GILTS and SERVICEABLE BOARS

J. CARL JEWETT, Mason, Mich.

O. I. C's all sold except some fall gilts. Order your spring pigs now.

C. J. THOMPSON, Rockford, Mich.

O. I. C's Last spring gilts bred for next spring farrow also last fall pigs either sex and not akin.

Good growthy stock 3/4 mile west of Depot, Citizens phone 124. **Otto B. Schulze, Nashville, Mich.**

O. I. C. For sale fall gilts and a few gilts bred for June farrow.

F. C. BURGESS, Mason, Mich. R. F. D.

O. I. C's Big type serviceable boars. Spring farrowed boar pigs. Bred gilts to farrow July and Aug.

G. F. ANDREWS, Dansville, Mich.

A Great Opportunity

We are offering one of our herd sires, Big Type Poland China Yearling Boar. His sire a prize winner at Kansas State Fair. His dam a prize winner at Missouri, Iowa, Kansas and Nebraska State Fairs. A splendid individual and perfectly marked. Spring pigs for sale.

HILLCREST FARM, Kalamazoo, Michigan

FOR SALE

Smooth Jumbo a grandson of Peter Mow's old boar Smooth Jumbo a 600 lb. yearling. A top notcher fit to head any herd. Also some nice bred gilts at \$50. If you get one you will have to hurry.

J. C. BUTLER, Portland, Michigan.

Large Type P. O. no public sale this year; 30 sows and gilts all queens of the breed go at private treaty.

W. J. HAGELSHAW, Augusta, Mich.

Big Type P. O. Big boned fellows from Iowa's greatest herds. Special price on spring boars.

E. J. MATHEWSON, Burr Oak, Mich.

Nothing are coming fine. Spring pigs

O. E. GARNANT, Eaton Rapids, Mich.

Large Type P. C.

Bred gilts and boars all sold nothing to offer at present.

W. E. LIVINGSTON, Parma, Mich.

LEONARD'S Bred sows all sold, fall pigs, orders booked for spring pigs at weaning time. Shipped C. O. D.

E. R. LEONARD, St. Louis, Mich.

P. C. Sows For Sale. Bred for April farrow.

A. A. WOOD & SON, Saline, Mich.

Large Type P. C. fall gilts, sire 300 lb. yearling to be bred to 1000 lb. 2 year old for July & Aug. 2 extra good fall boars.

WM. J. CLARKE, R. 7, Mason, Mich.

Large Strain, P. C. A few gilts left bred for June farrow and 2 nice boars ready for service at farmers prices.

H. O. SWARTZ, Shoolcraft, Mich.

BIG TYPE Poland Chinas: Brood sows all sold. Have a few fall pigs. Prices right.

L. W. BARNES & SON, Byron, Mich.

Hampshire Boars at a bargain. Book orders for Spring pigs.

JOHN W. SNYDER, R. 4, St. Johns, Mich.

HAMPSHIRE PIGS-- We have some very choice spring pigs, Messenger and General Allen blood line, perfect bell and good bone. Write your wants

L. D. O'BRIEN, R. 2, Jackson, Michigan.

HORSES

PERCHERON DISPERSAL

The entire herd of the late A. A. Palmer will be closed out; 25 pure bred percheron mares \$200 to \$400 except two; also young stallions

PALMER BROS., Belding Mich.

Percherons, Holsteins, Angus, Shropshires, Durocs

DORR D. BUELL, Elmira, Michigan.

Percheron Stallions and mares of reasonable prices; inspection invited.

F. L. KING & SON, Charlotte, Mich.

No more Registered Percherons for sale at present.

J. M. HICKS & SONS, R. 2, Williamston, Mich.

FOR SALE Two Registered Percheron stallions and two Percheron mares at the right price.

E. J. ALDRICH, Tekonsha, Mich.

Shetland Ponies, Fox Hounds, Young Coon Hounds and Belgian Hares.

