

MICHIGAN FARMER

AND LIVE STOCK JOURNAL.
PUBLISHED WEEKLY. ESTABLISHED 1843.

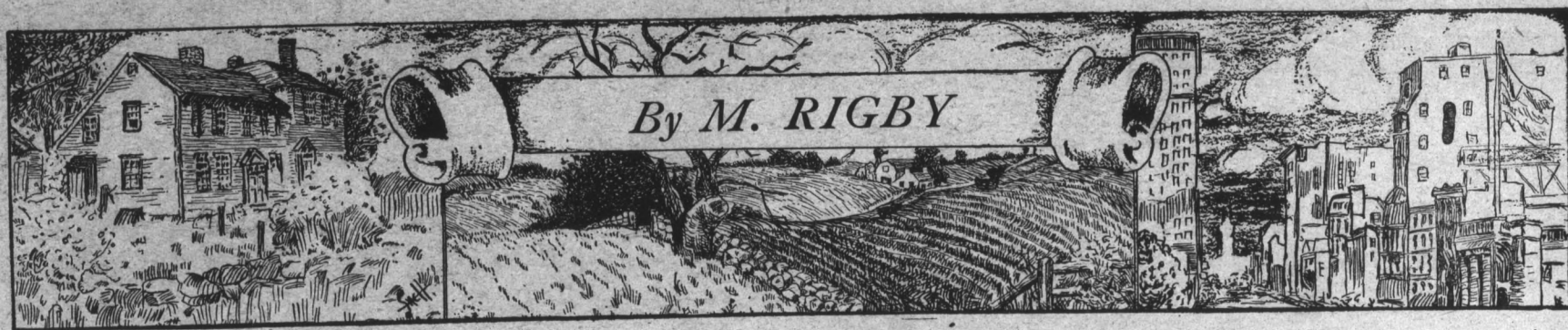
The Only Weekly Agricultural, Horticultural, and Live Stock Journal in the State.

VOL. CLI. No. 20
Whole Number 4019

DETROIT, MICH., SATURDAY, NOVEMBER 16, 1918

\$1.00 A YEAR
\$5.00 FOR 5 YEARS

Farm vs. City Employment



IN many sections it is not only the draft that has reduced the available supply of farm labor. Men and boys have been drifting to the city for ten years or more because of the seemingly high wages that have been paid in the factories. Some men who would have been owners by this time if they had remained on the farm are now working for wages and spending most of their income to meet the daily bills.

A wage of \$5.00 per day looks quite large to many farmers and in addition when that wage is guaranteed, it seems to be a doubly fine proposition. Right now, there are some farmers who can hardly resist selling their land, investing the money in bonds and hiring out in factories where their income will be guaranteed. They forget the cost of living in the city. It seems as if it is good business to stick by the farm in these uncertain times.

The shorter hours of city employment usually appeal to the farmer. One farmer who became tired of twelve and fourteen hours on the farm hired out to work in an automobile factory where the men worked ten hours each day. On the farm he had worked long hours, but the work had constantly changed and he never became entirely sick of one job before it was finished and another came to vary the monotony.

In the factory he was placed on a drill press and for several weeks he made three holes through a certain piece of metal and then he took another piece and made three holes through that, and so on for three weeks. It was the same job over and over. He saw a brother laborer in the next building was putting on wheels and screwing on the hub caps. He asked the foreman for a change of work. The foreman replied in substance that the wheelman put on the wheels and the drill pressmen worked at their drills, and that they had no time for monkey-work and every man stuck to his own job and minded his own business or quit.

This man worked on his drill press until he realized how fine it was to work in the fresh air and be his own boss and he is now making plans to return to the farming business. It is absolutely true that the monotony of many kinds of farm work is nothing compared to the drudgery of doing the same job in a factory, day after day without a chance of a change of work.

Farmers live near their work and waste no time in going back and forth. In a large city like Detroit a great many of the employes of the factories have to spend an hour going to work and an hour going home. In the winter when the street cars are crowded and the windows closed, that hour going home from work is one of the hardest and longest hours of the day. The time spent between the factory and the home is seldom considered by the farmer who thinks about the short hours of city workers.

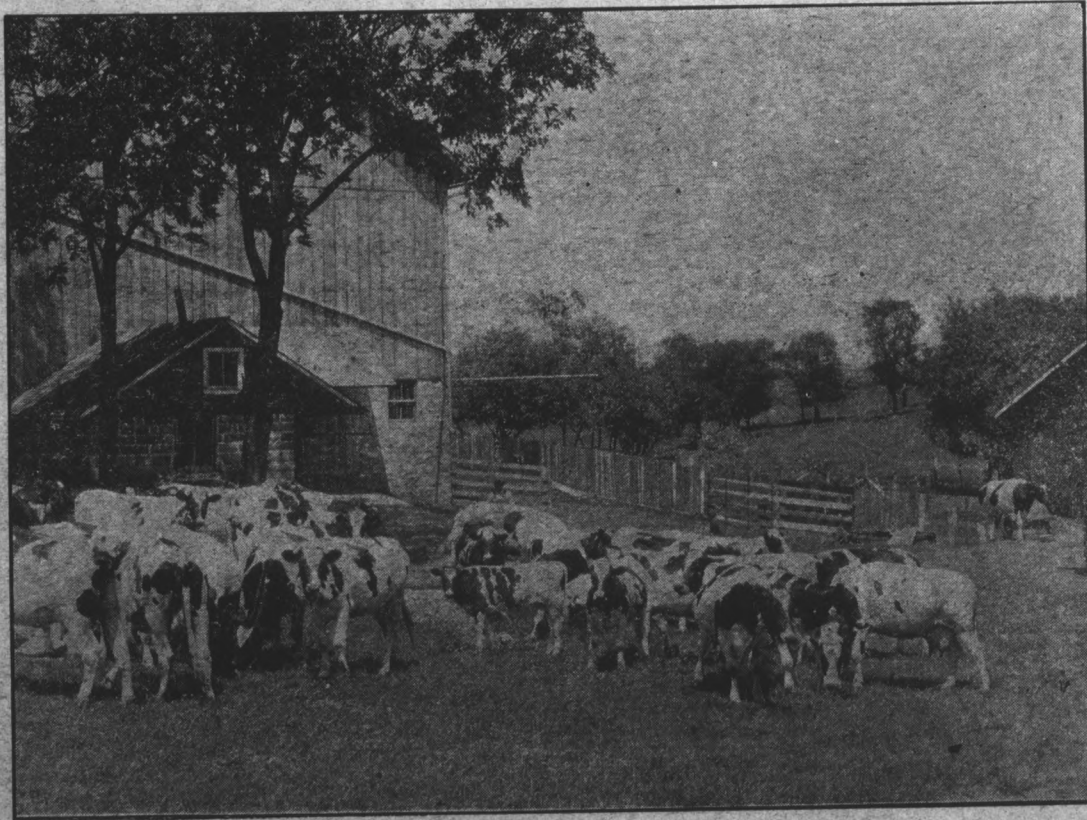
Most good farmers enjoy live stock and like to work with animals. They make friends with their cows and horses and enjoy the presence of the family dog. When such men go to the city

and find that their little flat only enables them to keep a couple of goldfish for pets, they feel that something is missing from their lives. A man who has always worked with animals is always lonesome without them. I know of one farmer who worked in a city for a short time instead of farming as he would have liked to have done. The vaudeville shows soon became uninteresting, it was lonesome in the crowds and the advantages of city life seemed very few, but that man never tired of stopping in front of a bird store where they had day-old chicks, pigeons and dogs for sale. The familiar pets which he had owned back on the farm were of more interest than all the diversions which he had looked forward to enjoying in the city.

City wages are not large when the cost of living is considered. Some men with special training do very well in the city and many men acquire that training from experience but the farmer who knows the farming business knows a trade that is worth money today and he should try and work where his skill will do most for the country.

If a man knows where he is going to land in the city it may be a safe adventure. He may succeed and earn more money than he can obtain on the farm. However, this is a poor time to speculate and the average farmer who can make a living on his land is not going to gain much by going to the city. He will not be sure of much more than a living in the city and it will cost just as much effort and it may bring a smaller return. If you have a good farm home and a chance to earn \$150 a month in the city, just take out the little note book and the stub pencil. At the top of the list mark \$40 for rent. Count the kids in the family and consider their appetites. Then note the prices of food stuffs quoted in the daily papers. Figure on more clothes for everyone in the family. It takes more in the city. Don't forget the laundry bills. Electric light and gas bills must be paid every month, also the telephone bill. When Cousin Bill comes in to spend a week, he will need to be entertained. Possibly he will bring his family with him and theater tickets are sold for cash.

Then make a little allowance for doctor bills. Many a man picks up headaches in the city that he never experienced on the farm. The automobile which was housed in an old shed on the farm will have to use a rented garage in the city. It costs money at every turn to live in a large city and obtain many of the pleasures that seem to come on a farm for practically nothing. Of course, it costs money to live on a farm and it costs a lot of work to obtain many of the things which do not mean an outlay of actual cash. It pays to balance up all of these things before making any important changes. The average city man sees all of the good things about a farm and none of the detriments. The average farmer notes all of the desirable points about city life and sees none of the disadvantages. By balancing these things a farmer will see that he should be thankful that he has a farm.



Most Good Farmers Make Friends with the Animals.

The Michigan Farmer

Published Weekly Established 1843 Copyright 1918

The Lawrence Publishing Co. Editors and Proprietors

39 to 45 Congress St. West, Detroit, Michigan

TELEPHONE MAIN 4825

NEW YORK OFFICE—381 Fourth Ave.
CHICAGO OFFICE—111 W. Washington Street.
CLEVELAND OFFICE—1011-1015 Oregon Ave., N.E.
PHILADELPHIA OFFICE—261-263 South Third St.

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

I. R. WATERBURY..... Associate Editors
BURT WERMUTH.....
FRANK A. WILKEN.....
ALTA LAWSON LITTELL.....
LEROY W. SNELL.....
W. MILTON KELLY.....

I. R. WATERBURY..... Business Manager

TERMS OF SUBSCRIPTION:

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

RATES OF ADVERTISING

45 cents per line agate type measurement, or \$6.30 per inch (14 agate lines per inch) per insertion. No advt. inserted for less than \$1.35 each insertion. No objectionable advertisements inserted at any price.

Member Standard Farm Papers Association and Audit Bureau of Circulation.

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

VOLUME CLI.

NUMBER TWENTY

DETROIT, NOVEMBER 16, 1918



CURRENT COMMENT

Peace and its Problems

ON Monday last, when the wires flashed the welcome news that Germany had accepted the armistice terms, offered by the Supreme War Council through Marshal Foch, all America celebrated the coming of peace with victory in a spirit of genuine and whole-souled joy. And well might our people, who have rendered such potent aid in the winning of this great victory for humanity celebrate the event with hilarious joy.

But with the passing of the emotions of the hour which marked the accomplishment of the primary object of our entry into the world war, the crushing of the menace of German militarism, the American people must apply themselves just as seriously and just as earnestly to the solution of the problems of peace as they have to the winning of the war. And they must not forget that this task may be one which will require more patient effort than the accomplishment of the primary object has taken of determined sacrifice.

Indeed, the sacrifice will not end with the coming of peace. The lives of our boys in France will no longer be sacrificed to the insatiable gods of war, but they can not be immediately brought home. Our soldiers must aid in long vigils of police duty. Our engineers must help in the rehabilitation of war shattered France and Belgium. Our people must continue to bear the financial burdens of war and war relief work for an indefinite period, or until the chaotic conditions in Europe become stabilized and our great army can be released and demobilized. We will not soon be relieved from the material burdens of war, but we can bear them with light hearts in the knowledge that the horrors of war are no longer being forced upon us and our efforts are directed toward healing the wounds of mankind rather than inflicting the scars of battle.

Nor are the problems of peace confined to the adjustment of the European situation to the new conditions brought about by the winning of the

war. The reconstruction period is fraught with domestic problems of the gravest import, upon the wise solution of which depends in large degree the future prosperity and happiness of the American people. Without doubt these problems are as great, if not greater, than any which have ever confronted our nation.

Perhaps the greatest of the many problems of peace which our people must solve, is the problem of the equal distribution of the blessings and rewards of peace and peaceful industry in our own country. This is no less important to a peaceful and prosperous future for our own people than is the general establishment and conservation of human liberty to the peace and prosperity of the world at large. And to this problem we must devote our most sincere and persistent effort to the end that we may not experience a degree of the extreme reaction in our industrial organization which bodes so ill for the peoples of continental Europe in the present crisis.

From the farmer's standpoint these problems are the more serious, because they are added to an already serious accumulation of problems, of which the labor problem has been perhaps the most difficult of solution. But fortunately it seems certain that the ending of the war will relieve to some extent, rather than increase, the farmer's immediate difficulties in this direction. And his continued prosperity seems assured, since the food requirements will be greater than in war, as humanitarian considerations will necessitate the aid of the victors in alleviating starvation in the conquered countries and in disorganized Russia to the fullest possible extent. So, while devoting a liberal portion of their thought to the correct solution of the future problems of peace, our farmers will profit from redoubled efforts in the production of food with which to supply a present world deficiency.

Relief from Car Shortage

RESPONSES to our wire appeals to government officials, copies of which were published in the last issue, indicate that every effort is being made to relieve the car shortage for the movement of Michigan potatoes. In this connection the car service section of the Railroad Administration called attention to the need of loading cars to capacity in the following wire:

MICHIGAN FARMER,
45 West Congress Street,
Detroit, Michigan.

Acknowledging receipt of your wire, First Director General McAdoo, regarding car supply potato loading, every effort will be made to meet all requirements. Suggest advisability of using box cars to fullest possible extent during present moderate weather, also loading cars available to full capacity. Total movement this season is far in excess of same period last year, but regret to say shippers are not all cooperating by full capacity loading. Certainly if they fail to utilize capacity available they must accept responsibility for any loss which may result.

CAR SERVICE SECTION.

In further response to information regarding loading station car needs, forwarded through the medium of the local office of the Bureau of Markets, we are advised that Mr. W. L. Barnes, assistant manager of the car service section of the Railroad Administration, in charge of refrigerator car distribution, with headquarters in Chicago, wired Regional Director Smith, at New York, to furnish northern Michigan roads with two hundred cars daily. Regional Director Smith has also been furnished with shipping station car needs for potatoes compiled from the reports published in our last issue.

The attention of both the car service section and the Bureau of Markets has also been directed to the handicap heretofore suffered by growers' shipping associations in the distribution of cars in being obliged to take even turn with private shippers, notwithstanding their comparatively greater

car needs, and believe this situation will be remedied in the near future.

Hold Your First Lines

WHEN farmers get together to conduct their own business they make aggressive trade enemies—buyers, shippers and middlemen, who are hurt by a change in methods. If these enemies can, by persistent criticisms circulated in the community reflecting upon the management, salaries, prices and profits, cause dissatisfaction they can often lead farmers into attacking their own business.

Perhaps the most effective method of causing trouble among members of a shipping association, especially one affiliated with a central selling exchange, is that of springing prices at points where they have worked up a feeling among weak-kneed members. By buying a few cars of produce at an opportune time and paying more than the market will stand, an independent buyer may make no end of trouble among farmers when his only motive is to further his own interests by pocketing a loss in order to create bad blood between the farmers, their association and selling exchange. This is one method of attack that farmers and association managers must guard against. A number of independent buyers, each boosting prices at different stations for one or two days, find it easy to stir up trouble and cause farmers to believe they are being discriminated against in the matter of prices.

Cooperation is not a new thing. Farmers have heard a lot about it for twenty years. The Grange started stores, but most of them failed. Cooperative creameries were organized but few of them succeeded permanently because condensaries and the city trade took the milk. Farmers have tried cooperation in other things, but members developed petty jealousies and the business blew up. Farmers don't need cooperation any more today than they did twenty years ago, but they realize more and more what it means to them. The fact that cooperation has succeeded best in the newer communities where the farmers had to stick together to protect themselves is con-

vincing proof of its efficiency in solving many buying and selling problems. This fact is beginning to strike many farmers as logical; since they always have to get together for protection from the common enemy.

It is the same influences that force nations to combine against powerful enemies in war. Cooperation will win in almost any fight—at least, the odds are always in favor of the nations that stick together. Russia is in a pitiful condition today, because she allowed influences from the outside to disrupt her organization. She is no longer a member in good standing of the exchange of nations. Don't let the Bolsheviks disrupt your association.

Attend the Dairy Meeting

IN another column of this issue will be found the program of the meeting of the Michigan Milk Producers' Association, which was adjourned by order of the State Board of Health on account of the influenza epidemic. This meeting now called at Lansing on December 4, is a most important one to every Michigan milk producer. Delegates from every local milk producers' organization and interested dairymen from every community in the state should attend this meeting, which promises to be an epoch-making gathering in general progress toward better methods of selling milk in all sections of the state. The program includes addresses from men who have represented Michigan's dairy industry in numerous conferences at Washington, where Field Secretary Reed has been called this week for further conference. What these men have to say regarding the general situation and the value of the work of the state and national milk producers' associations will be a source of interest and profit to every progressive dairyman who attends the meeting at Lansing.

This meeting is to be held in connection with the annual convention of the Michigan Dairymen's Association, which will be held at Lansing on December 3-5, inclusive. Every Michigan dairyman who can possibly arrange to do so should attend this convention, and especially the milk meeting on December 4.

An Appeal to Michigan Milk Producers

WE are all rejoicing over the winning of the war. Now let's come back to our work with renewed energy and vigor, for in the days of reconstruction that will follow the cessation of hostilities our position and attitude before the world will be largely what we make it.

We are, and have been at all times, contending not for a price but for a principle. That principle is the same consideration for our business that is given every other industry. Possibly never before have we been face to face with a problem whose results depends absolutely upon our own endeavor more than at the present time. Don't ask yourself what someone else is doing for your industry, but ask what you are doing.

Your secretary is hoping that in the near future the man power needed to carry on this work will be more easily obtained. He is hoping to carry out some of the plans that we have long had in mind, and that are so vital to the milk industry of the state of Michigan. This must be understood—that if the Detroit area and the up-state territory is ever divorced or divided, it would be one of the most unfortunate conditions possible because the Detroit milk market is today the backbone of the milk market of Michigan. Many inquiries are being constantly made from the up-state manufacturing plants as to the Detroit price, and

prices are then fixed according to the Detroit price. Consequently, the up-state milk producers are benefited by the Detroit organized movement as much as are the Detroit area producers. On the other hand, should the up-state milk be allowed to come into Detroit when there is a surplus, it would destroy or unstabilize the entire proposition that we have been so anxiously building.

One Big Problem to be Solved.

Certain propositions here stand before us. First—the solidifying of the entire state milk organization. The up-state milk producers should bear their share of the expenses of the organized movement for the benefits they are receiving.

We are not just certain at the present time what will be the method of operation to bring about this result, but we are very sure that something of this kind must be done to steady this industry in the days following the cessation of hostilities. What the period of reconstruction may bring forth to the nations of the world we cannot tell. They must learn more of the food value of dairy products. We must bring to them the consciousness of the all important fact that we cannot go on and prosper unless a price equaling the cost of production plus a profit is assured. With all these things before us we feel we have much to accomplish. (Continued on page 462).

County Agents and Cooperation

ONE of the big factors in the new cooperative movement in Michigan is the new county agricultural agent. These young men are not only bringing new ideas of seed selection, crop improvement and farm management to the farms of their respective counties, but they are rendering valuable assistance in organizing the farmers to cooperate and get better prices for what they are producing. Natural, then, and not strange is it, that these progressive leaders have come in for severe criticism from men who are promoting a kind of cooperation profitable mainly to themselves, as well as those to whom efficient cooperation on the part of farmers in their communities means dwindling profits.

Some of the most flagrant attacks upon these county agents have come from publications dominated by men who are interested only in promoting a kind of cooperation that has been practiced in some communities for years and found wanting. Because of their activities in organizing communities along lines calculated to bring results, and have the organizations kept under control of the farmers themselves rather than professional promoters, many county agents have been the victims of vicious attacks. Some of these attacks upon county agents here in Michigan have been so plain as to cause amusement to those who un-

Is Someone "Fixing" the Various Boards of Supervisors Against County Agent Work?



Let the Agent Help Farmers to Sell and Buy, then the "Interests" Get Busy.

derstand the selfish motives of these professional saviors and the particular brands of cooperation they are attempting to cram down the farmers' throats.

So long as the county agent is content to spend his time in an office or traveling over his county telling farmers how to prevent scab in his potato crop or improve the social status of his school district he is looked upon as sort of a harmless nonentity and provided with a small salary and a tin-Lizzie from the county funds. But let him show a little knowledge of the fundamental factors that go to make up a prosperous and constructive agriculture and organize his community to

grow better crops, seek better markets and develop their efforts to the highest degree of cooperative efficiency and immediately he is branded as a dangerous man and plans are made to remove him from the county.