W. E. LEOKY, Holmesville, Ohio.

SHEEP

KOPE-KON FARMS.

Coldwater, Mich.

Hampshires & Shropshires.

It's a wise man who orders his ram for August delivery now.

About July 1 we will offer for sale choice Shropshire Rams.

ARMSTRONG BROS., R. 3, Fowlerville, Mich.

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

LATEST MARKET REPORTS

SECOND EDITION.

The markets in this edition of the Michigan Farmer were corrected Thursday afternoon, May 16.

May 16, 1918.

WHEAT.

The new crop of wheat is developing splendidly, the government crop report showing a prospective yield of 572,359,000 bushels of winter wheat. This is 154,000,000 bushels more than was grown in 1917. Stocks of old wheat, however, are nearly depleted, the visible supply now amounting to only 2,194,000 bushels as compared with 32,143,000 bushels a year ago. At this date in 1917 the local price for No. 2 red wheat was \$3 per bushel. The present quotations are:

No. 2 red wheat.....	\$2.17
No. 2 white.....	2.15
No. 2 mixed.....	2.15

CORN.

Our reports indicate a bearish tone in the corn deal. This is explained in part to the over-buying of eastern interests who hoped to be able to ship the grain to Europe but were prevented by lack of boats and also on account of the condition of the grain which is likely to heat and germinate in the ocean voyage. This condition has caused re-selling and the forcing of lower prices at seaboard markets. Planting is also being pushed with vigor and at present there is promise that the new crop will be in the ground at a reasonably early date. Later in the season heavy exporting of the better grades of corn should stiffen market as there is great need for it abroad. One year ago the Detroit market was paying \$1.67 per bushel for No. 3 corn. Present prices for cash grain are:

No. 3 corn	\$1.40
No. 3 yellow	1.55
No. 4 yellow	1.45
No. 5 yellow	1.30
No. 6 yellow	1.25

The Chicago corn deal showed some strength early this week with prices above the close on Saturday as follows:

No. 3 yellow	\$1.58@1.63
No. 4 yellow	1.40@1.50

OATS.

From southwestern districts are reports of this crop suffering for lack of moisture. This, however, is the only exception to the generally favorable weather conditions for the development of the new oat crop. In spite of this, however, the market reflects a steady tone, as foreign buying has come to the rescue once more to prevent declines in market values. Export clearances last week were 1,931,000 bushels compared with 912,000 bushels for the corresponding week a year ago. Standard oats were quoted on the local market at 74½¢ for this date in 1917. Present prices for cash oats are:

Standard	79
No. 3 white	78½
No. 4 white	77½

BEANS.

Our reports reflect no important changes in the bean situation, except that stocks are being increased through the pressure of selling from producing sections. Local prices have declined to a \$10.75 per cwt. basis. At Chicago the deal is slow and the volume of trade small, with cash prices as follows: Michigan navies, H. P. ... \$12.00@12.50 Red kidneys, fancy..... 13.00@13.50 Red kidneys fair to choice 10.00@11.00

FEEDS.

As dealers' old contracts for feeds are terminated, the government is finding it possible to secure a better control of the mill feed situation, although no definite improvement is as yet evident in Michigan feeding districts. Following are feed prices per ton in 100-lb. sacks, as reported on the local market:

Bran	\$36.00
Standard middlings	38.00
Middlings, fine	45.00
Cracked corn	65.00
Coarse corn meal.....	65.00
Chopped feed	53.00

HAY.

The hay market has a firmer tone and the demand is better at the following steady prices:

No. 1 timothy.....	\$20.00@20.50
Standard	19.00@19.50
Light mixed	19.00@19.50
No. 2 timothy.....	18.00@18.50
No. 1 clover.....	16.00@16.50

Pittsburgh.—Receipts are light and demand good at following values:

No. 1 light timothy..	\$25.50@26.00
No. 1 light mixed....	20.50@21.50
No. 1 clover mixed....	15.50@17.00
No. 1 clover	14.50@16.50

RYE.

This grain is being neglected by the trade. Detroit cash No. 2 is quoted at \$2, while Chicago market is nominal.

POTATOES.

The "Eat More Potatoes" campaign is reflected in a steady condition in a majority of the markets over the country. Carlot shipments are decreasing somewhat, although both old and new stock is moving liberally. To maintain the present rate of consumption producers should keep stock moving to shipping points. Florida 1918 potatoes are being forced on the market, but Michigan people are showing their state patriotism by using the northern grown tubers. Jobbing prices for Michigan stock U. S. Grade No. 1, and the condition of the respective markets as collected over special wires by the Bureau of Markets are as follows:

Detroit (steady)	\$1.10@1.17
Cleveland (good)	1.30
Buffalo (unsettled)	1.35@1.45
Washington (steady)	1.70
Pittsburgh (variable)	1.10@1.30
Indianapolis (steady).....	1.30
Chicago (steady)	1.15@1.25

Growers in Michigan are receiving 50¢@65¢ per cwt. at the country loading points, and Wisconsin farmers 60¢@65¢.

BUTTER.

The unsettled conditions that usually prevail in the butter market during the season appear to be at hand. Pastures are coming along nicely and already there is evidence of increased production in the leading dairy states. As a result the trade is easier and the dealers anticipate a reduction in values as soon as offerings begin to accumulate. Storage operations will not be undertaken in a large way until a lower basis of values is reached. Current consumption is above normal in volume. The Detroit market reflects the general tone of the trade with prices steady. The exchange quotation for fresh creamery extras is 42¢, although some dealers are paying up to 44¢ and occasionally a premium is offered above the latter price. Fresh creamery firsts 41¢@41½¢. At Chicago creameries range from 35¢@42¢ and miscellaneous packing stock 30¢. In New York butter rules steady with best creameries at 47¢@47½¢; extra do 46¼¢@46½¢; firsts 43½¢@46¢.

CHEESE.

This trade is in an easier way. In some districts large holders are becoming a little anxious about disposing of their stocks by the time fixed by the government, and are therefore ready to make concessions which are influencing prices elsewhere. There is little reflection of this influence on the Detroit market, and prices here are slightly easier than those of last week. Flats are quoted at 21¢@23¢ for new and 26¢ for old; Michigan dairies 21½¢; dom. Swiss 35¢@44¢. The Philadelphia market is steady with full creams at 25¢@25½¢. New York has a quiet market with specials at 24½¢@26¢, and average run at 23½¢@25¢. In Chicago, American grades are steady at 22½¢@22¾¢; dairies double 21¼¢@21½¢; do single 21¢@21¼¢.

EGGS.

Our reports reflect a very large consumption of eggs over the entire country, and the business of supplying this current demand is excellent. For shipping and storage purposes, however, the trading is not so aggressive. The Detroit market is active with prices holding about steady with a week ago. Fresh firsts 34¢@35¢, with a 2¢ and 3¢ premium being paid by some. Storage stock 36¢. Receipts at Chicago have increased. Firsts 32½¢@32¾¢; ordinary firsts 30¢@31½¢; miscellaneous receipts, cases included 31½¢@32½¢.

WOOL.

As was reported a week ago, the war industries board of the government has taken absolute control of the wool industry of the United States. The committee on the valuation of domestic

wool has submitted a preliminary report of the July 30, 1917, value of Michigan fleeces on a clean-scoured basis, for average lots largely three-eighths blood at \$1.25 per pound, and average lots largely one-quarter blood at \$1.20 per pound. Further details in the handling of the fleeces will be announced as soon as the information is available.

GRAND RAPIDS.