The fact that some of the most progressive county agents in Michigan have taken such an active interest in organizing the farmers of their counties to buy farm supplies in large quantities and grade and market their products in a business-like manner has caused certain country merchants, produce dealers and political fakers to attempt, through the county boards of supervisors, to hold up appropriations for supplies, salary and assistants so

that the county agent could no longer conduct his office along such lines as would prove of real benefit to the farmers he is faithfully endeavoring to serve.

Fortunately in many counties in Michigan, the farmers, as well as the county agents who have succeeded in getting them organized, now hold a club sufficiently effective to control the political shysters on many county boards of supervisors and unless all signs fail several gentlemen the writer might mention are going to have an interesting time explaining to the farmers their motives in hampering the work of these faithful servants of the farmer or attempting to oust them from office.

As a general proposition the county agent and the successful farmers' organization succeeds best when they refrain from mixing in politics. There are times, however, when the only effective way to deal with those who use political pull to destroy such agencies is to meet their attacks with organized effort at the polls. We believe that the farmers who belong to these cooperative organizations are fully capable of dealing with these pin-head politicians who are attempting to deal out discipline to the faithful county agents. These men are doing more to promote the farmer's interests and organize them for efficient cooperation than all other agencies combined.

Developing the Bacon Hog

By J. HUGH McKENNEY

FOR a number of years Canadian farmers have confined their efforts in hog raising to the production of a bacon type. This was brought about by a keen demand in the British market for what is known as the Wiltshire cut—the whole side of the hog with the head off, and cured in that way. While the consumer is willing to pay liberal prices for a desirable product his taste is exceedingly fastidious. Therefore, the producer in catering to this market has always found it necessary to exercise all the skill at his command in order to hold the trade and at the same time secure an adequate profit.

In the first place, the bacon industry is founded on judicious selection and mating of breeding stock. To make Wiltshire sides a hog weighing from one hundred and sixty to two hundred and twenty pounds, live weight, is required. The most valuable meat is found along the upper part of the sides as far forward as the shoulder. When the shoulder and the neck are reached there is a very material drop in value. This means that the hog with a heavy rough shoulder produces an undesirable side because it is heavy at the cheap end. It is likewise an indication that there should be a good length from the back of the shoulder to the ham, because this is the most valuable part of a side of bacon. Similarly, on account of the belly meat being cheaper than the part above it explains why the bacon hog requires to have a trim belly and a straight underline. Also, the layer of fat along the back must be of uniform thickness—from one and a quarter to one and a half inches—while the whole side throughout its length must possess a uniformity of depth. The breeds from which this conformation is obtained in the largest degree are: Yorkshire, Tamworth and Berkshires in the order named. Hence, among the producers of Wiltshire sides practically no other class of hogs are kept.

But securing the desired conformation is only the first stage of the game. The hogs must be fed and managed in

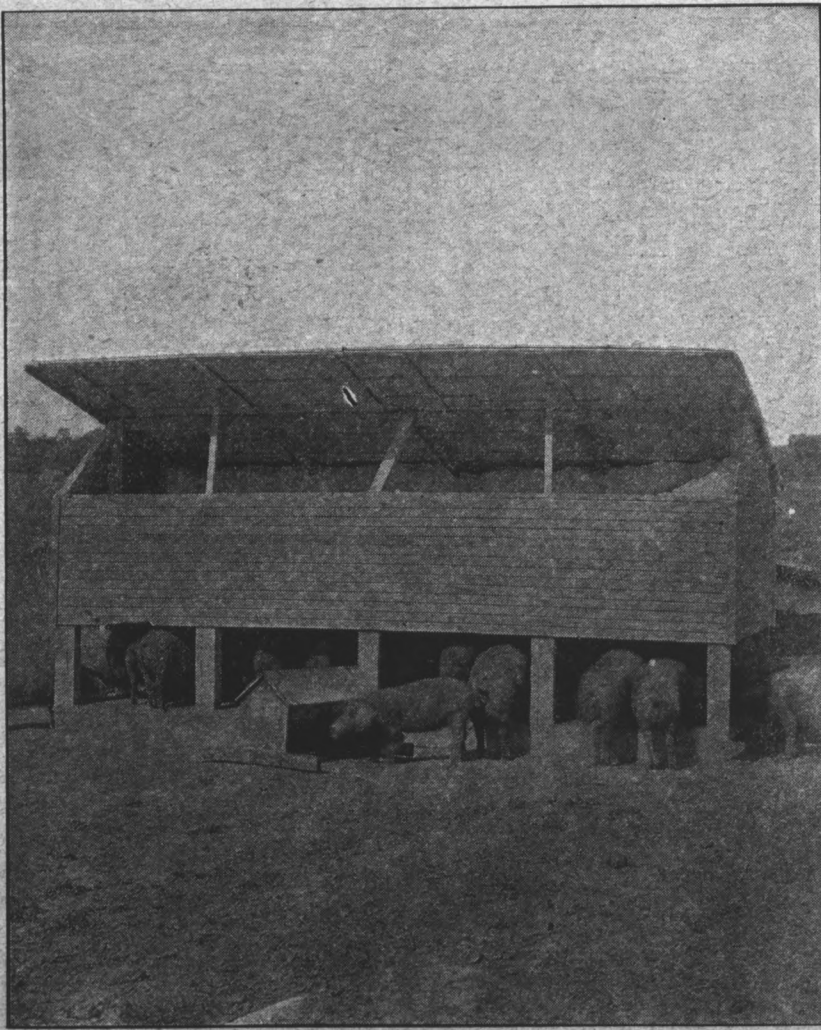
such a way as to give the right quality. One of the greatest defects in this connection is a tendency of some sides to turn soft during the subsequent process of curing. The term softness as used here does not mean fatness; in fact, a thin side is more apt to develop softness than a fat one.

It is a spongy condition and varies in degree. Only a slight tenderness will detract considerably from the value of a side, while the more extreme cases will render it entirely worthless.

Experiments have shown that softness may result from a number of causes. Perhaps one of the most com-

mon of these is exclusive meal feeding, especially if the exercise is limited. Swine are grass-eating animals and this fact must be remembered and acted upon in connection with any system of feeding that may be adopted. Then, too, the trouble is frequently caused by feeding only one kind of grain. Where corn is largely fed there is a great tendency to softness. There is, however, no grain grown that contains all the essentials of a complete food and it is only by mixing that anything like a perfect grain may be found. Unthrifty, unfinished and overdone hogs also have a marked tendency to softness.

It will be seen from the foregoing that a mere gain in weight is not the only object that the feeder must have in mind. All the way from birth to maturity he is aiming to build up quality in his product. He must avoid such practices that will prove detrimental to it and take advantage of those that experience has proven beneficial. Starting with a litter of youngsters he plans to keep them growing right from the first. The early gains are the cheapest, besides it is the thrifty pig that makes the best bacon. When they are about three weeks old they will begin to take a little feed other than the mother's milk. Instead of allowing them to eat from the trough with the sow many feeders have a part of the pen divided off, with a small trough in it, where the little ones can go out and in at will. A handful of shorts mixed in a little new milk gives them a start and usually prevents any danger of scours, skim-milk being gradually substituted. By the time they are eight weeks old the process of weaning will have been brought about naturally with no setback due to a sudden change of diet. Until they are about three and a half months old they should be fed well with skim-milk and shorts, occasionally adding a little meal consisting of a mixture of peas, oats and barley. From this on they should be allowed some green food, such as grass in sum-



Keep the Animals Developing Uniformly.

(Turn to page 480).

Spraying Doubles Yield of Tomatoes

By Geo. W. Hood

IT has been demonstrated in some cases that many plant diseases can be killed and the parent plant saved by the proper and timely application of certain remedies. These remedies usually consist of certain chemicals, either alone or in combination, which are sprayed or dusted on the plant to kill the little parasite or to prevent its growth. This remedy or plant medicine, as it is sometimes called, is commonly known as a fungicide. In order to have the fungicide effective, the plant must be covered a greater part of the growing season. This necessarily is more difficult when we have continued rains which constantly wash off the fungicide. For that reason, during the rainy seasons it is necessary to spray plants more often than during dry weather. Rainy weather often causes heavy infestations of certain diseases, where previously it had not been noticed. Such a condition existed in many localities this year. I have in mind the leaf spot of the tomato. A few years ago the leaf spot was almost unknown in some sections. Recently heavy rains caused great damage from it and the yields were materially decreased. During such a year the progressive up-to-date grower profits from his investment on spraying.

I learned from some preliminary experiments in the garden and the greenhouse of the value of Bordeaux mixture for the controlling of the leaf spot on the tomato. This point settled, I determined to inaugurate a set of field tests which might determine the value of Bordeaux mixture as an insecticide for field practice.

What is Tomato Leaf Spot?

Septoria leaf spot of the tomato is first detected by the lower leaves turning brown, drying up and finally falling off. This is regarded as the first symptom of this disease. The falling off of the leaves greatly weakens the plant, which in turn reduces the vigor and materially affects the yield. The disease usually appears after the vines have attained somewhat their maximum size and after the older branches have formed fruit. Occasionally it is found on the seedlings while they are still in the hot-bed. The disease at first attacks the leaves, gradually spreading to the stems and occasionally to the fruit. The diseased leaves at first show some small black spots about the size of a pin head, which gradually enlarge, killing the green tissue. The small spots increase in size to about one-eighth of an inch and become circular in outline with dark colored borders and light colored

centers. This parasitic fungus having gained entrance to the tomato leaves extends throughout the leaf tissue, living on the substance of the plant. In cases where the advance of the disease is very rapid, the fungus may kill the leaf so rapidly that the first symptoms noticed are the browning and drooping of the leaves.

The growth of the disease is favored by warm rainy weather and spreads very rapidly but is occasionally checked if a period of prolonged dry weather prevails.

The Plan of Our Experiment.

In determining upon a general plan I decided to make it a comparative test between the much advertised lime-sulphur solution and the Bordeaux mixture. Having been convinced that the lime-sulphur solution was worthless in controlling this disease I only used two plats to test out this fungicide. These plats proved ample in determining the value of the lime-sulphur as seen in the table.

The land selected was an acre in extent and was sandy loam in nature, which is the soil best suited for the production of tomatoes. The portion of land was divided into eight equal parts, each plat containing one-eighth of an acre. Every plat produced a full stand of 340 plants. Each plat was

separated with several rows of green beans. This method gave a definite boundary line to each hill and made it easy to apply the different fungicides, gather the fruits and take the records. Different strengths of the two fungicides were tried as well as different numbers of applications were made.

Plats one and two were sprayed with commercial lime-sulphur solution diluted one gallon of the solution to thirty-five gallons of water. On plat one three applications of the spray material were made while on plat two four applications were given.

Plats three, four and five the standard 4-4-50 Bordeaux mixture was used, varying the number of applications as follows: Plat three, three applications; plat four, four applications, and plat five, five applications.

Plat six served as a check.

Plats seven and eight a 5-4-50 Bordeaux mixture was used, with three applications on plat seven and four applications on plat eight. The result of these experiments appear in the accompanying table.

Comparing the different plats, we first learn that spraying at least increases the yield over the check, and that this increased yield varies with the material used as well as with the strength of the material. Plats one

and two, which were sprayed with commercial lime-sulphur solution, gave practically negative results, that is the yields were only increased very slightly over the check and the difference was hardly enough to pay for the time and trouble of the application. A slight increase is noted where an additional spray is given but is not sufficient to warrant the extra spray. In fact, if we are to judge by the number of pounds of fruit which were received from the first picking we must also conclude that the use of lime-sulphur is injurious to the plants rather than beneficial. Plats, three, four, five, seven and eight, all of which were sprayed with varying strengths and different numbers of applications of Bordeaux mixture, gave greatly increased yields, thus demonstrating the value of this material for the control of the septoria leaf spot. If you compare plats three, four and five you will note that there is very little difference in the total yield of the three, indicating that in the case of the 4-4-50 Bordeaux that three applications have practically the same yields as the four and five applications on plats four and five. However, there is a difference, but it is slight. If you will note the increase in tons of fruit which varies from 4.8 to 5.16 tons over the check, there is a decided advantage in spraying. Still greater yields were produced by spraying with a stronger solution of Bordeaux. On plats seven and eight the yields were still greater, reaching an increase of 7.3 tons over the check. Assuming tomatoes to sell for \$12 a ton, this would mean a clear gain of \$87 per acre by spraying the plants with the stronger solution. If we add to that the yield from the check then we would have a total yield of 12.5 tons of good tomatoes on the sprayed plat as against 5.2 tons on the unsprayed plat.

Spraying should be given soon after the plants are set in the field and continued at intervals of ten days or two weeks, depending upon the weather. If it is very rainy and the material is washed off, one or two extra sprayings will be found to be very profitable to the grower.

Summing up the results for the spraying for the Septoria leaf spot on the tomato the following facts are outstanding:

1. Spraying increases the yield of fruit.
2. Lime-sulphur solution is of no value in controlling this disease.
3. The 5-4-50 Bordeaux mixture gives the highest yield.
4. Four sprayings are the minimum number that should be given.

PLAN of SPRAYING EXPERIMENT for TOMATOES

PLOT 1	PLOT 2	PLOT 3	PLOT 4
Lime Sulphur 1 to 35	Lime Sulphur 1 to 35	Bordeaux Mixture 4-4-50.	Bordeaux Mixture 4-4-50
3 Sprays	4 Sprays	3 Sprays	4 Sprays
1/8 Acre	1/8 Acre	1/8 Acre	1/8 Acre
PLOT 5	PLOT 6	PLOT 7	PLOT 8
Bordeaux Mixture 4-4-50	Check	Bordeaux Mixture 5-4-50	Bordeaux Mixture 5-4-50
5 Sprays		3 Sprays	4 Sprays
1/8 Acre	1/8 Acre	1/8 Acre	1/8 Acre

Results of Spraying Test on Tomatoes

No. of Plat.	Kind of Spray.	No. of Application.	Lbs. Fruit Per Plat.	Lbs. 1st Picking.	Tons. Per Acre.	Increase Over Check. Tons.
1	Lime sulphur ... 1-35	3	1582	62	6.32	1.1
2	Lime sulphur ... 1-35	4	1660	66	6.62	1.4
3	Bordeaux 4-4-50	3	2500	70	10.00	4.8
4	Bordeaux 4-4-50	4	2590	100	10.35	5.16
5	Bordeaux 4-4-50	5	2675	135	10.70	5.50
6	Check		1300	125	5.20	0.00
7	Bordeaux 5-4-50	3	2800	125	11.20	6.0
8	Bordeaux 5-4-50	4	3125	110	12.50	7.3

News of the Agricultural World

HOG MARKET SETS PRICE AT \$17.50.

THE fixing of a minimum daily average price of \$17.50 for the month of November had the effect in stabilizing the hog market. Since agreement was made between the packers and producers, sitting with the representatives of the Food Administration, the market has been minus the sharp advances and declines, which a short while ago proved disastrous to many concerned. At the present time the market figures higher than the set average.

The cattle market has been subject to sharp declines, due to the congestion caused by liberal receipts. During the week cattle have been liquidated freely. Quality has been very poor, intimating that owners are cleaning up

their feed lots before the regular feeding drive is put in or prior to the arrival of cold and mean weather. Common quality has predominated during recent days and this grade of stock has been the hardest hit in the price readjustment.

FRUIT PITS AND NUT SHELLS NEEDED.

OUR production schedule for gas masks calls for five hundred tons of carbon producing materials per day. Until we begin to receive an adequate supply of raw materials from the Philippines and the East Indies, we shall be very much up against it for materials of this kind, which means that we shall be compelled to use wood substitutes which produce a carbon inferior in quality. Our only relief will come from securing an adequate sup-

ply of native fruit pits and nut shells. If we can bring this situation to the attention of the entire country, we can undoubtedly collect a sufficient quantity of fruit pits, nuts and nut shells to meet our requirements.

We are receiving splendid cooperation from the Food Administration, the Department of Agriculture, the War Savings Committee and such organizations as the Boy Scouts, Girl Scouts and the Camp Fire Girls. The American Red Cross was chosen to represent the Gas Defense Division in every city and town, arrange collection centers and make shipments. Collections from small towns and communities are shipped by the Red Cross to the one hundred and fifty large collection centers in the country from which carload shipments are made to our two carbon plants.

Although the peach season is prac-

tically over, considerable quantities of pits from immature peaches, fruit dropped upon the ground or thrown aside should be collected. Also considerable quantities of prune pits, date seeds and pits from canned fruits will be produced through the winter months. But particular attention should be paid to the collection of hickory nuts, walnuts and butternuts. Large quantities of these go to waste every year. The Boy Scouts, school boys and girls, and especially those in the country should make up their minds not to let any nuts go to waste in the woods and forests this year. Whole nuts are acceptable, although, of course, the kernels of edible nuts should be extracted when possible. The outer hull or husk is of no value whatsoever, but can be left on.

W. M. JACKSON,
First Lieut., Chem. Warfare Service.

Three Per Cent Tolerance Not Enough

A QUESTION that merits immediate attention from the potato experts in the employ of the United States Bureau of Markets is that of establishing a greater per cent of tolerance for such mechanical injuries, defects and blemishes as cuts, growth-crack, sunburn, scab, grub-eaten, etc. The present tolerance of five per cent for under-sized potatoes is ample to meet every requirement of good business sense in marketing potatoes, but the three per cent tolerance for other blemishes and defects is not sufficient, inasmuch as it is frequently the largest tubers that show slight defects, and it only requires a few such potatoes to decide the fate of an entire shipment when subjected to government inspection.

While the question of growth-crack does not affect the standing of potatoes shipped from the majority of Michigan points this year, yet the time is sure to come when it will work hardship to many potato growers, and we believe that now is the time to give the matter thoughtful consideration. The fact that so few large potatoes that show signs of growth-crack may weigh more than three per cent of an entire bushel should prompt the authorities to give a greater per cent of tolerance.

Then the question of mechanical injuries due to being cut and bruised in digging or subsequent handling should be considered along the same lines as growth-crack. Invariably it is the big potatoes that are cut or slightly skinned at digging time or in passing over the grader, and here again two or three of the big tubers in the bushel go a long ways toward making up the customary three per cent tolerance. In fact, a few potato experts claim that the average potato digger will frequently damage as high as three per cent of the tubers in harvesting the crop on certain types of soil. Probably this is a rather high estimate, but nev-

ertheless the tolerance for such blemishes could well be made greater than it is at the present time without working any hardship to the dealers or consumers.

Again, experienced potato growers find that during seasons when the yield of tubers is unusually large many of the big specimens have a tendency to crowd themselves out of the ground so that one end or side is exposed to the sun and light. The three per cent tolerance for all defects and blemishes other than size gives the city buyers too great an advantage in crawling out from in under the results of a declining market.

When these defects and blemishes are added to such common defects as scab, grub-eaten, second growth etc., it is apparent at once that there should be a tolerance of, at least, ten per cent for such defects and blemishes to provide full justice to both growers and shippers in the matter of government inspection.

Of course, the inspectors are not sup-

posed to throw out all tubers that show slight defects and blemishes in making up the three per cent of tolerance, but in many instances the line of tolerance is so low that only an expert can make proper distinctions, and it is hardly to be expected that the Bureau of Markets could furnish enough competent men to handle the inspection work in so short a time as the service has been in operation. For this reason, alone, we believe that a tolerance of five per cent in size and ten per cent for mechanical injuries and other defects, blemishes and so forth, should be allowed for the next two years. Such an action on the part of the United States Bureau of Markets would give the growers sufficient time to prepare to meet the perfection required in their crops by the more strict interpretation of the U. S. grades and give the Bureau of Markets plenty of time to develop men more competent to handle the grading problems at city terminals.

Several prominent growers and ship-

pers are in favor of maintaining the government grades at their present standards, but fixing a definite penalty of one per cent per hundred weight on cars of potatoes that fall below the standard for U. S. Grade No. 1. This would mean that a car of potatoes that showed ten per cent of injured or blemished potatoes would net the shipper seven per cent less than the market price for U. S. Grade No. 1, being that the tolerance for these defects and blemishes is now three per cent. If more than ten per cent of the tubers show injuries and blemishes make the adjustment along the same lines, except that the penalty be made more severe as the per cent of damaged or blemished specimens increases.

These suggestions have been made only after making a careful study of more than fifty cars of Michigan, Wisconsin and Minnesota potatoes at some of the leading potato markets in the country, inspecting potatoes as they were being graded and loaded at several shipping points of Pennsylvania, New York and Michigan, and discussing the various phases of the grading problem with growers, shippers, government inspectors and wholesale potato men in several large markets. Many growers and shippers, especially those from districts where the crop reaches its highest degree of perfection are not in favor of making a greater per cent of tolerance for injuries, defects and blemishes other than size, but for the average farmer who wants to put his potatoes on the market so that they will bring the most money and get to market in good condition the per cent of tolerance may safely be made greater, or as suggested by several prominent growers and shippers, it may be fixed so that there will be a more just and equitable settlement based upon the actual condition of the car at the time inspection is made.