Potatoes at last reports were around 60¢ per cwt, with the market almost lifeless. While the stock of tubers at some points seems to be pretty well cleaned up, the aggregate still in first hands is too large. As to the potato acreage for 1918, one farmer says this is a good year to plant, while his neighbor says he will plant only enough for his own use, so that the final outcome is puzzling. Eggs are worth 33¢@34¢; No. 1 dairy butter 40¢; heavy fowls 28¢. The mills are quoting grain prices as follows: Wheat \$2; rye \$1.90; barley \$1.50; corn \$1.80; oats 85¢.

DETROIT CITY MARKET.

A fair amount of trade is going on at the city markets, with parsnips selling around \$1; potatoes 70¢@80¢ per bu; onions 65¢@75¢; carrots \$1; lettuce \$1; eggs 42¢ per dozen.

LIVE STOCK DETROIT

May 15, 1918.

Cattle.

Receipts 1531. Market steady on dry-fed; bulls dull; cattle that have been on grass \$1 lower than last week. Best heavy steers.....\$15.50@16.25 Best handy wt. butch. str. 13.50@14.75 Mixed steers and heifers 12.50@13.50 Handy light butchers..... 11.00@12.50 Light butchers

Receipts 1,202. Market is 50¢ higher than on Tuesday.

Sheep and Lambs

Receipts 904. Market steady. Best lambs

Receipts 3216. Good pigs steady at \$17.75; mixed \$17.50, or 15¢ lower than on Tuesday.

CHICAGO.

May 15, 1918.

Cattle.

Our special representatives in the Chicago Stock Yards report as follows:

Wednesday, May 15..... 5,500
Total, last week..... 55,724
Total, preceding weeks. 54,136
Total, week year ago..... 51,561
The market was active and strong today with prices as follows:
Choice to fancy steers.....\$17.00@17.70
Poor to good steers..... 12.50@16.90
Yearlings, fair to fancy..... 13.50@17.00
Fat cows and heifers..... 8.25@14.50
Canning cows and cutters 7.00@ 8.15
Native bulls and stags... 9.00@13.40
Stockers and feeders..... 8.75@13.50
Poor to fancy calves..... 9.50@14.00

Hogs.

Wednesday, May 15..... 19,000
Total, last week..... 159,554
Total, preceding week.. 159,471
Total, week year ago.. 132,714
The hog market weakened today and prices now are:
Pigs

Sheep and Lambs.

Wednesday, May 15..... 6,000
Total, last week..... 44,721

Total, preceding week.. 50,771
Total, week year ago.... 46,064

Market is active but weak and buyers are favored by the situation. Quotations are:

Lambs, common to fancy \$17.75@20.00
Lambs, poor to good culls 15.25@17.50
Yearlings, poor to best.. 15.75@18.25
Wethers, poor to best.... 15.00@16.75
Ewes, fancy to choice.... 10.00@16.25
Bucks, common to choice 13.00@15.50
Above quotations for woolled stock.
Shorn lots at \$2.50@4 discount.

BUFFALO.

May 15, 1918.

Cattle.

Receipts today 100 cars; market is steady at following prices:

Prime heavy steers.....\$17.00@17.25
Best shipping steers..... 16.50@17.10
Fair to good

Hogs.

Receipts 3,400. Market ruling slow at 5¢@25¢ lower than Monday. Quotations as follows:
Medium to heavy.....\$18.00@18.10
Yorkers

Sheep and Lambs.

Receipts 1,400. Market is easy as follows:
Top lambs

Calves.

Market rules steady at the following prices:
Tops

HAPPENINGS OF THE WEEK.

(Continued from page 620).

ing 100 prisoners.—Italian troops storm Austrian post on the northern mountain front, while artillery duels occur in the Arsa and Brenta valleys and along the Piave river.—Paris reports 150 foe divisions between the Oise river and the North Sea.—Teutonic military chiefs are in conference at German field headquarters where the Kaiser has been since last Thursday.—Russians send protest to Germany asking that military aggressiveness be stopped, especially in the Ukrain district.