These 140 Turkeys, the Property of N. E. Ramsdell, of Ionia County, were Raised from Nine Hens.

Cooperative Testing Pays \$50,000,000

By EARLE W. GAGE

AN increased production of thirty per cent in the average yield of milk per cow, resulting in an added dairy production of \$50,000,000, is the result of cooperative cow testing in Canada. The dairy farmers to the north of us have enforced since 1914 the strictest economy in production of all dairy products, as a war-time measure, and by weeding out the slacker cows from their herds are not only able to produce more milk with less number of cows, but to secure a higher price for it.

When the farmers looked about them for ways and means of solving their war-time labor and production costs; in no line of agricultural work did they find a greater opportunity to increase production than in the improvement of their dairy herds. The average yield of milk per cow in Canada was at that time only about 4,300 pounds per year. Compare that with individual records of over 25,000 pounds of milk in a year and herd records averaging over 10,000 pounds for each cow down through the herd, and you have a picture of the achievement of these farmers and of the wonderful possibilities for the improvement of the average dairy herd throughout the continent.

Canadian dairy farmers have found the keeping of herd records, more commonly known as cow-testing, the safest and surest basis for that intelligent breeding and selection which, with proper feeding, is sure to result in an improvement in production that makes the difference between the general average yield and those which are at the top.

In Canada various plans have been tried since this work was first commenced under the direction of the Dairy Branch of the Department of Agriculture, which in 1904 started on a small scale to promote and extend the work of keeping herd records, resulting finally in 1917 in the operation of thirty-five dairy record centers, each of which was placed in charge of an experienced man who gave his entire time to the work of cow-testing within a limited area, and whose business it was to see that the samples were properly tested. There were also a large number of small associations, or groups, for whom the testing was done by some individual qualified.

In 1917 there were nearly thirty thousand cows under test record in connection with the organized efforts of this branch. There have also been many hundreds of cows tested independently by owners who were not connected with any of the dairy record centers or cow-testing associations, but who have been interested by the general results which they found their neighbors achieving.

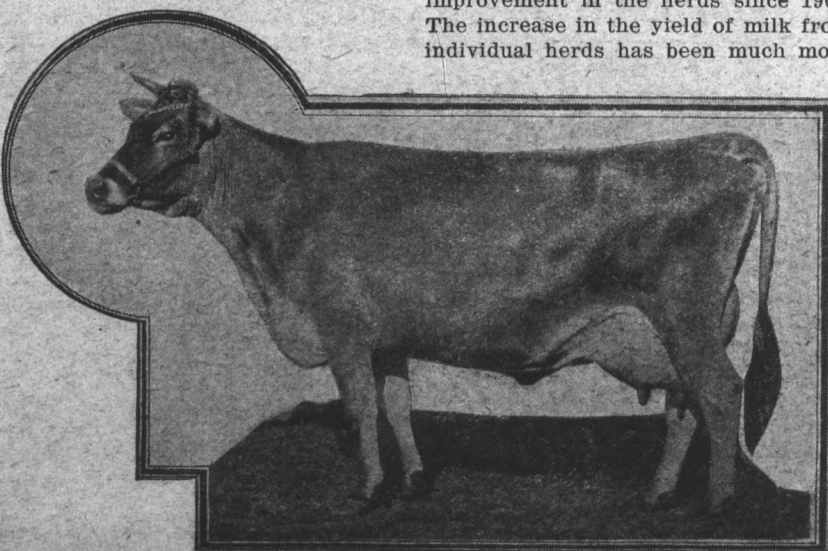
Since this work was started the average yield of milk per cow for Canada has increased fully thirty per cent. This means that the total value of the Canadian dairy products was greater by at least \$50,000,000 in 1917 than it would have been if there had been no improvement in the herds since 1904. The increase in the yield of milk from individual herds has been much more

striking because the general average includes all those herds whose production of milk has remained stationary, or nearly so.

These farmers have not found that the plans for improvement of a dairy herd need be elaborate or expensive, but should take cognizance of the fact that there are good cows and poor cows, judged by their milk production, in all breeds and that it does not follow because a cow may have a lengthy pedigree that her performance at the milk pail is up to the mark; that there are scrub pure-breds as well as common scrubs. It requires some moral courage to discard the expensive pure-bred scrub after she has been shown up in her true colors, but it is the right thing to do, nevertheless.

These dairy farmers believe that there is only one true standard, and the test must be production. This is not an argument against the pure-bred animals as such, but rather an attempt to place performance ahead of pedigree. Ancestry is an important consideration, but unless the record carries with it some account of production, it lacks the only important feature, and the man looking for superior animals gets no information from it that is of real value to him. He may have personal knowledge of the strain in question, but that is another matter. In war times we have learned that the son of the millionaire has no more right to loaf than the son of the farmer, which is equally true in the case of the pure-bred cow as against the common grade animal.

Any plan which has for its object
(Continued on page 480).



Michigan Spuds "Over the Top"

By A. M. SMITH, President Michigan Potato Growers' Association

SHOULD the Michigan Potato Exchange adopt a grade over one inch and three-quarters round mesh screen as Michigan standard grade? The last meeting of the Michigan Potato Growers' Association went on record as being in favor of such a grade. Since that meeting several things have occurred. Following my visit to Washington, D. C., last spring, the Bureau of Markets and the United States Food Administration agreed to allow a tolerance of an additional five per cent of No. 2 potatoes in the No. 1's, and the word was given to the shippers that as soon as possible they should arrange to use one and seven-eighth-inch round mesh screens. I believe that such screens are now generally in use.

I have been unable, however, to obtain from the Bureau of Markets or Food Administration, any documentary evidence that they have lived up to their agreement.

The grade made by the one and seven-eighth round mesh screen, however, seems to be acceptable everywhere to the consumer and passes inspection, and I have yet to hear of any cars being turned down where such a grade has been honestly made.

I have recently learned of three cases of rejections on account of sunburn, scab, bruises, etc., exceeding the three per cent stipulated in Bureau of Market rules, and am informed that almost any shipment of potatoes, even though carefully graded as to size and quality, could be turned down by the inspector on that account.

However, if due care is exercised in grading I do not believe there will be much trouble over rejections this year

and I do not share in the sentiment of a recent article in the Michigan Farmer that the potato industry is threatened with ruin. I believe the reverse is true. I believe that the outlook for the potato industry in Michigan is the brightest it has ever been.

As regards the matter of grading for this year, I am free to say that after very careful consideration of the matter I unhesitatingly favor making the grade over the one and seven-eighth round mesh screen and I also favor making it as free from defective potatoes as possible.

As a member of the Michigan Potato Exchange I would most strenuously object to making a grade any lower than U. S. Grade No. 1 made over a one and seven-eighth round mesh screen.

Such a grade is practically the same as that made over one and three-quarter square mesh. But I would advise strongly against the use of the little one and three-quarter-inch shaker grader, as careless grading might cause a rejection of a car of potatoes and considerable loss.

What we potato growers want to strive to do is to put a potato on the market which, because of its excellence will command a premium. Should one's field-run potatoes grade out ten per cent he might better take for his one thousand bushels pay for nine hundred at one dollar per bushel than pay for one thousand at ninety cents per bushel. He would have just as much money for his graded potatoes and one hundred bushels at home for feed. Or he might sell the one hundred bushels to the dehydrating or the starch factories.

The marketing of quantities of un-

graded potatoes damages the potato industry as it cheapens the potato so that the best article is dragged down by the lack of value of the worst. Potato growers should see to it therefore that whatever the Michigan potato goes it has on it the stamp of quality so that people will want Michigan potatoes wherever they can get them in preference to all others.

But quality can not be secured by grading alone. In order to grade up a good article one must have something from which to grade it. So in order to have good potatoes one must have good soil for potatoes, good cultivation, good seed, good care, treatment against disease, and a good season, then one can make a good grade.

Now, if the inspection service of the Bureau of Markets could be given to potatoes graded over a one and three-quarter round mesh screen, and Michigan growers could obtain as good prices for such potatoes as they could for the U. S. No. 1 grade, then I would say, grade according to the standard set by the Michigan Potato Growers' Association. But they cannot do that, and moreover if they did, such potatoes would sell for less money than U. S. No. 1 Michigan potatoes and the margin of loss would be much greater than the small gain obtained by making a smaller grade.

And now that there is a sale for No. 2 potatoes and culls to dehydrating and potato flour plants, I believe that it is in the interests of the potato grower to make the U. S. No. 1 grade in every sale and wherever possible either sell No. 2's or use them for feed and seed.

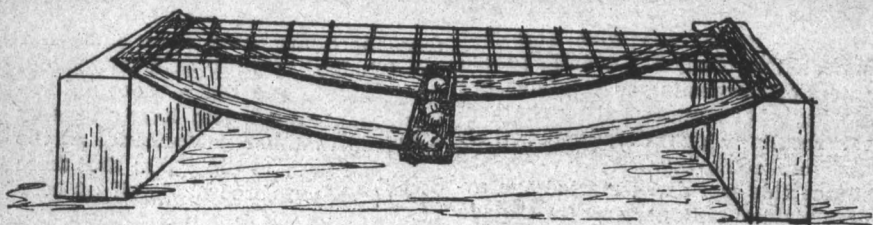
I believe the thing for all our cooperative associations, including Gleaner

houses, to do is to aim at high quality both in production and marketing and for such products there will be an appreciative market and higher prices. And last, but not least, but most important, I want to mention the present inspection system. Under this system a car of potatoes which is graded U. S. No. 1 or U. S. No. 2, and sold for just what it is, if it is found up to requirements cannot be rejected because the market has declined. Under the old system many cars of potatoes of best quality were rejected when the market declined and the shipper suffered a loss which eventually the farmer had to make up by a larger margin on subsequent shipments. So on the whole, it seems to me that the present modified grading system should be accepted and that the potato situation is fairly satisfactory, and all growers should work heartily together to put the potato, the great money crop for western Michigan, "over the top." In such an effort we need the cooperation of all potato interests, growers, shippers, cooperative associations, the Gleaners, every individual and concern connected with the potato industry as well as the hearty and constructive assistance of our farm papers, which have already done so much for us, to the end that we may furnish the consumer the best potato to be had in the market at prices that will pay cost of production plus a reasonable profit. And I believe the only agitation the potato industry needs at present is along the constructive and sane line which makes for better potatoes in quality, better prices to the grower, and more direct and economical distribution to the consumer.

Suggestions for the Handy Man

AN INEXPENSIVE GATE.

IN making a woven wire farm gate one should make the frame and set it up against a fence of the same kind of wire, already stretched, and carefully mark on the frame where the end space or cross wires will reach. Then cut the wire for the gate, taking



care to leave about one inch on the outside of the space wire. Place the frame on some suitable elevation at both ends. Lay a plank across the center and place weights sufficient to spring it down in the center. Bend the ends of the line wires down one-half inch, place the wire upon the frame and fasten it exactly where you marked it. Now drive the one-half inch of wire which you turned down, into the frame to make a nice smooth job of it. Remove the weights, draw out the plank, turn over your frame, attach your brace wire and tighten it. If you have taken pains, you will have made a neat, light and serviceable gate at little cost.—M. C. Delaeter.

HOW TO MEND GRAIN BAGS.

A GOOD way to mend grain bays is to spread cold flour paste on the patch; put the patch inside the bag, lay a piece of brown paper over the hole, and press the patch with a hot iron. Pepper in the patch keeps mice

away. The pressure of the grain in the bag tends to hold the patch in—Paul Gorton.

HOW TO GIVE A HOG MEDICINE.

IT is usually a rather hard task to give a hog medicine, but by the following method it can be satisfactorily

done. Secure an old shoe and cut about an inch off the toe; put the shoe, toe down, into the hogs mouth and pour the medicine into the shoe. The hog will chew the shoe and in doing so will swallow the medicine.—P. G.

CALF STANCHIONS.

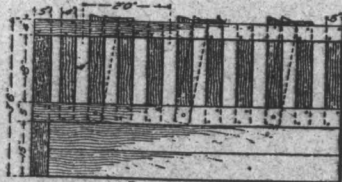
WHEN calves run together in a pasture or feed lot, a row of stanchions should be provided in order that each calf may be held until it gets the proper quantity of feed and to prevent it from sucking the next one's ears. The cut illustrates this exercise and describes a practical row of stanchions for this purpose. White pine, spruce or hemlock may be used. The bill of material is as follows:

One piece 1x5 inches by 12 feet; one piece 1x4 inches by 12 feet; one piece 1x4 inches by 10 feet; one piece 1x4x5 inches by seven feet; one piece 1x8 inches by 12 feet; three bolts 3/4x3 1/2 inches; three pair of light strap

hinges; two pounds of eight-penny common nails.

From the piece of 1 1/4x5 inches by seven feet cut two pieces three feet six inches long, and from both the 1x5 inches by 12 feet and 1x4 inches by 12 feet cut two inches six feet long. Then nail the ends of the 1x4 inch by six-foot pieces to the top of the 1 1/4x5 inch by three feet six-inch pieces, as shown nailing the 1x4 inch pieces on each side of the upright. Nail the two pieces of 1x5 inches by six feet in the same way, 18 inches below the top board.

From the 1 1/4x4 inches by 10 feet and 1 1/4x4 inches by 12 feet cut the stanchion boards, as shown. Nail a piece of 1 1/4x4 inch between the top and bottom rails as shown, leaving a two-inch space between the corner upright and this piece. Next, space four inches from this bar to the swinging bar, drop the bar in place between the rails, and with a brace and half-inch bit bore a hole through the center of the five-inch rail and four-inch bar and insert



Calf stanchion.

one of the four-inch bolts. Space again four inches from the bar and nail in the next bar. Proceed in this way with the remaining stanchions, then nail to the back of the two end uprights, as shown.

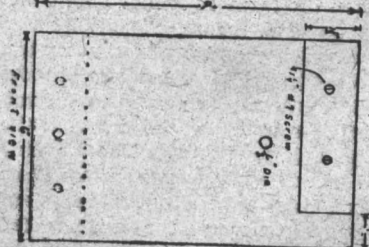
To hold the swinging bars in place, screw one side of the light hinge to short blocks of the 1 1/4x4-inch pieces

and fasten the hinges to the top of the bar to the right of the swinging bar in such a way that when the swinging bar is in closed position this block will drop in place and hold the bar.—S. A. C.

THE BENCH HOOK.

A GOOD bench hook is almost as important as a good vise and for chiseling and sawing small stock it can be made use of in place of the vise.

Three pieces of three-quarter-inch stock only will be required, one 6x9-inch, one 1 1/2x5-inch, and one 1 1/2x6-inch. Each of these should be squared



up with saw and plane according to instructions given for reducing stock to dimensions. After this has been done, mark the place for the screws and bore the holes in the two 1 1/2-inch pieces with the 6-32 drill.

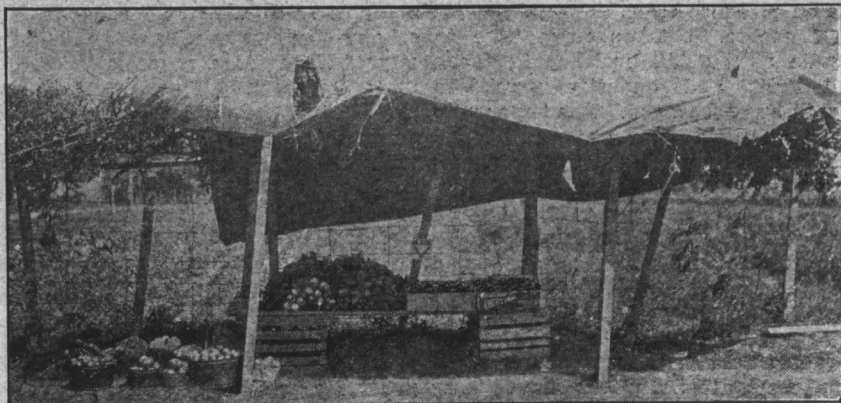
Assemble by screwing these two pieces onto the 6x6-inch board with 1 1/4-inch No. 7 flat head screw. Bore a half-inch hole in the center of the board one inch from the top cleat. This will enable you to hang up the bench hook when not in use.—A. C.

Our Nearest Market

By *HIRAM WILSON*

THE use of the automobile by city dwellers is giving some truck farmers a chance to sell a part of their products at the side of the road without the expense of hauling to the city. Some general farmers with side-line crops, find that they can sell all of these crops to motorists passing their farms. On a recent motor trip the writer stopped at the farm of two young men near Detroit who are catering to buyers that come out from the city on pleasure trips. They state that they are selling the bulk of their vegetables to travelers who make the farm the object of many pleasure drives when fresh truck is needed during the summer. One of the men stated that this year they would undoubtedly sell all of their products to motorists with the supply their needs. Consequently there has been a great demand for fresh vegetables and the farmer who can supply them is assured a good price for his products.

The grower of berries finds that marketing is one of the problems of the business. The berry harvest often comes on with a rush and marketing takes time. Some growers have found that they can sell a large per cent of their crop by advertising by the side of the road. Many motorists desire to can fresh berries and are glad to stop and purchase them of the producer while the fruit is fresh and in much better condition than if it has been shipped to the city and displayed for a day or more by the local grocer before reaching the home of the ultimate consumer. Farmers with tel-



Here we Found the Freshest Vegetables and Fruit.

exception of tomatoes. His tomato crop was larger than expected and he did not believe that there would be enough buyers of tomatoes to handle it all and in that case some hauling to market would be necessary.

Several miles further along the road we came to a booth rigged up with poles and canvas. Beneath the canvas were displayed a fine variety of home-grown vegetables. Measures were already filled with vegetables so that the motorist would be able to make a purchase by spending even less time than would have been necessary for such a purchase in a city store. The booth was attended by a little girl, too bashful to take a place in the picture, and yet business-like enough to face every possible buyer of produce and serve them promptly and efficiently. At both of these booths motorists stopped to purchase vegetables during the brief time we were there and they evidently appreciated the opportunity to procure fresh vegetables at a price fair to both producer and consumer.

Some farmers may feel that the in-

ephones often receive orders for berries from city friends who can motor out in the evening to obtain the fruit. A fine appearing crate sold to one customer will frequently bring orders from the buyer's friends and in this way a trade may be built up without hauling much fruit to the city. Such a trade is also desirable as it can be made permanent. The satisfied buyer this year will know where to look for his supply of canning fruit next year and the year after that.

In developing a trade near home the grower eliminates much of the cost of marketing. Many buyers are satisfied to pay more than a local dealer will pay for first-class fruit, even though they make their own delivery. Quality of the product will make up for the time in making the journey and the buyer is usually satisfied. It is necessary for the farmer to make every effort to have the packages neat and well filled. Berry boxes should be filled very full so that even after the jostling of motoring home, the buyer will find that he has a full box of fruit which is much better appear-



They Sell their Entire Truck Crops at the Roadside.

crease in the war gardens on city lots has greatly reduced the amount of garden truck which city buyers will purchase from farmers. The reverse seems to be true. The city housewives are becoming more interested in canning, and as a result they cannot raise enough truck around home to

ing than the box he may have purchased the day before of his local grocer.

The farmer who is located on a much traveled road will be able to pick up considerable trade by advertising on the sign board. A farmer on

(Continued on next page).

Today's Gasoline

Less volatile product raises a new lubricating problem

PRESENT-DAY gasoline is less volatile than that formerly sold. It does not readily saturate the air in carburetion. Combustion of the explosive mixture is less complete.

This risk results: Liquid gasoline may be drawn into the cylinders and combustion chambers. The use of the carburetor choker valve to start the engine aggravates the trouble.

Once in the cylinders and combustion chambers, the gasoline tends to thin out the lubricating oil. As the pistons move up and down the gasoline tends to cut away the oil film on cylinders, pistons and piston rings.

On the compression stroke this liquid gasoline is forced down past the piston rings—into the crank-case.

The amount of gasoline which reaches the crank case and mixes with the lubricating oil depends largely upon the correctness of the



Mobil oils

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

lubricating oil used. Oil must form and maintain a thorough piston-ring seal to prevent the escape of the fuel charge and liquid gasoline past the piston rings into the crank-case.

To withstand the cutting effect of present-day gasoline, your lubricating oil must be of the highest quality and of the correct body. The Chart below specifies a grade of Gargoyle Mobiloils for your car which fills both these requirements. The use of the correct grade of Gargoyle Mobiloils will give you scientific protection against premature thinning out of oil in your crank-case.

If you have not read the article on pages 19 and 20 of the booklet "Correct Lubrication."

it will pay you to send today for a copy. This book contains valuable data in authoritative articles prepared by our Board of Engineers.

Address our
nearest branch.

CORRECT AUTOMOBILE LUBRICATION

How to read the Chart:

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 Mobiloids that should be used. For example, "A" means Gargoyle Mobiloil "A," "Arc" means Gargoyle Mobiloil "Arctic," etc.

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

	1916 Model	1917 Model	1918 Model	1919 Model	1920 Model
AUTOMOBILES	Summer Winter	Summer Winter	Summer Winter	Summer Winter	Summer Winter
Abbott	Arc.	Arc.	Arc.	Arc.	Arc.
Abbott-Detroit (8 cy.)	A	A	A	A	A
Allen	A	A	A	A	A
Apperson (8 cy.)	A	A	A	A	A
Auburn (6-38 & 40) (6-38 & 40) (6-38 & 40)	Arc.	Arc.	Arc.	Arc.	Arc.
Baker (6-38) (Tetor H.) (6-38) (Cont'l.)	A Arc.	A Arc.	A Arc.	A Arc.	A Arc.
Autocar (2 cy.)	A Arc.	A Arc.	A Arc.	A Arc.	A Arc.
Briscoe	A Arc.	A Arc.	A Arc.	A Arc.	A Arc.
Buick	Arc.	Arc.	Arc.	Arc.	Arc.
Gaillard	A	A	A	A	A
Hudson (6-40) (6-40)	A	A	A	A	A
Chalmers (6-40)	A	A	A	A	A
Chandler (6-40)	Arc.	Arc.	Arc.	Arc.	Arc.
Chevrolet (F 30)	Arc.	Arc.	Arc.	Arc.	Arc.
Cole (8 cy.)	A	A	A	A	A
Cunningham (8 cy.)	A	A	A	A	A
Dart (3 & 3½ ton).	A	A	A	A	A
Dodge (Dodge)	Arc.	Arc.	Arc.	Arc.	Arc.
Dort	A	A	A	A	A
Dort Empire (4 cy.) (6 cy.)	A Arc.	A Arc.	A Arc.	A Arc.	A Arc.
Federal (Mod. S-X). (Special)	Arc.	Arc.	Arc.	Arc.	Arc.
Fiat	E	E	E	E	E
Ford	E	E	E	E	E
Franklin	A	A	A	A	A
Gray	A	A	A	A	A
Hal-Twelve	A	A	A	A	A
Haynes	A Arc.	A Arc.	A Arc.	A Arc.	A Arc.
Hudson (Super Six)	A	A	A	A	A
Humphreys	A Arc.	A Arc.	A Arc.	A Arc.	A Arc.
Kelly Springfield	A	A	A	A	A
King (8 cy.) (Com I.)	Arc.	Arc.	Arc.	Arc.	Arc.
Kinsel Kar (Mod. 48) (L 48)	A	A	A	A	A
Lexington	Arc.	Arc.	Arc.	Arc.	Arc.
Lippard Stewart	Arc.	Arc.	Arc.	Arc.	Arc.

AUTOMOBILES	1918 Models	1917 Models	1916 Models	1915 Models	1914 Models
	Summer	Winter	Summer	Winter	Winter
Lippard Stewart.	*	(Mod. MW)			
Locomobile	A	E	E	E	E
Mack	A	A	A	A	A
Madison	A	Arc	A	Arc	A
(8 cyl.)					
Marmion	A	Arc	A	Arc	Arc
Maxwell	Arc	Arc	Arc	Arc	Arc
Mercur	A	A	A	A	A
Mitchell	A	A	A	A	A
(12-70)					
Moline-Knight	B	A	A	A	A
National	Arc	Arc	A	A	A
(12 cyl.)					
Oakland	A	A	Arc	Arc	Arc
(8 cyl.)					
Oldsmobile	A	A	Arc	Arc	Arc
Overland	A	A	A	A	A
Packard	*	Arc	Arc	A	Arc
(12 cyl.)					
Paige	A	A	A	A	A
(4 cyl.)					
(6 cyl.)	Arc	Arc	Arc	Arc	Arc
(8-50)					
(6-35)	A	A	A	A	A
(6-40)					
Paterson	A	Arc	Arc	Arc	Arc
Payson	Arc	Arc	Arc	Arc	Arc
Pandolph	A	A	A	A	A
(12 cyl.)					
Peerless	Arc	Arc	Arc	Arc	Arc
Pontiac	Arc	Arc	Arc	Arc	Arc
Pierce Arrow	A	A	A	A	A
(Com'g)					
Premier	Arc	Arc	Arc	Arc	Arc
Repal	Arc	Arc	Arc	Arc	Arc
(8 cyl.)					
Renaault (French)	A	A	A	A	A
Riker	A	A	A	A	A
Selden	A	E	E	E	E
(¼ ton)					
Simplex	A	A	A	A	A
Stearns-Knight	B	A	A	A	A
(8 cyl.)					
Strubleaker	A	Arc	A	A	A
Stutz	A	A	A	A	A
Vellie (A 16 ton)	Arc	Arc	Arc	Arc	Arc
(6 cyl.)					
(¾ ton)	Arc	Arc	Arc	Arc	Arc
(¼ ton)					
Westcott	Arc	Arc	Arc	Arc	Arc
White	Arc	Arc	Arc	Arc	Arc
(16 valve)					
Willys-Knight	B	A	B	B	A
Willys Six	A	A	A	A	A
Willys	Arc	Arc	Arc	Arc	Arc

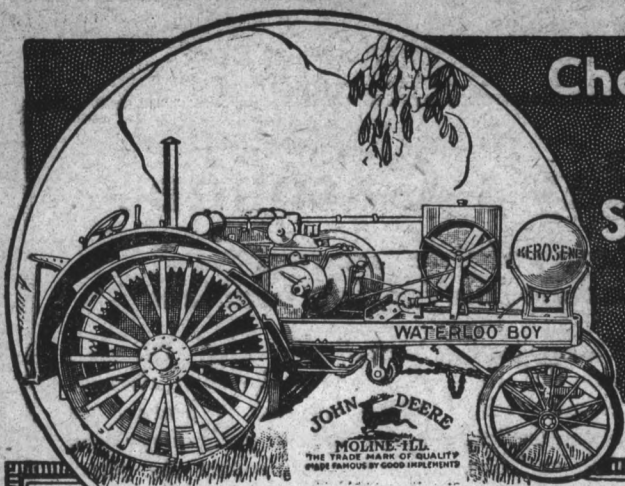
YOUR TRACTOR

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.

VACUUM OIL COMPANY, Rochester, N. Y., U.S.A.

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

Domestic Branches:	Boston Detroit	Kansas City, Kan. New York	Philadelphia Chicago	Minneapolis Indianapolis	Pittsburgh Des Moines
-------------------------------	-------------------	-------------------------------	-------------------------	-----------------------------	--------------------------



Choose the
Tractor
with a
Satisfactory
4 Year
Working
Record

WATERLOO BOY Original Kerosene Tractor

Pin your faith to the tractor whose record you know. Four years of consistent success in the hands of thousands of American farmers have established Waterloo Boy supremacy.

Waterloo Boy users have demonstrated its ability for ample power in all work, under various soil conditions; its average consumption of less than 2 gallons kerosene to the acre of plowing; its threshing cost of 15c per hour. Waterloo Boy users plow from 8 to 12 acres per day and get special acreage advantages in other farming operations.

They have found this reliable Three-Plow Tractor easy to operate, strong and durable in construction, and fully up to their expectations in performance. Dust-proof gear construction, complete accessibility, automatic lubrication and reliable ignition insure easy and continuous operation. Every part of the Waterloo Boy performs its service.

Its Record Is Your Guarantee

Get these facts from our users themselves. They spell Waterloo Boy success for you. Many bona fide voluntary expressions of our users' complete satisfaction are contained in our catalog. Consult this book before going further into the tractor question. It will save you time, labor and money to buy a Waterloo Boy. Write for our literature today.

JOHN DEERE

4604 W. 3rd Ave.

Moline, Illinois

Cow Waters Herself

With this wonderful new Libbey Automatic Water Bowl. Each bowl controls own water supply. Animal moves lever, opening water valve, when it starts to drink. Lever swings back closing valve when animal stops drinking. No float tank required. Bowls may be put at different heights or in any stall or pen. Cannot overflow; cannot get out of order; almost no water left in bowl. Most sanitary bowl ever sold. Prevents spread of contagious diseases. Increased milk yield quickly pays back cost. Saves labor; saves feed. Write today. If interested in Stanchions, Stalls, Carriers, etc., ask for General Catalog. Sent free.

C. A. LIBBEY COMPANY
4 Jay St. Oshkosh, Wis.

Turn Stump Land Into Money

Clear your stump land cheaply—no digging, no expense for teams and powder. One man with a K can rip up any stump that can be pulled with the best inch steel cable.

Works by leverage—same principle as a jack. 100 pound pull on the lever gives a 48-ton pull on the stump. Made of the finest steel—guaranteed against breakage. Endorsed by U. S. Government experts.



K Stump Puller

Write today for special offer and free booklet on Land Clearing.

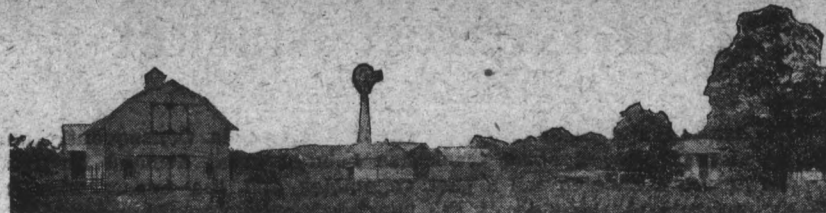
Walter J. Fitzpatrick
Box 14,
182 Fifth Street
San Francisco
California

No Stump Too Big

HEALTH—FREE

Your name and address on a post-card will bring you absolutely free an interesting booklet called "Thirty Feet of Danger," presenting in plain American language the facts every human being should know and act upon in keeping his system clean and healthy. It is sound advice, and it may be the means of avoiding illness for you and your family. A clear statement on the best of medical authority. Write today to

Nujol Laboratories
STANDARD OIL CO. (NEW JERSEY)
50 Broadway New York



Our Nearest Market

(Continued from preceding page). . . ing more interest in the waterglass a side road does not have this opportunity to as large an extent but he can make up for it in a measure by advertising in his local paper. Such an advertisement should describe briefly the quality of the product for sale and never neglect to give short accurate directions for reaching the farm. In a roadside truck business the farmer on a main traveled road undoubtedly has a great advantage as buyers can make purchases without going out of their way when they are out on pleasure trips.

Of course, it takes some time to handle a roadside business in truck and fruit and quantity purchases should be encouraged. The buyer who will take one or two crates of berries is much to be preferred to ten buyers who purchase two, three or four boxes. If there is a boy or girl on the farm who can give the business constant attention a profit can be made on the small sales. If it is necessary for the farmer or his wife to leave their work to handle small sales there is not so much satisfaction in roadside marketing. In the advertising either on the sign board or in the local paper, quantity buying should be emphasized and encouraged. There is no money in selling berries one box at a time or in selling eggs by the half dozen if the farmer must neglect regular work in the garden or around the poultry houses in order to make such sales. If the farmer is using his team and engaged in field work it is almost impossible to bother with a roadside business unless some other member of the family is available for handling the trade.

The poultryman can also increase his business with motorists if he is located on a frequently traveled thoroughfare and he can reduce his marketing costs at the same time. The city buyers of eggs are gradually show-

ing more interest in the waterglass method of preserving eggs for winter and this is an opportunity to supply them with fresh infertile eggs. Many consumers will not purchase eggs in the city to use for preserving in waterglass as they do not feel sure of the quality. In many sections a farmer who can guarantee fresh infertile eggs, will find many motorists anxious and willing to drive into the country to procure their winter supply.

There is also a chance to sell poultry of all kinds to the motorist. Ducks and geese will often be purchased eagerly by city buyers who enjoy the novelty of laying in a square meal fresh from the farm. Of course, it is not possible to dress a lot of poultry for an uncertain trade from motorists. Usually they will have to be sold live weight but it is surprising how many motorists rather enjoy lugging home a live bird with its legs tied to prevent an escape. Dressed poultry can often be prepared on phone orders from a customer who expects to drive out during the evening.

Selling to motorists seems to prove profitable in some sections. In other districts it might prove a failure. It all depends upon local conditions and the skill of the producer in serving up the things that the buyer is anxious to own. A farmer can try such a method of selling without any loss of money, as it costs practically nothing to try. If the business is successful it can be gradually expanded. If trade is dull, the regular markets will still be at hand to receive the goods. On many farms there are side-lines, like berry growing, poultry raising, truck growing, bee-keeping, etc., which might be made more profitable if a large amount of the quality products could be marketed to motorists from the city who are willing to use their cars to help in delivering their own food supply fresh from the farm.

Michigan Crop Report

Wheat.—The condition of growing wheat, as compared with an average per cent is 97 in the state and upper peninsula, 98 in the southern counties, 96 in the central counties and 95 in the northern counties. The total number of bushels of wheat marketed by farmers in October at 80 flouring mills is 163,074 and at 60 elevators and to grain dealers 103,986 or a total of 267,060 bushels. Of this amount 235,668 bushels were marketed in the southern four tiers of counties, 14,372 in the central counties, and 17,020 in the northern counties and upper peninsula. The estimated total number of bushels of wheat marketed in the three months August-October is 2,250,000. Seventy-five mills, elevators and grain dealers report no wheat marketed in October.

Corn.—The estimated average yield of corn, in bushels, is 23.31 in the state, 24 in the southern and central counties, 21 in the northern counties and 17 in the upper peninsula.

Clover Seed.—The per cent of the acreage of clover seed harvested as compared with average years is 73 in the state and upper peninsula, 72 in the southern counties, 78 in the central counties and 65 in the northern counties.

Beans.—The final estimated average yield per acre, in bushels is 7.75 in the state, 7 in the southern counties, 8 in the central counties and upper peninsula and 9 in the northern counties.

Potatoes.—The estimated average yield per acre, in bushels is 84.42 in the state, 73 in the southern counties, 79 in the central counties, 87 in the northern counties and 153 in the upper peninsula.

Commercial Fertilizers.—The per cent of farmers who have used com-

mercial fertilizer on their wheat this fall is 43 in the state, 47 in the southern counties, 41 in the central counties and 25 in the northern counties.

Live Stock.—The average condition in the state, of horses is 93, of cattle 94, of sheep 97 and of swine 96.

Grain and seed threshed in Michigan up to and including October 19, 1918, per returns of threshermen is as follows:

	Acres.	Bushels.	Yield Acre, Bush.
Winter wht.	639,585	8,972,940	14.03
Spring wht.	30,071	693,258	18.21
Rye	465,144	6,674,217	14.35
Oats	1,517,545	59,892,730	39.46
Speltz	8,954	247,221	27.61
Barley	269,176	8,156,544	30.30
Buckwheat	16,274	154,027	9.46
Peas	16,081	238,453	14.83
Seed:			
Timothy	519	1,560	3.01
Clover	39,988	47,243	1.18
Beans	90,281	790,081	8.75

WHEN HORSES GET THE "FLU."

To guard against an unfavorable termination or the development of one of its numerous complications, horses upon showing evidences of influenza should be relieved immediately from work. Most careful nursing is also essential for horses affected with influenza and, likewise, skilled medical treatment, which can be best assured by placing affected animals under the care of a qualified veterinarian. The spread of the infection should be prevented by segregating the diseased animals and thoroughly cleaning and disinfecting the contaminated premises. Plenty of sunlight and good ventilation are also highly desirable.

GET FULL VALUE OUT OF YOUR GRAIN

Grind it and Feed it on your own place, where nothing is lost. Besides roughage, live stock must have Concentrates. Ground Grain is the most effectual and economical.

BOWSER FEED MILLS
"Always Reliable"

Crush ear corn (with or without husks) and grind all kinds of small grain. 10 sizes, 2 to 25 H.P. Sold with or without Elevator. Write today for catalogue.

The D.N.P. BOWSER CO.
South Bend, Ind. Fl.

BAGS

2 Bu. Used Potato Bags 20c

2½ Bu. Used Potato Bags 25c

A. R. RUTLEDGE,
618 Michigan Ave., Detroit.

CRATES

FOR SALE

Splendid quality purple top white turnips. Carloads or less. For table use or can be used for dairy herds. A. M. TODD CO., Menasha, Mich.

Why He Deals with Cooperatives

I TELL you, young man," said one of the leading produce dealers from Pittsburgh, "the real secret in selling potatoes to the best advantage is to first have a standard grade, and then put it up so that it appears to the best advantage on the market. This means uniform quality through the entire shipment; every potato a good one, uniform in size as possible, and put up with little dirt. Such tubers do not have to go begging for a market, and the sooner the growers realize this the sooner they are going to realize better profits, for the less trouble there will be among potato growers with wholesale distributors.

"Farmers' shipping associations have learned this, or are learning it fast, and some of them are past masters in the art of putting up potatoes and other produce in an attractive manner. They have their manager and local inspectors to look after the matter of grading and some of them have experienced graders to sort the crop at their warehouses before it goes into the cars. We don't have much trouble or dissatisfaction in dealing with growers' associations. We can usually move their potatoes at a good price, and they are coming to think that we are not all crooks.

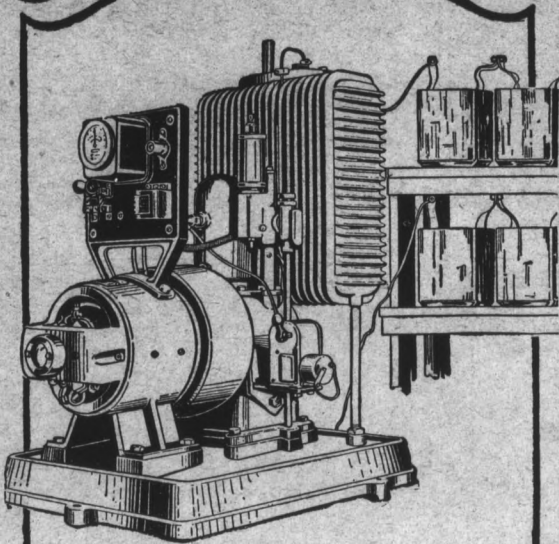
"Small shippers and the individual growers, on the other hand, have been slower to grasp this situation. They seem to think that, regardless of careful grading I ought to secure as good prices for their potatoes as I do for those put up according to standard size and quality. In fact, there are many of them who think that they have made a good business deal when they have slipped one over on me because the market was on the upgrade. Well, they may be able to get away with such a trick once or twice when the market is going up from day to day, but my turn comes when the market is slumping.

"It is this lack of proper grading and individual honesty that makes the trade naturally suspicious of many carloads of potatoes, and I can't get the same prices for them that I can for potatoes put up properly and coming from other sources that have the reputation for putting up a better grade. Lots of times I lose money on such shipments. It is for these reasons that I prefer to deal with associations that have a standing in the markets. Of course, I have individual shippers who I know put up good potatoes, but their volume of tonnage is entirely too light to meet the demands of my trade."

CANADIAN GOVERNMENT COM-
MANDEERS BUTTER.

I N response to an urgent appeal from the British Ministry of Food for increased shipments of butter from Canada the Canadian government has commandeered all creamery butter made in the provinces of Alberta, Saskatchewan, Manitoba, Ontario and Quebec between September 30 and November 9 inclusive, and put the Canadian consumers on an allowance of two pounds of creamery butter per person per month. Great Britain and the Allies have been short of butter for many months, and although an Englishman's allowance is only one-half pound of butter and one pound of oleomargarine a month, the government finds it difficult to maintain this meagre ration. The principle of the "Common Table" is the basis of this order limiting the consumption of creamery butter in Canada. If tonnage permitted greater shipments of butter, Canada would no doubt, limit home consumption still further in order to supply a fairer ration for the English table.

ALAMO Electricity



"THE NATION KNOWS THE ALAMO"

For Every Farm Department—

Every Member of the Family

I N the business of farming, electricity has become invaluable. It is a great aid in getting and keeping hired help. It is a valuable assistant in the war work of the farm.

The Alamo Unit helps the farmer to cultivate more acres by freeing him of tasks that electrical power can do in less time and do better. It floods his house, barn and other buildings with bright, safe light and operates dozens of farm utilities.

A Great Home Need

Relieving the burden on farm women is a feature that makes the Alamo Unit a necessity for every farm. The drudgery of washing, ironing, churning, sweeping and many other home tasks can be done away with. Early morning and evening work can be done with less fatigue under bright electric lights. It makes homes brighter and happier for all the family.