Tuesday, May 14.

Germans resume terrific artillery fire in the Amiens triangle with the greatest intensity to the north of Serre. Guns are also booming around Mont Kemmel.—Austrians try in vain to recapture Mont Corno from the Italians, who took the position last Saturday morning.—British are pursuing the Turks beyond Kirkut in Mesopotamia.

Wednesday, May 15.

Civil war reopens in Russia with fighting at Moscow between Bolsheviks and anarchist forces.—Germans transport forces from Roumania to western front.—Australian troops regain some ground south of Albert.—Germans are also repulsed near Mont Kemmel.—Additional reports of disorder in Bohemia are received.—Roumanian cabinet quits.—Lower house of congress passes Overman bill with only two dissenting votes.

Thursday, May 16.

Russian troops are now being reorganized to oppose Germany.—Finns cooperating with German forces are ready to enter Russia from the north.—German battleships are concentrating at Kiel.—Additional German forces arrive in Belgium.—Attempts to gain Hill 44 near Mont Kemmel have been disappointing to the Germans.—Quiz reveals German plot to arm Teutons in America when this country entered the war.

MICHIGAN CROP REPORT.

Wheat.—The condition of wheat in the state is 57, in the southern counties 53, in the central counties 51, in the northern counties 69 and in the upper peninsula 98.

The total number of bushels of wheat marketed by farmers in April is 143,005 bushels. The estimated total number of bushels of wheat marketed in the nine months, August-April is 8,000,000 and the quantity yet remaining in the possession of growers after deducting 3,000,000 bushels used for seed and home consumption is about 900,000 bushels.

Rye.—The average condition of rye in the state is 76, in the southern counties 74, in the central counties 71, in the northern counties 82 and in the upper peninsula 88. The condition one year ago was 86 in the state, 84 in the southern counties, 82 in the central counties, 93 in the northern counties, and 98 in the upper peninsula.

Meadows and Clover.—The condition of meadows and pastures in the state is 81, in the southern counties 87, in the central counties 76, in the northern counties 80 and in the upper peninsula 94. The acreage of clover sown as compared with last year is 88 in the state, 89 in the southern counties, 84 in the central counties, 86 in the northern counties and 99 in the upper peninsula. The average of clover that will be plowed up because winter killed or otherwise destroyed is 26 in the state and southern counties, 20 in the central counties, 31 in the northern counties and upper peninsula.

Oats.—The acreage of oats sown or

the prospect at present for a crop of the various kinds of fruit in the state and the different sections:

	State.	Sou. Cos.	Cent. Cos.	Nor. Cos.	Up. Pen.
Apples	77	76	74	84	91
Pears	72	73	67	70	80
Peaches	16	15	15	30	...
Plums	71	71	70	72	100
Cherries	78	76	75	87	90
Small frt....	81	84	76	78	93

The average prospect for peaches in the Michigan Fruit Belt is eight per cent, one year ago it was 30 and two years ago 79 per cent in the same territory.

Ten-year average yield per acre of the principal farm products grown in Michigan for the years 1907 to 1916 inclusive:

	Bushels.
Wheat	16.72
Corn	30.05
Oats	30.27
Barley	23.95
Rye	14.48
Buckwheat	14.24
Potatoes	32.18
Beans	11.42
Peas	16.08
Clover seed.....	1.52
Apples	56.17
Peaches	58.36
Pears	69.00
Plums	60.47
Cherries	83.67
Strawberries	53.40
Raspberries and blackberries.....	42.81
Sugar beets	9.08
Hay and forage	1.29

Grain and seed threshed in Michigan up to and including April 27, 1918, as

do for a three-weeks-old calf that is troubled with scours? This calf sucks the cow twice a day and I might add that the cow is fed ensilage, but she seems to be in good health. P. O. P., Maple City, Mich.—Give your calf 10 grs. of salol at a dose four or five times a day. You had better feed milk that has been sterilized; furthermore, he should be kept in a clean dry pen which is exposed to the sunlight. Also keep pen clean and well disinfected.