The Simple, Durable, Reliable Unit

The need of farm electricity being evident, you can do no better than to investigate the Alamo. It is the efficient unit—perfectly balanced and fully perfected. It runs without vibration or noise. It requires no special foundation. It is economical, built to last a lifetime, requires but little attention and operates at low cost.

Alamo's engine—the Ide Super-Silent—is a power marvel of sturdy construction with no complicated parts to get out of order—no springs, cams or rods. The carburetor is designed with a new fuel-saving device. An electric governor—the simplest type made—guarantees rated speed and assures proper charging of batteries.

Get These Facts Now

Send today for further information about Alamo Electricity and the Alamo Unit. These are vital facts every farmer should have. Use the coupon for convenience—or a postal card or letter will do. Send now.

ALAMO FARM LIGHT COMPANY

General Offices: 1215 Farnam St., Omaha, Neb.

Factories:
Hillsdale, Michigan

(27)

Alamo Farm Light Company,
1215 Farnam Street,
Omaha, Neb.

Please send your ALAMO BOOK
of farm light and power facts and
information about the ALAMO UNIT.

Name

Postoffice..... R. F. D.....

County..... State.....

BETTER BUY THAT ROOFING NOW



JIM BROWN WILL SAVE YOU MONEY AND PAY THE FREIGHT

I'll save you money on any kind of Ready Roofing you need. I can supply you with a style and grade in rolls or in shingles suitable for any building on your place. My advice to you is to take advantage of my low prices and buy your roofing now before prices advance. The reason I can

Save You Money on Roofing

is because I sell Ready Roofing on the same "Direct-From-Factory-Freight-Paid plan" that has enabled me to build up the biggest direct by mail fence business in America. Over 600,000 farmers have saved money by buying Brown Fence and I am now giving them the same money-saving opportunity on Ready Roofing. Get my prices.

Write Today For My Money Saving Prices

My free roofing catalog-folder illustrates and describes my various grades of roofing—both rolls and shingles in actual colors. My low prices will surprise you. No in-between profits to pay—no extras. I pay the freight right to your station. Send name and address—get Bargain Offers.

THE BROWN FENCE & WIRE CO.
Roofing Dept. U CLEVELAND, OHIO

Get My Big FREE Roofing Catalog Today



Investigate Now.

Earn Big Money Cutting Wood

With a Howell Drag Saw Machine. Turn your timber into cash. Big coal shortage. The demand and prices for fire wood are greater than ever. Our drag saw cuts more wood in less time and at less expense than any machine built. Send today for our FREE catalog and prices. **R. R. Howell & Co., Mfrs., Minneapolis, Minn.**

SAWS

ANY WOOD IN ANY POSITION ON ANY GROUND 4 in. to 5 ft. Through

1 Man With a Folding Machine **Beats 2 MEN** With a Cross-cut Saw
5 to 9 cords daily is the usual average for one man

Our 1919 Model Machine saws faster, runs easier and will last longer than ever. Adjusted in a minute to suit a 12-year-old boy or strongest man. Ask for catalog No. M 44 and low price. First order gets agency. Folding Sawing Mach. Co., 161 W. Harrison St., Chicago, Ill.

Ditches Terraces

Grade roads, build dykes, levees with the **Martin Farm Ditcher and Grader**. Works in any soil. Makes V-shaped ditch or cleans ditches up to four feet deep. All steel. Reversible. Adjustable. Write for free book and our proposition. **Owensboro Ditcher & Grader Co., Inc.** Box 315 Owensboro, Ky.

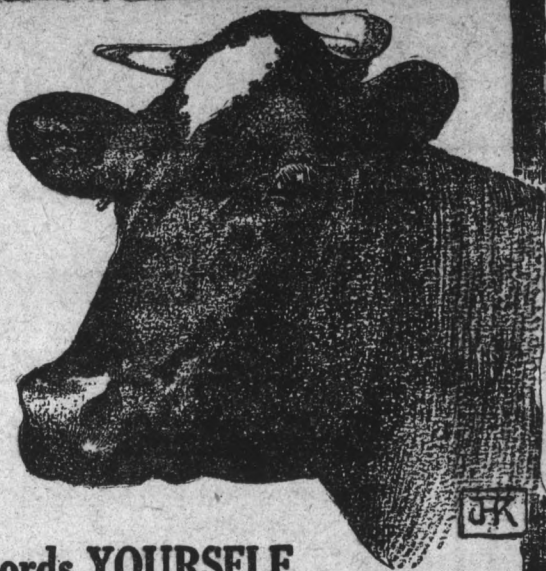
WE WANT VETCH. SEND US SAMPLES

YOUNG-RANDOLPH SEED CO., Owosso, Mich.

Mention The Michigan Farmer When Writing Advertisers

Record Holstein

This four-year-old is first of all **HEALTHY**. Her record shows it. Her yearly production record is 30,230.2 lbs. milk and 1,111.56 lbs. butterfat. Surprising results are possible if a dairy cow's condition is kept perfect.



Go After Records YOURSELF

Production records of dairy cows are not just to read about—they are distinctly worth trying for, this year more than ever.

The fact is, the health condition of most dairy cows is decidedly lowered, especially during the winter and spring months. They need some medicinal aid to keep their digestive and genital organs in proper working condition, and to enable them to throw off disease.

KOW-KURE, besides being invaluable in the treatment of Abortion, Retained Afterbirth, Scours, Barmess, Bunches, etc., is also a great PREVENTIVE of disease—a conditioner that works on scientific principles. It strikes at the seat of ailments peculiar to cows. By raising the health standard, it directly aids nature in increasing the milk flow.

Use KOW-KURE this winter to keep your cows healthy and then compare your milk records with other seasons. KOW-KURE can be bought of feed dealers and druggists; 60c. and \$1.20 packages.

Send for our Free Book
("The Home Cow Doctor")
—very useful to dairymen

DAIRY ASSOCIATION CO.
Lyndonville, Vt.



An Appeal to Michigan Milk Producers

(Continued from page 454.)

plish which demands our utmost care and thought.

At the coming adjourned annual meeting, which will be held in Lansing, Representative Hall, December 4, these very important matters will be discussed, and we urge you at this time to plan to send to this meeting two delegates from each local for there will be a complete discussion of the situation as it relates to the entire state. Look out for the program of this meeting in next week's issues of the different papers of the state and is published herewith.

The Feed Question.

If we are to attain to the position that we so much desire; if we are to be recognized as real business men, we must not only look out for a profitable price for our product, but we must study the most economic means of production. To this end your president and secretary have been studying for months the feed problem which is such a serious one this year, and at the price of which most of our milk producers stagger at the present time.

Let us for a moment consider, like any other business man, what our supply of feed is; how much added supply we will need for the winter; and the methods we are going to use to obtain this. It is a conceded fact that to obtain the best results cows must be liberally fed at all times. What will we need to carry our cattle through the winter in good shape and leave them in position to do profitable work next year? They cannot be starved and render efficient service in the succeeding months. When we determine what must be done, then the next question is, "How are we to obtain it?" Two methods of common practice are before us. One is to do as the best dairymen do, and buy a stock of needed feeds early in the season, pay for them when they are bought, and get the product at the cheapest possible point. Another method, and an altogether too common practice, is to buy from hand to mouth and carry credit with the miller—which means every

time the high price and the less profit in the business. Every successful business industry is more careful about their buying than possibly any other part of their business. We must learn to do this very thing, and for the purpose of accomplishing this result your association, through its president and secretary, have entered into negotiations with the great milking concerns of the country, to see where we could buy the best kind of feed in large quantities, at the cheapest price, and give this to our members absolutely without profit of any kind.

We have arrangements with certain milling parties at the present time whereby we can supply our people with a few hundred tons of feed, and a fine saving can be made from the regular retail price. This will, of a necessity, have to be worked by the way of the organized movement through your local and state organization. If buying in large quantities is at any time of great value, then you can see that the prospect of having a market of possible fifty thousand tons would be a decided inducement to the dealer who is looking for large business openings.

We have the formula prepared for this guaranteed food, and we will give you prices and all details upon application. No one but members of our organization can obtain this advantage.

Detroit Area Meeting, November 26, at Board of Commerce.

That we may arrange for those details which pertain directly to the Detroit area milk producers, a delegate meeting is called to meet at the Board of Commerce on November 26, 1918, at one thirty p. m., local time. Questions of vital importance will here be discussed. We urge each Detroit area local to send two accredited delegates. We are anxious that this meeting shall be along the line of constructive service, and your plans, perplexities, and endeavors should receive consideration at this meeting. Don't forget the time and place and your delegates.

R. C. REED, Sec'y.

Program for Meeting of Milk Producers

The Second Annual Meeting of this organization will be held in Representative Hall, Capitol, Lansing, December 4, 1918, at 11:00 a. m. sharp.

The following program will be followed closely:

11:00 A. M.—Call to order. Address, "Past, Present and Future of the Milk Producers' Association," President N. P. Hull.

11:30 A. M.—Appointment of committees—nominations, resolutions.

12:00 M.—Dinner.

1:00 P. M. Sharp—Report of auditors, report of treasurer, report of secretary.

1:30 P. M.—"Milk Producers' Association—what it has done for you. What you should do for it," Prof. A. C. Anderson.

Professor Anderson's investigations of milk production, manufacture, and distribution have brought credit to our college and state, from ocean to ocean. You cannot estimate the value his investigations are, and will be, to humanity through coming ages.

2:00 P. M.—"Michigan's Share and Influence in the National Milk Producers' Campaign," Hon. Milo D. Campbell, President National Milk Producers' Federation.

President Campbell has contributed more of means, time and ability, to put your business on a paying basis, than any one thousand of the average milk producers of Michigan. You owe it to yourself and to your family to get the inspiration and stimulus from so great and patriotic a citizen as is Mr. Campbell. Do not fail to hear him.

2:30 P. M.—"The Relation of the Government to the Organized Dairy Industry," Ex-Governor Fred M. Warner.

Ex-Governor Warner has just returned from Washington and has the most comprehensive understanding of the entire dairy industry, including the possible action of the government to

hold the price of our product down to the consumer. Mr. Warner's place in the hearts of the people of Michigan is well understood, for his service to them has indeed been great.

2:50 P. M.—"How Can the Up-state Milk Producers be Brought to Understand their Benefit from, and Obligation to, the Organized Movement?"

Five-Minute Talks—M. L. Moon, Jackson; W. H. Keddy, Fenton; Robert C. Blank, Perrinton. These broad-minded milk producers will give their viewpoint from the field.

3:15 P. M.—"How Can We Put the Dairy Industry on a Permanent and Profitable Basis?" Hon. D. D. Aitken, President National Holstein-Friesian Association.

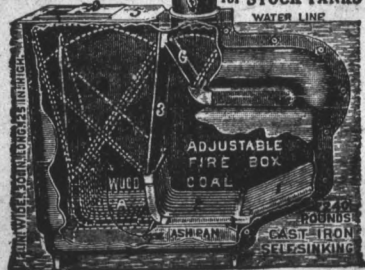
In great business circles Mr. Aitken is considered one of the most constructive men of this age. His plan would result in multiplying the consumption of dairy products; in putting the dairy industry on a profitable basis; in keeping our boys on the farm; in making the country the most desirable place in which to live. Don't fail to hear Mr. Aitken.

3:45 P. M.—Report of committees—committee on resolutions, nominations. Election of officers.

The milk buying interests are making careful note of the producers' attitude to the organized movement. The price we are able to negotiate for you will depend much upon the interest that you take in this meeting. Then for the sake of your business be on hand.

It matters but little how much you use your hands. It is the man that works with his head that succeeds. We must use thought and organized cooperation if this industry is put on a safe commercial basis. Will you do your part? Be on hand December 4. Help lift the load that has held you all these years.

COW BOY SURE HEATER



HELP FEED THE WORLD

Don't Waste Grain; but Save it and Produce more Meat, Butter and Milk by warming the drinking water for your stock with coal, wood or cobs with a

COW BOY TANK HEATER

Quickest to heat; strongest draft; adjustable grates; ashes removed without disturbing fire; keeps fire 24 hours.

Absolutely Safe; pays for itself in 2 months with 4 cows; Self-Sinking; can be used in Wood, Steel or Concrete Tanks of any size. Most reliable, practical, efficient and durable Tank Heater manufactured.

Purchased 3 of your Tank Heaters last Winter, worked very satisfactorily and are well worth their cost. Every Stockman should use one. W. H. Few, Prof. of Animal Husbandry, Iowa State College, Ames, Ia. Get a Heater early. Write now for illustrated circulars and dealer's name. THE WILLS MFG. CO., 56 Seventh St., MENDOTA, ILL.

MOLINE TRACTOR FOR SALE

Model "C". Used Very Little.
COME AND SEE IT.

GEO. S. BIGELOW,
BREEDSVILLE, MICH.



MINERAL HEAVE COMPOUND
CURES HEAVES

Booklet Free
No Package guaranteed to give satisfaction or money back. 51 Package sufficient for ordinary cases.
MINERAL HEAVE REMEDY CO., 468 Fourth Ave., Pittsburg, Pa.

Fistula & Poll Evil
Approximately 10,000 cases are successfully treated each year with
Fleming's Fistoform
No experience necessary; easy and simple; just a little attention every fifth day. Price \$2.50 a bottle—your money refunded if it fails. Send for free copy of FLEMING'S WEST-POCKET VETERINARY ADVISER. Valuable for its information upon diseases of horses and cattle. 197 pages, 87 illustrations. Write today. 282 Union Street, Flint, Mich.

WANTED: Man to take charge of registered Holstein-Friesian cattle. Must be a competent feeder and familiar with making A. R. O. tests. Must like the business and want to make a success of it. Give full information of experience, with references. D. D. AITKEN, Flint, Mich.



Tiling produces more bushels per acre. For permanency, order

American Vitrified Salt-Glazed Tile

American Sewer Pipe Co. (Michigan Branch) Jackson, Mich.

Drain Tile Sewer Pipe Building Blocks Vitrified Tile Silos

"TIX-TON MIX" with salt the year around keeps stock healthy and free from scours and ticks. Saves you big money—60 sample box by parcel post will mail to a barrel of salt. Write for club offer. Booklet on "Nutrition and Care of Sheep." PARSONS TIX-TON CO., Grand Lodge, Mich.

We are in the market for Seed Wheat. CARLOTS MAIL SAMPLES Farmers Elev. & Pro. Company, Bad Axe, Mich.



Spud Exchange Is Speeding Up

THE advertising and selling campaign of the Michigan Potato Growers' Exchange has been launched. The main efforts at the present time are being devoted to systematizing and developing the efficiency of the organization and establishing a uniform method of handling and billing cars.

Along the line of markets and factors that influence prices has been the movement of Wisconsin and Minnesota potatoes. It is the custom of the growers in these districts to unload their potatoes as soon as possible before cold weather sets in. The growers of both of these states have just harvested an unusually large crop of tubers this season and are short of storage facilities and labor for putting the crop in storage.

The weather conditions in these districts make it necessary to dispose of the crop as quickly as possible. It so happens this season that these states are producing far above a normal crop, and as a result there has been a tremendous movement of potatoes to the big markets of the country, thus having a tendency to reduce prices during the fall and early winter.

Another factor that has caused a marked depression on the big city markets is the fact that a large percentage of the produce peddlers are foreigners, between the ages of twenty-one and thirty-one years. This has made it necessary to handle potatoes through other channels in the big distributing centers. These young men who start out as fruit and produce dealers usually accumulate sufficient capital to go into business for themselves before they are thirty years of age and this has greatly complicated the distributing problem and curtailed the demand for bulk shipments.

The present car shortage if it is immediately relieved will prove a blessing to the potato growers of Michigan, because their tubers have been held back while the Wisconsin and Minnesota crops have been flooding the markets. And the Michigan stock is now in the best possible condition for storage. The markets are now in shape to take on a reasonable percentage of the crop without serious results.

One of the redeeming features of the Michigan potato growing district, especially the northern part, is the fact that although quite dry during the blooming period, causing a light setting of tubers, sufficient moisture during the latter part of the season caused the crop to be of good quality and medium size. The lateness of the growing season and ideal weather conditions at harvest time has resulted in full ripeness, well-matured, smooth stock, which is coming out of the ground free from dirt and is commanding a premium in all markets.

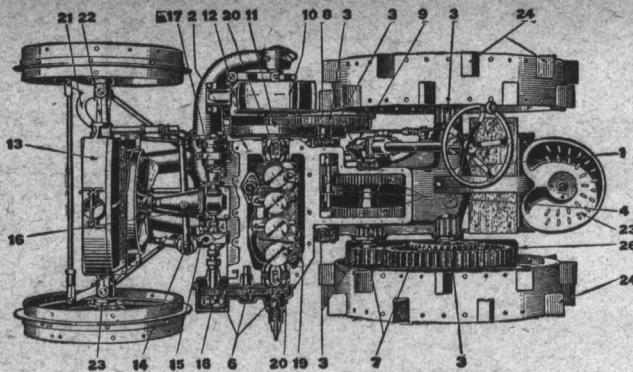
MICHIGAN APPLES.

HERBERT G. TAYLOR, an English buyer, representing London, Liverpool and Manchester, says that Michigan apples would supplant the Pacific Coast apples in the English markets, if the Michigan growers would apply systematic care in the production and preparation of the fruit, and would unite their interests in marketing their goods, so that the foreigner would only be obliged to deal with a relatively few people. Michigan apples, as a matter of fact, beat the world, for fine flavor, and keeping qualities.

As soon as the war is over growers should lay plans to capture these markets.

Key to Plan View

- 1—One-Piece Main Frame—Holds all shafts, bearings and gears in proper alignment.
- 2—Motor Set Crosswise—Eliminates bevel gears, worm friction or chain drive.
- 3—Hyatt Roller Bearings at all important places.
- 4—Cut Steel Gearing in transmission.
- 5—All Cut Steel Gearing between crank shaft and gear box.
- 6—All Cut Steel Helical Timing Gears.
- 7—Forged Cut Steel Master Gear and Bull Pinion with differential (fully enclosed).
- 8—Oil-Tight Housing for all gears between crank shaft and transmission.
- 9—Worm and Sector Steering Gear, enclosed.
- 10—Clutch Pulley on crank shaft.
- 11—Fly Wheel—Next to main bearing (normal speed 1050 R. P. M.).



Key to Plan View

- 12—Brake for belt or road work.
- 13—Cast Frame, 5-piece, Army truck type, non-clogging Radiator.
- 14—Sylphon Thermostat.
- 15—Centrifugal Pump.
- 16—Spiral Gear—Driven Fan; gears enclosed.
- 17—Dust Proof High Tension Magneto.
- 18—Speed Governor, enclosed.
- 19—Pistons—Diameter 3 1/4 in. Stroke 5 in.
- 20—Main Crank Bearings, 2 1/2 x 4 1/2.
- 21—Steel Steering Knuckles.
- 22—Drop Forged Front Axle.
- 23—Dust Proof Hubs.
- 24—Detachable Tire Lugs—other styles furnished if ordered.
- 25—Spring Seat.
- 26—Dust Proof Housing for final drive.

Study This Chassis of the Case 10-18 Kerosene Tractor

ABOVE we show a plan view of the Case 10-18, with an explanation of the details. Study this chassis—note its features.

In many ways, you will find the Case 10-18 far in advance of today's usual offerings. For instance, it is the first to offer a one-piece main frame with a four-cylinder motor, mounted cross-wise. This is merely one of the dozens of betterments. The one-piece frame casting constitutes a dust-proof housing for the rear axle, bull pinion shaft, transmission and the bearings for these parts.

This type of construction brings rigidity, reducing vibration, preventing disalignment. Power is conserved, while we multiply strength.

The belt pulley is mounted on engine crank shaft, doing away with bevel gears. It is part of the tractor—not an extra-cost accessory.

The Case Sylphon Thermostat insures complete combustion of gasoline or kerosene, and prevents raw fuel from

passing by the pistons and diluting oil in the crank case.

The Radiator has a cast frame. The Core is copper—fin and tube non-clogging type.

A Case air-washer prevents grit or dust from getting into the cylinders.

These are but a few of the greatest advancements in tractor history. Case offers you today, NOW, what others will attempt later on.

The Case 10-18 is rated according to the conservative Case policy.

It develops nearly 14 horsepower on the drawbar and about 24 horsepower on the pulley. Thus we insure abundant reserve power.

Our booklet and specifications point out dozens of other advancements, all of which demand your consideration before you buy.

Write to us today for a copy. Or visit a Case dealer.