Rheumatism.—We have some calves which seem to have no power in their legs and cannot rise up themselves, they have to be lifted up and they can walk by themselves when up. Since the first of March when I took charge of them, they have been lying on a good dry bed, but before that their pen was wet and the manure was a foot thick. I cleaned out, and a few weeks later they got down. They have been fed well. I think it is rheumatism. I have tried all the remedies I know of, but they don't seem to do any good. L. J. S., Twin Lake, Mich.—Give each of your calves 10 grs. of sodium salicylate at a dose two or three times a day. Change their feed, keep them dry and warm.

Our Special Market Service

Special Telegraphic Service from Twenty-six different market centers and producing sections.

Reports from special correspondents at Chicago, Grand Rapids, Buffalo, Greenville and Detroit.

Special live stock reports from Detroit, Chicago and Buffalo.

Latest market news on butter, eggs and cheese from Detroit, New York, Chicago, Philadelphia and producing sections.

Special potato reports from principal producing sections and distributing points.

Special market wire service on perishables, including potatoes, sent to subscribers upon request—subscriber to pay telegraphic charges from Detroit.

U. S. Daily Market Reports sent subscribers upon request.

Market quotations revised to Wednesday for first edition—to Friday for second edition.

Our market reports are ACCURATE, CONCISE, READABLE, and UNPREJUDICED.

NOTE.—We are not financially interested in the buying and selling of farm products and do not publish quotations that would misrepresent conditions for selfish purposes.

that will be sown as compared with last year is 107 in the state, central counties and upper peninsula, 108 in the southern counties and 101 in the northern counties.

Chicory and Mint.—The number of acres of chicory in the state so far as reported is 1,332 and the number of acres of mint 25,093.

Spring Pigs and Lambs.—The per cent of spring pigs saved as compared with 1917, is 91 in the state, 94 in the southern counties, 85 in the central counties, 88 in the northern counties and 100 in the upper peninsula. The per cent of lambs saved as compared with 1917, is 94 in the state and southern counties, 95 in the central counties, 93 in the northern counties and 99 in the upper peninsula.

Farm Wages.—The average monthly wages with board is \$39.29 in the state, \$39.57 in the southern counties, \$38.79 in the central counties, \$37.42 in the northern counties and \$43.89 in the upper peninsula.

The average wages by the day without board is \$2.43 in the state, \$2.46 in the southern counties, \$2.38 in the central counties, \$2.30 in the northern counties and \$2.69 in the upper peninsula. The average wages in the state last year by the month with board was \$34.29 and the average wages by the day without board was \$2.10.

The estimated number of acres of spring wheat sown, so far as reported is about 30,000.

Fruit.—The following table will show

per returns of threshermen is as follows:

	Acres.	Bu.	Yield per acre
Wheat	772,559	13,924,798	18.02
Rye	323,434	4,533,777	14.02
Oats	1,240,332	44,813,642	36.13
Barley	129,045	3,319,962	25.73
Buckwheat	32,756	350,862	10.71
Peas	14,928	155,007	10.39
Beans:			
White ..	425,391	2,899,549	6.82
Red kid'y	8,830	46,391	5.25
Brn Swed	2,313	12,915	5.58

VETERINARY.

Rheumatism.—I have a cow that don't act right; about six weeks before calving she showed lameness in right hind quarter, but three weeks later she showed lameness in fore quarter and was scarcely able to get up or to walk. After walking a few steps the muscles of shoulder would tremble. I was inclined to believe that she suffered pain and perhaps had rheumatism. A. D. S., Edwardsburg, Mich.—Your cow suffers from rheumatism and will be benefited by rubbing her shoulder with equal parts of turpentine, aqua ammonia and raw linseed oil every day or two. Also, give her 1 dr. of sodium salicylate and 1 oz. of baking soda at a dose in feed two or three times a day. She should be kept in a dry, comfortable, well-bedded stall.