J. I. Case Threshing Machine Company, Inc.
Founded 1842
1418 Erie St., Racine, Wis., U. S. A.

(810)



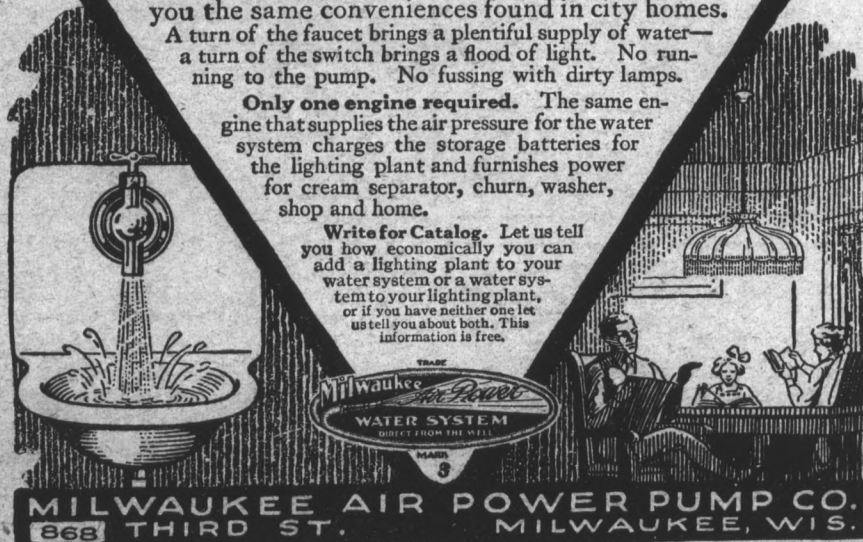
Water and Light in the Home EITHER OR BOTH

The Milwaukee Water and Light System gives you the same conveniences found in city homes.

A turn of the faucet brings a plentiful supply of water—a turn of the switch brings a flood of light. No running to the pump. No fussing with dirty lamps.

Only one engine required. The same engine that supplies the air pressure for the water system charges the storage batteries for the lighting plant and furnishes power for cream separator, churn, washer, shop and home.

Write for Catalog. Let us tell you how economically you can add a lighting plant to your water system or a water system to your lighting plant, or if you have neither one let us tell you about both. This information is free.



MILWAUKEE AIR POWER PUMP CO.
668 THIRD ST. MILWAUKEE, WIS.

What 15¢ will bring You from the Nation's Capital

Washington, the home of the Pathfinder, is the nerve-center of civilization; history is being made at this world capital. The Pathfinder's illustrated weekly review gives you a clear, impartial and correct diagnosis of public affairs during these strenuous, epoch-making days.

means. If you want a paper in your home which is sincere, reliable, entertaining, wholesome, the Pathfinder is yours. If you would appreciate a paper which puts everything clearly, fairly, briefly—here it is. Send 15¢ to show that you might like such a paper, and we will send the Pathfinder on probation 13 weeks. The 15¢ does not repay us; we are glad to invest in new friends. The Pathfinder, Box 78, Washington, D.C.

The matter of 15¢ in stamps or coin will bring you the Pathfinder 13 weeks on trial. The Pathfinder is an illustrated weekly, published at the Nation's center, for the Nation; a paper that prints all the news of the world and tells the truth and only the truth; now in its 28th year. This paper fills the bill without emptying the purse; it costs but \$1 a year. If you want to keep posted on what is going on in the world, at the least expense of time or money, this is your paper. The Pathfinder is yours. If you would appreciate a paper which puts everything clearly, fairly, briefly—here it is. Send 15¢ to show that you might like such a paper, and we will send the Pathfinder on probation 13 weeks. The 15¢ does not repay us; we are glad to invest in new friends. The Pathfinder, Box 78, Washington, D.C.

SEEDS WANTED

Michigan Favorite Cow Peas.
Soy Beans: Ogemaw, Manchou, Medium Green.
Ito San, Black Eyebrow.
Red Clover and Alsylke [free from buckhorn and mustard].
Garden Peas and Garden Beans.

EDW. E. EVANS,
WEST BRANCH, - - - MICHIGAN

Send for Catalog **FARM WAGONS**
High or low wheels—steel or wood—wide or narrow tires. Wagon parts of all kinds. Wheels to fit any running gear. Catalog illustrated in colors free. Electric Wheel Co., 35 Elm St., Quincy, Ill.

Wanted Clover Seed & Peas All Kinds
Please submit us an average sample of any quantities you want to sell and we will tell you what it is worth either in the dirt or cleaned. We believe we can make you aware that will look attractive. Millington, Mich.
SIOUX CITY SEED CO.,

Spring Wheat for sale, marquis variety, heavy yielder, the new kind that does well in Michigan, Farwell, Mich.
FARWELL MILLS,

WANTED—SPRING RYE
Mail sample and quote best prices. HOLMES—LEATHERMAN SEED CO., Canton, Ohio.

WE WANT VETCH. SEND US SAMPLE
YOUNG-RANDOLPH SEED CO., Owosso, Mich.

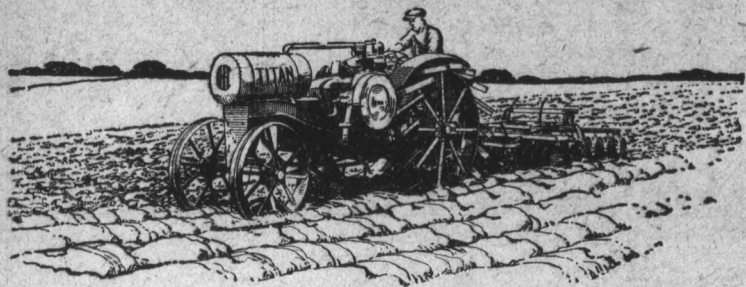
FERRETS

2000 Ferrets They hustle rats and rabbits. Price list and booklet mailed free. N. A. KNAPP, Rochester, Ohio

1000 FERRETS FOR SALE
C. J. DIMICK, Rochester, Ohio

FERRETS White and Brown they make, rats and rabbits hustle price list free. GLENDALE FERRET CO., Wellington, O.

Please Mention The Michigan Farmer When Writing to Advertisers



"What Can I Reasonably Expect of a Tractor?"

SO MANY farmers ask us this question that it deserves a public answer. When you buy an International kerosene tractor you can expect—

Plowing, as deep as you need, as fast as good plowing can be done, at low cost because your tractor operates on kerosene.

Good work on plowed ground. This is important. You can use your tractor for all the seed bed work, giving your crops a better start and a better chance.

All kinds of belt work. Individual threshers, ensilage cutters, feed grinders, hay presses, and many other useful, labor-saving belt machines soon follow an International tractor because it does good belt work at low cost.

An International will haul your crops to market, clear your land, grade and level roads. In any size or style it is a true "general purpose" tractor, useful for all kinds of farm power work, built by a Company that has built farm machines and tractors in large numbers for many years.

That is what you may reasonably expect from an International kerosene tractor. The local dealer can give you any further information you want. See him or write direct to us.

International Harvester Company of America

(Incorporated)

CHICAGO

U S A

INTERNATIONAL LIVESTOCK SHOW

Nov. 30th to Dec. 7th
Union Stock Yards, CHICAGO

A Food Production Camp in the
Service of the United States

Daily Sales of Pure Bred Live Stock.

RED POLLED SALE

Wednesday, Dec. 4th, 10:00 A. M.
For particulars write H. A. Martin,
Gotham, Wis.

POLLED DURHAM SALE

Thursday, Dec. 5th, 10:00 A. M.
For catalog write J. H. Martz,
Greenville, Ohio.

HEREFORD SALE

Friday Dec. 6th, 1:00 P. M.
For catalog write R. J. Kinzer,
1009 Baltimore Ave., Kansas City, Mo.

ABERDEEN-AUGUS SALE

Wednesday, Dec. 4th 1:00 P. M.
For particulars write Chas. Gray,
Union Stock Yards, Chicago.

SHORTHORN SALE

Thursday, Dec. 5th, 1:00 P. M.
For catalog write F. W. Harding,
Union Stock Yards, Chicago.

A season of instruction in the Art of Breeding
and Feeding of Live Stock Economically
ANSWER THE NATION'S CALL and put Into Practice
The Lessons this Exposition Teaches
Brilliant Evening Shows and A TRIP TO CHICAGO
Lowest Rates on all Railroads

Feed your dairy
and beef cattle

BUFFALO
CORN

Ask your dealer
for Buffalo

GLUTEN FEED

Write C. FRANCIS, 909 Ford Building, Detroit
for sample, literature, and particulars

INSYDE TYRES Inner Armor
for Auto Tyres. Double mileage, prevent blowouts and punctures. Easily applied in any tire. Used over and over in several tires. Thousands sold. Details free. Agents wanted. American Accessories Co., Dept. 712 Cincinnati, O.

50 good Belgian Hares, and other large Rabbits, also some fox and Habbit, hounds, enclose stamp. W. E. Lecky, Holmesville, O.

FOR SALE 1918 Belladonna seed \$1.00 per ounce. Lansing, Mich. M. H. BIRD.

When writing to advertisers please mention The Michigan Farmer.

Only \$2 DOWN ONE YEAR TO PAY
\$38 Buy the New Butterfly Junior No. 2. Light running, easy cleaning, close skimming, durable. Guaranteed a lifetime against defects in material and workmanship. Made also in four larger sizes up to No. 8 shown here. **30 DAYS' FREE TRIAL** more by what it saves in cream. Postal brings Free catalog folder and "direct-from-factory" offer. Buy from the manufacturer and save money. **ALDRICH-DOVER CO., 2165 Marshall Blvd., CHICAGO**

A Milker that Never Kicks the Cows

WHEN I wrote to a friend that we had put in a milking machine, he replied, "I don't know but we shall have to come to it," from which I inferred that he had so far looked upon this dairy adjunct in the light of a doubtful piece of mechanism, and now in the pinch in which the country finds itself rather a necessity than a blessing.

So far as we are concerned, however, the milking machine has proved itself worthy of the confidence we had in it at the beginning. I know some farmers have trouble with it; but I am inclined to think this is because they either have not procured teat cups that fit or else they have not learned how to operate the machine. Some care needs to be taken to adapt the cups to the teats of the cows. If too large or too small, the work will not be perfectly done.

But the point I have in mind just now to speak about is, that the milking machine never gets mad, swears or gets up and thumps and pounds the cows; and this I count one of the great

things in its favor. I suppose I am getting to be something of a crank on the matter of doing the milking steadily, quietly and without loss of temper, no matter what may happen. But I know the value of this sort of thing now, after a good many years of experience. Nothing is more costly in the dairy than lack of self-control. The hired man, or the man who is not hired but is working for himself, that has the habit of sitting down quietly, as a man should, and milking from start to finish as if he knew and understood that he is doing one of the most important jobs of the farm, is a jewel; but he is just about as rare as most precious gems. It is hard to find such a hand.

But the milking machine fills the bill in this respect. I am sure we get more milk than we would if we had to depend on harsh and ill-tempered men. These men cause cows to shrink. That means loss. So I say, "Three cheers for the milking machine, the even-tempered hired man!"

New York.

E. L. VINCENT.

Movement In Rural Homes

THAT there are large opportunities in rural real estate, aside from its worth as a strictly agricultural proposition, is the opinion of a young man who speaks out of a profitable experience.

He was teaching country school, about six miles from a fair-sized city. Near the scene of his duties was an eye-sore in the form of a dilapidated old farm house. The ten acres of gulched, worn-out land adjoining it were the remnant of a good farm, the main part having been sold off by the shiftless owner who had inherited it. His present holding was mortgaged, and he wanted to sell his equity and move to town.

In connection with this property, a rather bold idea had developed in the school teacher's mind by the time his term expired. He laid it before a banker of his acquaintance, with the result of securing financial backing. The young man bought the premises in question. For the purpose of his plans, he divided it into three parcels. One contained the old farm house and some tumble-down sheds. Upon possession being gained the place was cleared of everything except the house and a few trees that were worth saving. By previous investigation he had found that the framework of the house, which was of the massive type of a former day, was still good.

By throwing a deep veranda across the rambling front, putting on new weatherboarding, and a roof of stained shingles with projecting eaves, the architectural appearance was transformed. The exterior was painted in harmonizing colors, and the interior was largely torn out and rearranged. The chief attraction of the property had been the location—not alone that it fronted on a main pike that was in first-class condition, but that most of the acreage lay on a beautiful knoll that sloped up gracefully from the highway. The improvements included grading and grass-sowing, sodding a space about the house and introducing here a little shrubbery and a flower-bed or two.

The place was advertised as a country home, and found a prompt customer at the price asked. Before excavation could be started on a second parcel, the buyer of the first had persuaded a friend to come out and be neighbor to him. The latter preferred to make his own improvements. The two men took over the third parcel, divid-

ing it between them as addition to their grounds.

Within a few months the young man had cleaned up several times the amount of a year's salary at school teaching. Several similar enterprises which he has since put through—though not with the same promptness as the first—have been very profitable.

He was led to make his original venture by chance reading of a magazine article, telling of the extent to which wealthy people, particularly of the east were acquiring country homes for year-round occupancy, since the coming of the automobile has made them independent of public means of transportation in going to and from the city, where they spend their business hours. The article insisted that there was a general tendency, though perhaps not yet manifest everywhere, among city people to live in the country. The incentives were fresh air, the charms of nature, more elbow room, and the interest and pride which goes with owning an estate, if only of a few acres.

In the belief of the school teacher, who is now giving his whole time to the business, there will be an increasing demand for such property within reasonable distance of every important town, and that fancy prices for acreage are to be realized. His choice is for sites that command a good view and which permit of pleasing effects as observed from the highway—on the theory that the average person likes both to see and to be seen.—G. E. S.

QUALITY DETERMINES KIND OF BEEF FOR SOLDIERS.

ALL future purchases of beef for our army, navy and marine corps and fighting forces of the Allies shall be made on a basis of quality, irrespective of weight. The representatives of the other departments agreed that the Department of Agriculture should select the meats on the basis of quality through its inspectors at the purchasing markets. The arrangement affected will protect the fighting forces in the matter of quality of meats, and at the same time will bring about a better balanced condition in the live stock industry. This course of action is in accordance with sound principles of production and conservation which have been advocated by the Department of Agriculture, the Food Administration and the other departments, with a view to an assurance of an adequate supply of beef for the future.

DU PONT AMERICAN INDUSTRIES

BEST FOR FIVE GENERATIONS

DU PONT

Sporting Powders

DuPont Ballistite Schultze

Used by your great-great grandfather, great grandfather, grandfather and father and will be used by "Our Boys" when they come back home.

E. I. DU PONT DE NEMOURS & CO.

ESTABLISHED 1802

Wilmington,

Deleware

THE DU PONT AMERICAN INDUSTRIES ARE:

E. I. du Pont de Nemours & Co. Wilmington, Del. Explosives
Du Pont Fabrikoid Co., Wilmington, Del., Leather Substitutes
Du Pont Chemical Works, Equitable Bldg., N.Y., Pyroxylin and Coal
Tar Chemicals
The Arlington Works, 725 Broadway, N.Y., IVORY PY-RA-LIN
and Cleanable Collars
Harrison Works, Philadelphia, Pa., Paints, Pigments, Acids & Chemicals
Du Pont Dystuffs Co., Wilmington, Del., Coal Tar Dyestuffs



1802



1860



1830



1918



1890



DU PONT

Self-Feeder for Hogs

THE use of self-feeders for fattening hogs is gaining in popularity. A self-feeder is simply a device by means of which a supply of grain or other feed is kept constantly available to the hogs, in order that they may always satisfy the craving of their appetites with respect to the kind and the amount of feed.

What the Self-Feeder Is.

Hogs in the wild state were self-fed animals, living upon such feeds as would satisfy their appetites, and under domestication they seem to thrive best when fed by the same principle. The marked success of the self-feeding system of hog raising is largely due to the fact that they may eat an abundance of those feeds which will nourish them to the best advantage.

Hints on the Use of the Self-Feeder.

The self-feeder may be adapted to the use of any kind of grain or feed, although shelled grain and ground feeds are most commonly used. It may be adapted to handle ear corn, but such a feeder must be of large size and heavily made in order to hold suf-

Where the feeds are not mixed the pigs may balance their rations as their appetites demand, in which case it has been found that they eat relatively less of the high-protein feeds as they gain in weight. This effects a material saving in the high-priced feeds consumed.

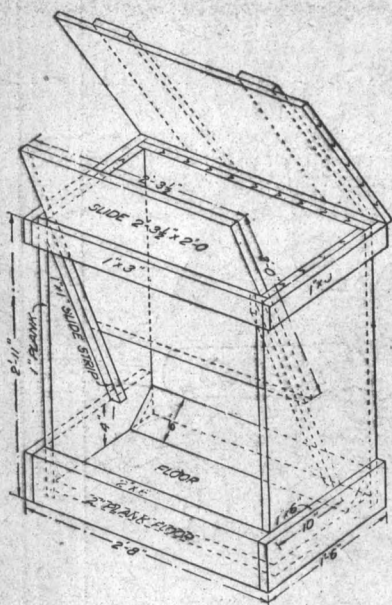
Permitting the hog to feed himself does not have the drawbacks to which such a system would be liable in the feeding of other kinds of animals, for he does not gorge himself until he becomes sick or loses his appetite. With the self-feeder the hog makes the most economical use of grain in the production of pork and gains weight most rapidly; he fattens more quickly, gets to market at an earlier date, and saves labor in his feeding and care. The quickest, the easiest, and the most economical method of fattening pigs, with the least expenditure of grain and labor, is through the use of the self-feeder.

VENTILATION PROTECTS ONIONS FROM "NECK ROT."

IF farmers and commission men holding onions in storage will see to it that their stores of this lachrymal crop are efficiently ventilated, the disease called onion neck rot can be controlled, assert plant pathologists of the Michigan Agricultural College. The trouble is one which annually causes much shrinkage in the crop.

"Bruising, which comes from toping immature onions, opens the way for infection," a bulletin from the Department of Botany declares. "The chief contributing factors in onion rot are humid conditions in the storehouse. A properly constructed storehouse, with careful attention to ventilation, will bring a crop through safely."

"In 1915 some storehouses in southwest Michigan lost almost every onion stored, leaving not even enough for a seed plot. Such occurrences show the problem is a serious one. Rotting in storage must be combatted by keeping a close watch on storage conditions."



The Carpenter Can Follow These Directions in Making a Self-Feeder.

ficient grain to feed a bunch of hogs several days without refilling.

In order that the self-feeder may readily be adapted to different kinds of grains it should be constructed with some means of regulating the opening through which the feed passes. For example, corn meal or barley requires a smaller opening to prevent too rapid a flow of grain than is required in the case of shelled corn. A well-constructed self-feeder will last a number of years, and as it may not always be convenient to feed the same grain every season some provision must be made to accommodate different sizes of grains.

Care should be taken to see that the self-feeder is always supplied with each feed, for if one part of the ration is missing the pigs will naturally eat an increased amount of any other available nutrient, and in such a case will make very poor use of it. For example, when tankage and shelled corn constitute the ration, if corn were to become exhausted the shoats would naturally eat a very large amount of tankage, which would not only fail to produce rapid gains, but would increase the consumption of a very high-priced feed. Too much emphasis can not be placed upon this point, for the beginner is apt to become careless in the use of a device which does not require constant care.

Two methods are in vogue in the preparation of grains for the self-feeder. The grain and the protein supplement to balance the ration may be mixed and fed from one self-feeder, or, better, the two or three feeds to be used may be fed separately, either in different self-feeders or in different compartments of the same feeder.

WANT ROADS KEPT IN GOOD SHAPE.

BELIEVING that the movement of motor trucks under their own power from factory to user will be greater this winter than ever before and that to accomplish the successful driving of motor trucks for hundreds of miles without breakdowns on account of bad roads, it will be necessary to keep them in first-class condition, the aid of the highways transport committee has been asked by Col. Charles B. Drake, of the Motor Transport Corps, U. S. A.

The state highway officials of Pennsylvania, New York, Ohio, Illinois, Indiana, Michigan, New Jersey, Massachusetts, Connecticut, Delaware and Maryland, who cooperated with the highways transport committee last winter in removing the snow and keeping the roads in repair, again will be called upon to aid. Lieut.-Colonel Uhler, of the Highways Transport Corps, has outlined a plan of motor transportation over three main truck routes, one starting from Chicago, another from Detroit and one from Buffalo, all converging at Baltimore.

The cooperation of the United States weather bureau in forecasting weather conditions all along the routes outlined has been obtained, and it is hoped to so anticipate heavy snowfalls as partially to neutralize them by road-clearing methods. Activities of the highways transport committee have been enlarged in the western states to such purpose that large shipments of food formerly sent by train now are being carried by motor trucks. Truck lines for conveying food are in daily operation along the coast from Cape Cod to northern Massachusetts.

Democracy Wins Woman Wins DETROIT TIMES' TICKET WINS

Women get the ballot in Michigan after a half century's striving.

Last of the great causes of which The Detroit Times was the earliest metropolitan advocate.

A year ago it was a Bone Dry Michigan—fought for by The Times without a single news-paper ally in Detroit until victory was assured. Note The Times' triumphant ticket, for which it battled in most cases singly and alone.

It means The Times will continue to be the people's progressive champion in the period following the great war, helping to widen the blessings of blood-bought Democracy.

For \$3.00

a saving of from \$1.00 to \$3.00, The Times will be sent one year if ordered at once. This rate cannot be guaranteed after Jan. 1, 1919, on account of increasing cost of production.

The Detroit Times' Ticket

The Truth no matter whom it helps or hurts. If the Times prints it The Times believes it.

INSTRUCTIONS TO VOTERS
Place an X before the measures advocated by The Times that you care to endorse. Nothing else need be done.

☒ Women's Suffrage

☒ Bone-Dry State-Wide Prohibition

☒ Law Against "Blue Sky" Investments

☒ Law Against Dishonest Advertising

☒ Primary Election Reform

☒ Popular Election of U. S. Senators and Nat. Committeemen

☒ Municipal Ownership of Street Railways

☒ Initiative and Referendum

☒ Reform in Local Election Laws

☒ Abolition of Board of Estimates

☒ Small School Board For Detroit

☒ Publicity of Campaign Contributions

☒ Income Tax

☒ Workingmen's Compensation Law

☒ Small Council and Charter Revision

Detroit Times
Detroit, Mich.

1918

Herewith find three dollars for one year's subscription.

Name _____

Address _____

Have letter registered if currency is enclosed.

Hot Lunches in the Rural Schools

A CHANCE visitor entering some of our rural schools just before noon is very likely to get a whiff of savory vegetable stews, or spicy hot puddings which are being prepared for the noon lunch; or if he comes ten minutes past twelve o'clock, he is likely to hear the busy scraping of spoons on dishes, combined with lively demands for another helping, for usually the supply made up by the amateur cooks is sufficient to satisfy the appetite of the hungriest boy or girl in the school. Scattered all over the state you will find city or village high schools as well as rural schools serving some hot dish at noon, supplementing the sandwiches brought from home.

A winter's experience has proved to many teachers the value of this warm dish, offsetting as it does many a lunch frozen on the way to school, or a hasty breakfast, eaten with an anxious eye on the clock.

Because of their appreciation of the benefit to the children from this source, in many cases the mothers'

By *BARBARA VAN HEULEN*

clubs of the school have undertaken to help the children to raise the money for the necessary equipment by means of socials and entertainments. In other districts the school boards or individuals have contributed the funds

necessary for the beginning of the project. Oil stoves have been loaned in some cases, by women who were using their kitchen ranges for winter cooking, and "kitchen showers" have, many times, been the source of the small utensils needed.

Approximately sixteen dollars and a half is the amount needed for the work. The principal articles needed are: A two-burner oil stove, dish pan, one large and one small kettle, two paring knives, a fork, two large spoons, asbestos mat, dish towels, and perhaps a dripping pan and oven. Each child brings a cup, spoon and deep oatmeal dish.

Each night the materials needed for the following day's cooking are apportioned to different children, convenience being the deciding factor for each individual. Each child contributing is credited by the book-keepers with the amount brought, retail prices being the basis of credit. At the end of the week when the total cost per child is estimated, it is usually found

(Continued on page 472).



The Housekeepers and Cooks at Evart Enjoy their Own Cooking.

WORLD EVENTS IN PICTURES



Cutting Wire Entanglements and Making Way for Advance of Infantry.



Belgian Soldier (Right) Keeps Close Watch of Captured German Officer.



In the Village where they Are Billeted, Boys Off Duty take a "Joy Ride."



Survivors of Troop Ship Otranto Sunk in Collision off Irish Coast.



Big American Gun Being Hauled to Scene of Action by Tractor.



Tanks Moving up to the Support of French Troops North of Soissons.

SHERWIN



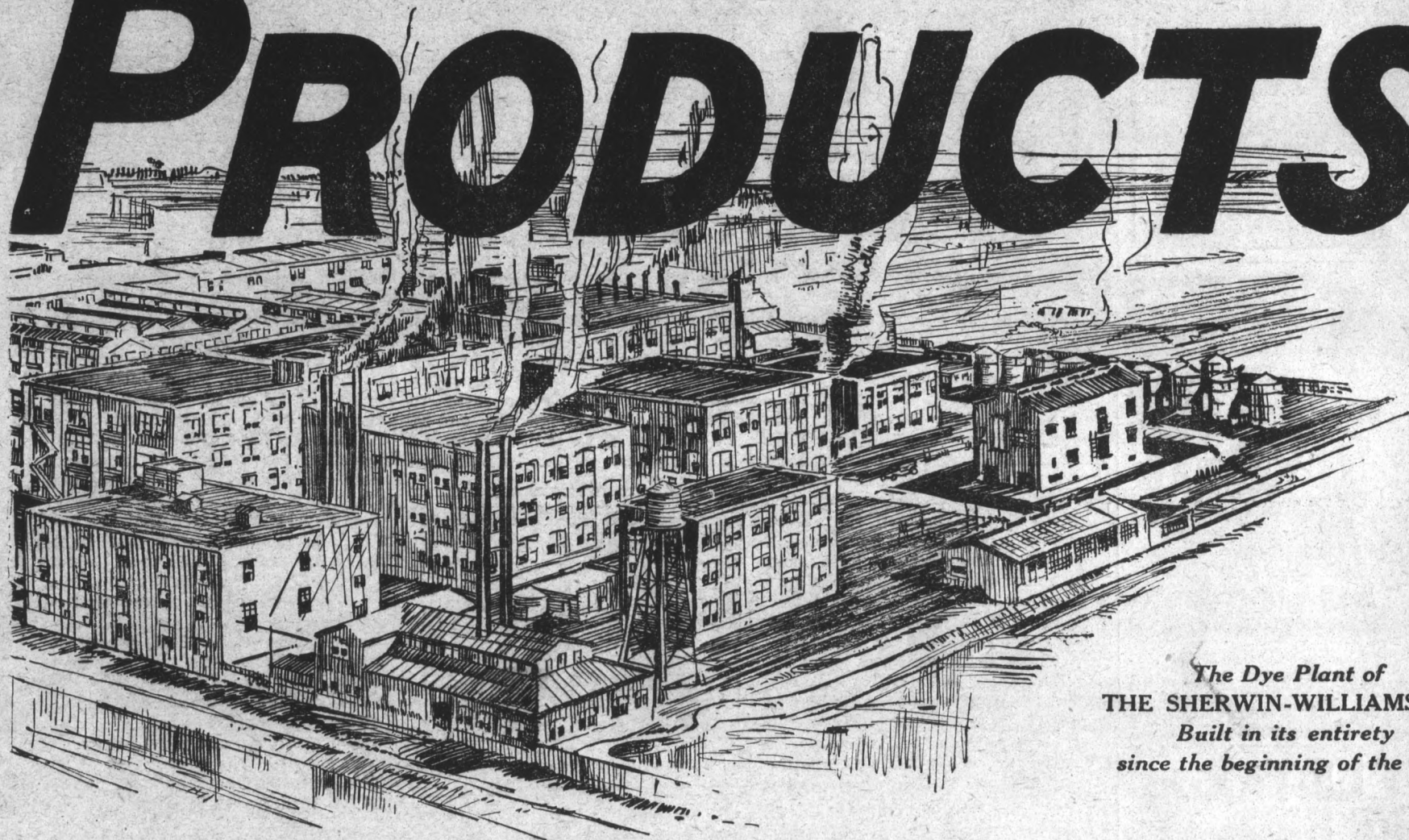
THIS trade-mark has stood for quality for over 50 years. It has won your confidence because it has never appeared upon a product of doubtful worth. This confidence of yours is the most valuable thing we possess—so valuable that we go to any lengths to maintain the standard in our products which you have learned to expect.

To this end we have made ourselves independent of outside sources for all raw materials that affect quality. Our zinc and lead mines, our linseed oil plant, and more recently, our dye plants—built to maintain the integrity of our colors—all serve the single purpose of justifying your faith in

SHERWIN-WILLIAMS PRODUCTS **PAINTS AND VARNISHES**

**DYESTUFFS, COLORS, PIGMENTS, CHEMICALS, INSECTICIDES,
DISINFECTANTS, WOOD PRESERVATIVES**

WILLIAMS PRODUCTS



*The Dye Plant of
THE SHERWIN-WILLIAMS CO.
Built in its entirety
since the beginning of the war*

This entire dye plant built since the war to supply our color needs

COLOR is an important factor in the production of paints. Since the beginning of our business, we have studied color production and when the War broke out had developed it to a high degree of efficiency.

The cutting off of certain dyes from Germany, necessary in making many of our most important colors; emphasized our failure to control our color

supply at the source, as we did practically all other vital ingredients. To remedy this fault, we organized a color production industry at Chicago second to none in America. This industry, under expert chemists, has grown by leaps and bounds until, in three years, it has reached its present proportions.

This remarkable achievement is just an illustration of the advantages that The Sherwin-Williams organization places at your disposal when you buy any product bearing our trade-mark.

THE SHERWIN-WILLIAMS Co.

Main correspondence office, Cleveland, Ohio
Plants, Warehouses and Sales Offices all over the world

Sherwin-Williams Products for the Farm

How to use them yourself to get perfect results is told in free book, "The ABC of Home Painting"

Prepared House Paint
(S W P)
Family Paint
Porch and Deck Paint
Inside Floor Paint
Roof and Bridge Paint
Preservative Shingle Stain
Enamels

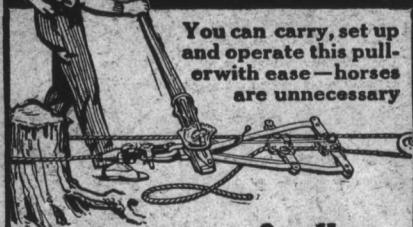
Screen Enamel
Mar-Not Varnish for
Floors
Scar-Not Varnish for
Interiors
Airplane Rexpax Varnish
for Exteriors
Auto Top Dressing

Enamel Leather Dressing
Sheep Marking Liquid
Baby and Auto Paint
Wagon and Implement Paint
Commonwealth Barn Paints
Auto Enamel
Concrete Finish for Floors
Concrete Finish for Walls

Pruning Compound
Floor-Lac (Stain and
Varnish Combined)
Polish-Oil (Cleaner and Polish)
Floor Wax
Deco-Tint Wall Finish
Flat-Tone Wall Paint
Aluminum and Gold Paints

Dry Lime-Sulfur
Arsenate of Lead
Cattle Dip
Paris Green
Tuber Tonic
Fly Spray
Disinfectants

One Man Pulls Any Stump



You can carry, set up and operate this puller with ease—horses are unnecessary

Kirstin One-Man Stump Puller

This KIRSTIN One Man Stump Puller is in a class by itself. It is as superior as it is different. Just a steady back and forth motion on the lever gives tons of pull on the stump.

The secret of its great power is in double leverage. Made of high-grade steel, combining great strength, durability and light weight. Soft steel clutches grip and pull without wear on the cable. Clears over an acre from one anchor. Changes the speed while operating.

Thirty days' free trial on your own land. Three years' guarantee, flaw or no flaw. Six months to pay, if you wish.

Get Big Free Book and Very Special Offer on One Man and Horse Power Pullers—all sizes. (80)

A. J. KIRSTIN COMPANY

305 Ludington St. Escanaba, Mich.

Add Dollars To Dairying Profits!

If you are using the gravity or shallow-pan cream separator method, or are using an old or inferior separator, you are robbing yourself of profits. Stop this waste forever! Use a

VIKING CREAM SEPARATOR

The closest skimmer on record. Over ONE MILLION in use. Lower in price than other standard separators. Greater in capacity than any other separator of equal rating.

Write for 2 Free Books. Quick shipments assured from 29 distributing points in U.S. and Canada. Swedish Separator Co. Dept. 86 507 S. Wells St. Chicago, Ill.

LET US TAN YOUR HIDE.

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

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

Then we have recently got out another we call our Fashion book, wholly devoted to fashion plates of muffs, neckwear and other fine fur garments, with prices; also fur garments remodeled and repaired.

You can have either book by sending your correct address naming which, or both books if you need both. Address

The Crosby Frisian Fur Company, 571 Lyell Ave., Rochester, N. Y.

30 Days FREE Trial

No plumbing. Odorless. Sanitary. Endorsed by State Health Boards.

The Kawneer Sent fully equipped. Anybody can set it up. No daily attention. Guaranteed 10 years. Makes home up to date, comfortable, healthy, at small cost. Try a Kawneer in your own home 30 days FREE.

FREE Book Send your name and address for illustrated book and 30 days' free trial offer. No obligations to you. It's free. Write today.

Federal Sash & Door Co., Dept. 4324, Kansas City, Mo.

Reliability—Strength Long Life

That is what you want in a windmill. The IXL has been made for 64 years and has all of these features.

Write for Catalogue.

Ihling-Doorenbos, Successors to Phelps-Bigelow Windmill Co., Kalamazoo, Mich.

DADDY!—By BAYARD D. YORK

LORRY PHELPS gave the box containing his picture puzzle of New England a parting kick and proceeded down stairs by way of the banisters—a forbidden but exhilarating achievement.

He wished someone would tell him why his aunts would not buy him any real playthings—like a locomotive or an automobile or a wheelbarrow such as Ted Miller had. Daddy would if he were here.

He went into the prim darkened parlor and stopped in front of a photograph of a keen-faced man of some thirty-five years.

"That's my daddy!" he said to an imaginary companion. "He's a major now. He's fighting Germans. By jiminy! but I bet the Germans run when they see my daddy coming!"

He remembered the day, but little more than a year past, when in the house where he and daddy and mother had lived his father had taken him in those great strong arms of his and told him gently that mother had gone away to Starland to be an angel. It had been a lonesome house then just as Aunt Eunice's house was lonesome now.

"I wish my daddy would come back," he said to the photograph.

He walked slowly out into the dining-room. It must be about supper-time—anyway, he was hungry. Why didn't Aunt Kate and Aunt Eunice come back from that Red Cross meeting?

He decided to pretend that there were some cookies on the table, though he knew well enough there were none. Then he stopped in mild surprise. Due to some unusual oversight a tumbler of jelly had been left on the table, set in the exact center of the roseleaf tablecloth. And there was a spoon beside it.

Maybe his aunts had meant him to have some, if he became hungry while they were away. Yes, the more he thought about it the more sure he became that they did. Else why had they left the spoon there?

He dipped the spoon deeply and raised it to his mouth. My, but peach jelly is good when a boy is hungry.

It was only after he had taken a second spoonful that he noticed the wavering lines of jelly on the tablecloth. How pretty they looked! He believed he could write his name that way.

Forthwith he dipped the spoon again and began. It took several attempts, but at length he succeeded in writing in legible characters—

LORRY PHELPS.

Wouldn't his aunts be pleased to find that he had remembered his writing lesson so well! At least Aunt Kate would. He was not so sure about Aunt Eunice—she never took things the way he expected her to.

On second thought he was not so sure that Aunt Kate would be pleased either. Aunts are queer people—not like a mother. Perhaps he had better erase it.

With the sleeve of his white blouse he rubbed the tablecloth slowly and painstakingly until there seemed to be no trace of the writing lesson left. It did not occur to him to note the effect upon his sleeve.

He thought he heard his aunts coming now. Some vague sense of discretion prompted him to go back to his room and busy himself with his picture puzzle. He was trying to fit the southwestern corner of Connecticut into the middle part of Maine when Aunt Eunice's sharp voice called him downstairs.

Her thin features were set in an uncompromising frown. As was usual upon important occasions her hands were clasped at her waist. Aunt Kate—as was also usual upon important

occasions—blended inconspicuously in to the background.

"Lorry!" said Aunt Eunice, "did you touch the jelly? Mercy, child, look at your sleeve! Kate Phelps, look at this boy's sleeve."

Kate Phelps had intended to put in a word or two to soften the coming punishment but the sight of that sticky sleeve silenced her good intentions—as something or other usually did.

"I—I thought—" Lorry began, eyeing the sleeve in surprise in wonder.

"Don't say another word," exclaimed Aunt Eunice. "You have been a bad child. You will count beans until supertime."

"Oh, please, please, Aunt Eunice! I'd rather you would whip me. I didn't mean to be—"

"You will count beans," she repeated crisply. "Kate, bring the dish and the beans. It is strange how one child can keep a household topsyturvy the whole time."

"Counting beans" was an ordeal from which Lorry shrank. It consisted in sitting in an uncomfortable chair with two dishes in front of him while he transferred beans, one at a time, from one dish to the other until his arms and shoulders ached.

He felt the injustice of his punishment tonight, for he had not meant to do anything that he ought not; and he took the situation with bad grace. Which explains why he was in bed



Holton's Senior Handicraft Club.

when "Uncle" Jim called at half-past seven. The man was not Lorry's uncle at all—he was Major Phelps's closest friend. He had never had any children of his own.

"I had a letter from Sam today," Lorry heard him say. "He asked me to come over and see Lorry. He isn't in bed already, is he?"

"He's being punished," said Aunt Eunice.

"Well, I've got a little toy here. I'll run up for a minute—"

"Leave it with me and I'll give it to him in the morning."

"Oh—you think he's asleep?"

"Very likely."

"I'm not asleep, Uncle Jim," Lorry called out.

There was a moment of silence. Then Uncle Jim chuckled.

"I must see the little rascal," he said. "I'm writing back to Sam tonight."

Without waiting for the refusal which probably would have come in a moment, he ascended the stairs. He came in on tiptoe.

"Probably the chap's asleep," he said, poking a finger into the bedclothes.

Lorry giggled.

"Don't you tickle me, Uncle Jim," he cried. "You knew I wasn't asleep, didn't you?"

"Well, I did suspect you weren't," Uncle Jim remarked. "I have a letter from your daddy."

"I got a letter from daddy one day—all my own," said Lorry proudly. "Only Aunt Eunice wouldn't let me keep it. She says it ought to be preserved. Do you think so?"

"Well—er—maybe. Now, let's have a little light and take a squint at this fire-engine. It's a big red fellow, with

real rubber tires, and it winds up and goes around in a circle."

"Oh, oh, oh," cried Lorry. "I guess I'll get right up and try it."

"Well—no, I wouldn't do that," said Uncle Jim rather hurriedly. "I tell you, you let me leave it here on the table—and if you'll be a real good boy, you can make it go tomorrow. How's that?"

"Maybe that's better," agreed Lorry. "Is Europe anywhere near Starland, Uncle Jim?"

"Starland?"

"Yes—where my mother has gone, you know."

It was a moment before Uncle Jim answered, and then his voice was low and solemn.

"I guess, Lorry boy," he said slowly, "that Europe and Starland are pretty close together."

"People don't come back from Starland, but they do come back from Europe, don't they? Isn't daddy coming back? Aunt Kate won't tell me."

"We hope he's coming back—but it may be a long time. You must be patient, my lad."

"He must come back," said Lorry. "I need him."

To that, Uncle Jim had no answer. A month went by. Then Uncle Jim's weekly visits stopped. Aunt Kate told Lorry that Uncle Jim was sick.

He missed Uncle Jim, but the fire-engine kept him from being altogether lonely. It was just such a plaything as he had long wanted to have.

One day he discovered that the circular library table was just large enough to run it on. Of course, he had to look out that it did not go over the edge—but that added to the excitement.

Then—perhaps he had wound it tighter than usual—he was a second too late. The big red fire-engine reached the edge and plunged to the floor.

"Bang—" murmured Lorry. He went around and picked it up.

"Why, why—" he stammered. One wheel had been bent far out of position. Still, maybe he could straighten it—of course he could.

He took it firmly in his hands and pulled. There was a sharp little snap—and the wheel and a part of the axle came off in his hand.

Lorry did not move for a minute. He was dazed by the magnitude of the disaster that had befallen him. Then, steadying a quivering lip, he sought his aunts in the kitchen and began to tell what had happened.

"The library table!" cried Aunt Eunice. "Lorry Phelps, were you running that fire-engine on my library table? Kate, come with me—we will see if that table is ruined!"

"It didn't hurt the table," Lorry hastened to say. "It's got rubber tires, you know. I thought of that—or I wouldn't have let it go on the table."

They had reached the library by this time.

"Please, Aunt, can I have another?" Lorry said. "I'll be awful good. It's the only plaything I've got that I like."

Aunt Eunice adjusted her glasses and ran a finger along the table-top.

"I believe here's a scratch," she exclaimed after a moment. "Isn't it, Kate—isn't this a scratch? It is—it is! Now, Lorry Phelps, you just take that article up to your room and put it away in the closet—and stay in your room until dinner time. I don't see why you act so. How one child can upset a home! Kate Phelps, what do people do who have four, tell me that."

"I can't—I can't—" Lorry began.

"Not another word, child. Go upstairs."