Scours.—Could you tell me what to

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As a war measure, Mount Sinai Hospital School of Nursing is entering a special class, June 15th, 1918. Recognizing the need for additional nurses for military and civilian purposes, the Mayor's Advisory War Committee of Cleveland, and the Western Reserve University have made this course possible, the former by supplying the funds, and the latter by offering its facilities for a ten weeks' course in theory. Students will live at the hospital which is in close proximity to the University. No tuition will be charged for the course at the university. Living expenses will be met by the Hospital. This plan offers unusual opportunities to qualified young women wishing to serve their country. Applications should be made at once to Miss C. A. Wheeler, Principal of Mount Sinai Hospital School of Nursing, 1800 East 106th Street, Cleveland, Ohio.

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32x3 1-2	12.65	14.25	34x4 1-2	23.75	25.50
31x4	16.00	18.00	35x4 1-2	25.00	27.00
32x4	16.25	18.25	36x4 1-2	25.50	27.50

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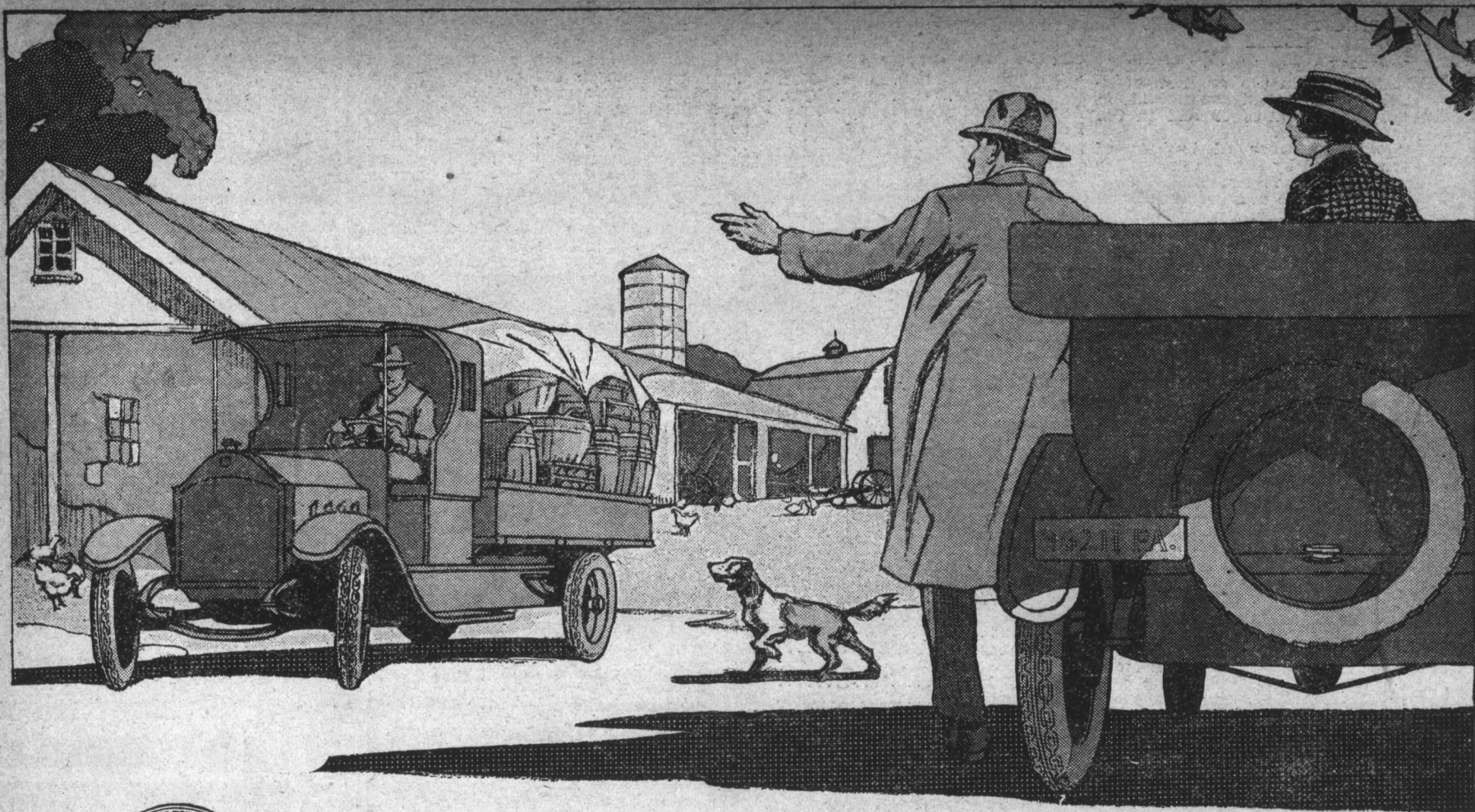
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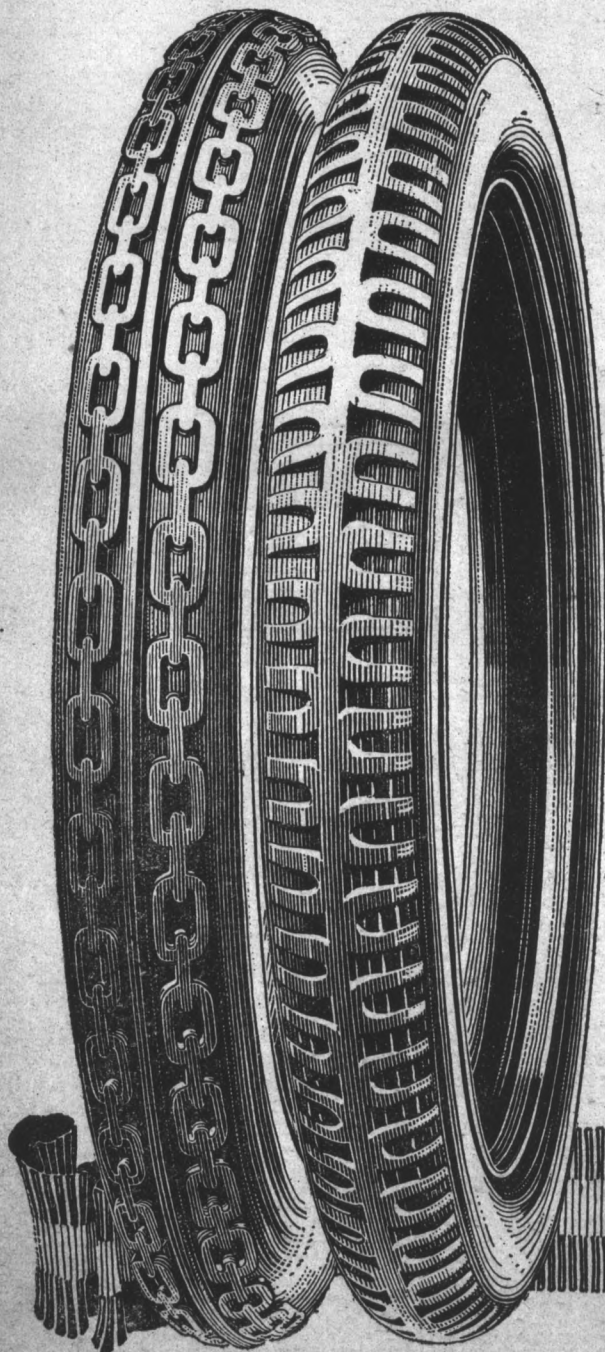
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