In his own room Lorry threw himself upon the bed, regardless of the immaculate spread. The world was not good for much. His mother had gone to be an angel—that was good for her,

he supposed, but it did seem hard on him. His daddy had gone to fight the Germans. And the one toy he cared for was hopelessly broken.

If God needed another angel, why couldn't He have taken Aunt Kate? And if somebody had to go and fight Germans, why couldn't it have been Aunt Eunice—and not his daddy?

That night as Aunt Kate in her prim solemn way heard his prayers and tucked him into bed, it occurred to him that he wanted his crippled fire-engine right there in the bed with him. It seemed like his best friend. With a discretion that would have done credit to an older mind he waited till his aunt had gone downstairs and then tiptoed to the closet and got the fire-engine.

With the broken toy hugged tightly to his side and a tear caught half-way down his cheek he fell asleep.

The days dragged along. From his window Lorry could see that the hills outside of the city were beginning to grow brown and bare. It made him feel lonesome to have all the green leaves going away.

He had many things to be troubled about in his boyish way. His aunts would not tell him very much about it, but he knew that his daddy had been hurt and that he was in the hospital somewhere. His aunts seemed to be very solemn about it. And Uncle Jim was still sick—with something that Lorry could not even pronounce. It seemed as if anything with such a name as that must be pretty bad to have.

Once he had suggested to Aunt Kate that when Uncle Jim got well again he would like to go and live with him; but the idea had not seemed to appeal to her. He wished Uncle Jim would come so that he could talk it over with him.

Then one morning he heard Uncle Jim's voice. It didn't seem as if his feet could carry him downstairs fast enough. And then, as so often happens with what we especially desire, it did not seem a bit the way Lorry expected it to.

Uncle Jim didn't jump for him and tickle him or swing him 'way up, as he usually did. He just said, "Hello, Lorry!" in a sort of weak solemn voice, and his aunts both stopped talking suddenly when they saw him coming—just as if something was the matter.

Uncle Jim tried to smile, but it was not a really and truly smile.

"Well, Lorry," he said, "want to take a little trip with me?"

"You bet!" cried Lorry. "When?"

"Right now. There's a taxi waiting for us outside. We're going to Providence."

On the way to the station Lorry looked up shyly.

"I'd like to come and live with you Uncle Jim," he said. "Till daddy comes home, you know."

"Would you?" cried the man, with a little break in his voice. "Well, you wouldn't like it any better than I would."

Uncle Jim didn't say much after that until they were on the train.

"Maybe we could fix it," he said, suddenly then. "About your coming to live with me, I mean."

When they reached Providence Uncle Jim led the way into the lunch-room.

"Maybe you'd like an orange," he suggested. "A cup of coffee," he added to the waitress. "And have it strong."

"Aunt Eunice says strong coffee isn't good for you," Lorry observed.

"Probably she's right," said Uncle Jim, pouring the cream with a hand that was not entirely steady. "But you see I haven't got my strength all back yet."

After they had finished at the lunch-counter they wandered around near the station for a little while. Uncle Jim did not say very much. It all seemed very queer to Lorry—and not a bit like Uncle Jim. And the queerest part came when, pretty soon, they got

on a train that was going back.

"Why, we didn't do anything!" said Lorry. "What did we come for?"

Uncle Jim did not hear apparently. He seemed to be looking for someone.

"Let's go on into the next car," he said. "There aren't so many people in there."

Indeed, there were very few people in the next car. Near the middle of the car a lady with a big hat was reading a magazine, and just behind her, almost hidden by the hat, sat a soldier. In spite of the hat Lorry saw the soldier right away.

He was not a very impressive-looking soldier. His officer's uniform was not bright and new the way Lorry supposed uniforms always were. The man's shoulders were thin and stooped and he held his head rather queerly on one side.

And then Lorry saw his face! With a big jump he leaped forward, knocking the lady's hat far over one ear.

"Daddy—daddy!" he shouted.

The officer opened his lips to speak—but the words seemed to stick in his throat. Then Lorry felt the big arms catch him and hold him tight, as they had used to do so long, long ago.

"Lorry—my boy!"

The lady adjusted her hat and turned with an irritated frown—but suddenly her face softened and she turned quickly back to her magazine.

Major Phelps moved a little and held out a hand to the other man.

"Hello, Jim!"

"Hello, Sam!"

"It's a good old U. S. A., Jim."

"Mighty good, Sam!"

Lorry caught the thin hand that Uncle Jim had released and held it tightly in his two chubby ones.

"Daddy—my daddy!" he said softly.

The train began to pull out.

After a while Lorry moved a bit.

"Daddy!" he cried. "Will you buy me a new fire-engine? The one Uncle Jim gave me is broken."

The thin face broke into a smile.

"I'll buy you two, if you want them!" said the officer.

"Oh, goody! And will you play with me sometimes. Aunts don't know how to play the way daddies do!"

"Yes—I'll play with you. I won't be good for anything else for a while."

"Will you? Honest?"

"Honest!"

"Oh!"

It was a big word, with a world of meaning in it. Uncle Jim, in the seat behind, blew his nose—and gazed out of the window at the passing brown woods.

EXTRA WEIGHT.

"Hey, Reddy, look here! I weigh three pounds more'n you!"

"Aw, g'wan, y're cheatin', Skinny! Youse got y'r hands in y'r pockets!"

At his first wedding engagement, as officiating clergyman, a nervous young minister asked: "Is it kistomary to cuss the bride?"

Today's Riddle

What part of your I would be the most essential for a martial band?

(ANSWER.)



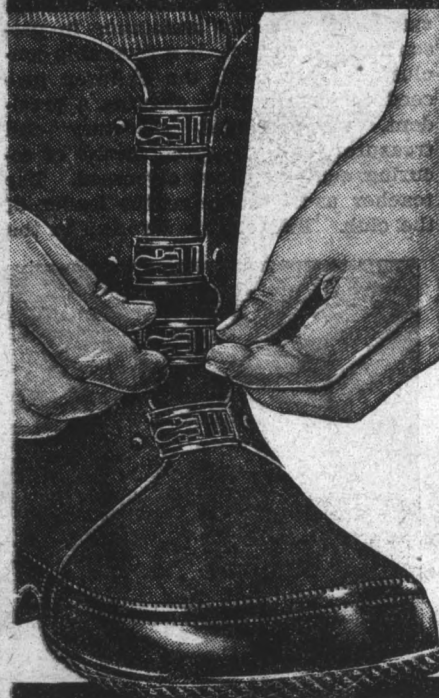
Storm-Proof

"Ball-Band" Rubber Footwear is vulcanized by our own special vacuum process. Rubber and fabric are forced into one tough, durable piece of footwear. Long wear and comfort are assured. Look for the Red Ball—it means the lowest cost per day's wear.

"BALL-BAND"

Keep your feet and legs dry and warm. Protect your high-priced leather shoes by wearing "Ball-Band" Rubber Footwear. See that every member of your family is supplied. Ten million people wear "Ball-Band." Sixty thousand dealers sell it.

MISHAWAKA WOOLEN MFG. CO., 319 Water St., Mishawaka, Ind.
"The House That Pays Millions for Quality"



If your dealer is not able to supply you promptly with the particular type of "Ball-Band" Boots or Arctics you desire, we can only ask you to be patient. Many of our boys in France are wearing "Ball-Band" Rubber Boots and Arctics. Meantime we are doing our utmost to supply, as quickly and as fully as possible, the wants of "Ball-Band" wearers at home.



Ro-San Indoor Chemical Closet

Be ready for the long cold winter. Have a comfortable, healthful, convenient and sanitary toilet right in the house. You can place it anywhere—in any room or closet. Endorsed by State Boards of Health. This is the original Chemical Closet you have seen advertised for four years. Superior in construction, design and finish. Color, beautiful XXX high finish grey, with gold trimming. Aluminum or mahogany seat. **GUARANTEED ABSOLUTELY ODORLESS—30 Days Trial**

The germs and odor are killed by a chemical process in water in the removable container—extra large size. You empty once a month as easy as ashes. A. C. Cook, Mass., writes, "We are well pleased with the Ro-San Closet. We find it all you advertised it to be, and absolutely odorless as you claimed." Mrs. D. T. Crandall, Mich., says, "It has proved a blessing to me. I find it perfectly odorless." That's the way the letters run. All as pleased and satisfied. It truly is a blessing to all homes without sewerage. Absolutely guaranteed—guarantee slip is packed with each closet. Don't go another day without this great convenience. Write now for free catalog, full description, and price.

HOWE SANITARY MANUFACTURING CO., 7412 SIXTH STREET, DETROIT, MICHIGAN

Smashing Bargain Prices!! For All Repairing Needs

Big Savings for Michigan Farmers

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

WHITE STAR REFINING COMPANY
Avery Avenue and G. T. R. R. Detroit, Mich.
Manufacturers of Extra-Quality Motor Oil

Build with Natco

A Hollow Tile that's fire-safe, wind, weather and vermin proof. Natco buildings "Last for Generations"—save painting and repairs. The glazed walls are as easy to keep clean as the household crockery. Reduced repair, coal and insurance bills make Natco buildings truly economical. Ask your building supply dealer for free building plans, but write direct for new illustrated "Natco on the Farm" book—this Edition—It's free!

23 Factories assure a wide and economical distribution.

National Fire Proofing Company, 1115 Fulton Bldg., Pittsburgh, Pa.

When Writing to advertisers please mention The Michigan Farmer.



SLIDEWELL COLLARS
are all made with the exclusive features that save your tie, time and temper.

"Graduated Tie-space" and "Tie-protecting Shield"

Ask your own good Dealer for SLIDEWELL—he has them or can get them for you.

Hall, Hartwell & Co., Makers, Troy, N.Y.



TRY THIS Fire-Proof SMOKE HOUSE FREE!
30 DAYS

Send No Money!
Entirely different from wood smoke houses! Can't set buildings on fire or burn up your meat! All steel and positively fire-proof. Can't frizzle out sweet, savory juices of meat. Smoke is positively air cooled before entering meat chamber. Produces sweeter, milder smoked hams, bacon, sausage. After smoking, use for meat storage house. Fly, rat, vermin proof.

Kirstin Smoke House
Permits killing a few hogs for your own table, at half butcher's price. Also to sell neighbors at tremendous profit. Lasts longer than wood and is better—costs much less. Portable. Use in basement, kitchen or on porch. Wonderful sweetest if satisfied after 30 days' trial, keep it. If not pleased, return at our expense. Four easy ways to pay. Write for Free Book and Special Agent's Proposition.
A. J. KIRSTIN COMPANY
201 Wells Street, Escanaba, Michigan

\$16.00 FOR THIS FINE FUR COAT
Made from your own cow or horse hide to your own measure. We tan and manufacture the raw hide into a warm serviceable coat for this small charge.
Send Us Your Hides
We make up any kind of skin to suit your individual desire—
Also Ladies Coats and Furs, Auto Robes, Etc.
We have been leaders in the tanning business since 1878 and guarantee satisfaction.
FREE Book of styles of Men's and Women's Furs.
Write for it today.
Reading Robe & Tanning Co.,
112 East St., Reading, Mich.

Farm Power Cheap
Get it from your Ford by the B B Auto Power Pulley (attached to rear wheel with Special Hub Cap) belted to saw, silo filler, cream separator, feed grinder, pump, grindstone, corn sheller or washing machine.
B B Auto Power Pulley
Makes a regular power plant of your car—saves no end of hard work—makes you money. Always on the job, anywhere your auto can go—never gets out of order—can't damage car. Put on or taken off in a minute.
Send \$5.65 today for B B Pulley for Ford with Hub Cap --- GUARANTEED. \$7.65 for other cars. Folder free.
BAYNE MFG. CO.
702 Davis St. Bushnell, Ill.

Mention The Michigan Farmer When Writing Advertisers

Hot Lunches In the Rural Schools

(Continued from page 467).

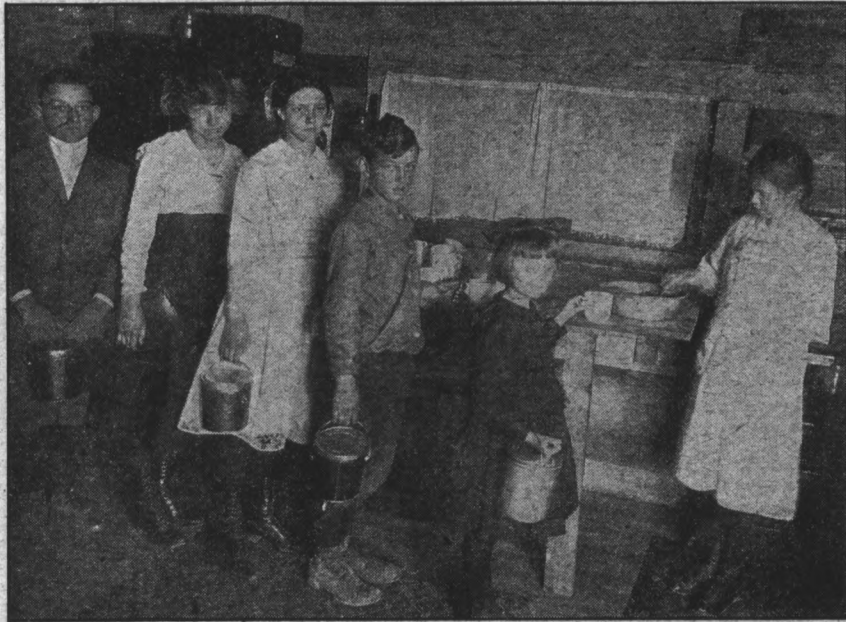
that the article brought from home is equivalent to the charge for the week. If this is not the case the extra amount is made up the following week by another contribution. Thus, very little money, if any, changes hands. Reports from the clubs of last winter, show that the average cost of serving each child daily with one hot dish was two and one-half cents. The high school at Ewart served the entire meal daily at an average of five cents per member.

The general procedure in forming a Hot Lunch Club is as follows: The teacher either talks over the proposition with the children, who consult with their parents concerning it, or she may call a meeting of the patrons of the district, at which the project is discussed. The home demonstration agent, if there is one in the county, can be of valuable assistance in presenting the subject. If a favorable conclusion is reached, the children proceed to form a club, electing a president, vice-president, secretary and treasurer, and ways and means of securing equipment are discussed. The teacher usually acts as the leader of the club. Two or three women in the

as book-keepers. The work is rotated so that each member who is old enough (ten to eighteen years are the ages for active membership), may get practice in each line of work. After writing up a brief report and story of the three weeks' work, the member is said to have completed the project. The award is then made upon the variety of menus, cost per member, the report and story.

Having the children perform the actual work of the club, leaves the teacher free to follow her class-room work, and takes but little of the children's time, since most of the food can be started at recess, and finished up in the five minutes allowed after dismissal for the children to wash their hands and get their lunch boxes. This lunch box, by the way, need contain only sandwiches, fruit and a piece of cake or cookie, the hot dish being the major part of the meal.

Primarily the object of the hot school lunch is to preserve the health of the children. As was hinted above, a hasty breakfast, a cold and sometimes unappetizing lunch, usually compels the child to over-eat at supper, and this, as a rule, impairs the child's digestive

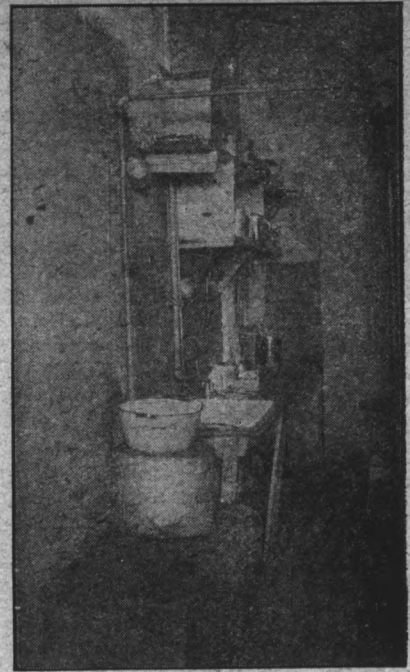


The Club of Paris District No. 11, Kent County, Serves Meals to its Members in Cafeteria Fashion.

district, who are particularly interested in the school are elected as an advisory committee, their function being to cooperate socially with the leader and the club members.

Each week two girls or boys act as cooks; two as house keepers, and two

and nervous system to such an extent that his work in school falls below standard. Teachers unanimously declare that the increased vigor with which the children attack their work after dinner more than repays for the small amount of supervision necessary



The Coopersville Girls Carry on their Project by Utilizing Steam from the Furnace Boiler for Cooking.

at noon. Further than this, the vitality of the children in general is raised rather than lowered at the end of the winter's work in school. This explains why many of the teachers who have the interests of the community genuinely at heart continue serving soups and other hot foods year after year.

But there are many other benefits to be derived from the hot school lunch in the rural school. Chief among them is the business side of housekeeping. Keeping the club accounts teaches the value of money and the cost of foods as no other teaching can. It is the domestic science training of the rural school in which the girls learn to balance their diet so that they may be well fed for very little money and a small amount of work. They learn the preparation of simple, wholesome dishes, and from these they get a truer appreciation of the work their mothers perform in getting the family meals. As one mother remarked in this connection: "You have no idea how much easier Viola is to live with."

Best of all, they learn to take responsibility, to work harmoniously in groups, and they are being trained for a future broader service to the community in which they live.

While last year there were thirty-seven hot school lunch clubs in Michigan, the number of requests recently received for bulletins, indicates the organization of a much larger number for this year. The work is a regular part of the work of the Junior Extension Department of the Michigan Agricultural College.

The New-Fangled Corn Cutter—By J. H. BROWN

THIS picture was taken several years ago. That day several farmers visited a corn field where a new-fangled corn cutting machine was trying to cut and bind corn. The farmers decided that the thing wouldn't work long before they reached the field. Wind and rain had blown the corn down badly in patches. But the machine did cut and bind some of the corn all right, though many stalks could not be picked up, and many ears were knocked off in the operation.

In those days there was plenty of help and farmers generally agreed that it was better to cut the corn by hand than to buy or hire one of the new corn harvesters.

But from that time to the present the corn harvester has steadily won its way as a valuable farm implement. The machine, of course, has been improved, even in price, and it costs quite a bit to buy one this season.

Probably there has never been a season in which the corn harvester has helped so much as this fall. A goodly portion of the corn in southern Michigan was cut during mid-September be-



fore the frost had injured it seriously. Hundreds of fields of corn were fully matured and cut without being touched by frost. During a few days of the third week in that month the corn harvesters were slashing and binding bundles of corn at a great rate. We drove many miles along the roads and frequently noticed but one man at work in the corn field. He was on the machine seat and was cutting good-sized fields down and leaving until later to

be picked up and hauled to the silo or set up in big shocks. On some farms the farmer had no sons or hired man. He cut his entire field with a corn harvester and the next day got several neighbors to help haul and fill his silo. That day another neighbor cut the same way and thus a bunch of farmers in the same neighborhood changed work to their mutual advantage.

There has been more changing work this season than for over a third of a century. When we were young kids on the farms in the eighties our fathers changed work to haul out manure, plant corn, draw in hay, stack wheat, threshing, holding a Sunday school or harvest home picnic, cutting and shock-

ing corn, digging potatoes, corn husking and butchering hogs.

The present-day corn harvester costs a lot of money. And today there are hundreds of them standing around in fields, fences, road sides, front yards and barnyards, all the way from Ypsilanti to Kalamazoo, and from Oshkosh to Timbuctoo. It would pay every owner of a corn harvester to buy enough lumber to make a shed to thoroughly protect that and all his other farm implements, even at the present high cost of lumber.

In another article we will present a picture and proof showing it pays every farmer to prevent cruelty to his farm tools.

NEWS OF THE WEEK

Wednesday, November 6.

ALLIED forces cross the Franco-Belgian border and capture nearly all of the Mormal forest. The French troops gain on both sides of Le Chesne river.—American forces advance near Metz and threaten Germany's main lines of communication with that fort. French capture Guise and advance to within eight miles of Maubege.—Germany appeals to Allies to stop air raids on defenseless towns.—Election reports show that our next congress will be republican. In Michigan all republican candidates for state offices were elected. Women suffrage also carried in this state.—Ohio goes dry by a substantial majority.

Thursday, November 7.

GERMAN government sends delegation to confer with Field-Marshal Foch on armistice terms.—The advance of American troops carry them within gun range of Sedan. Germans throw fresh divisions into fight in that district.—The break between Berlin and the Soviet government is claimed due to revolt plot papers.—Unofficial reports declare Germany has decided to accept Foch's terms.—England refuses to free German non-commissioned officers and men of U-boats.—The government of Chili has taken possession of eighty-four German ships interned in Chilean ports.—Great Britain has abandoned conscription for Ireland.—Since the convoy system of protecting ocean transportation has been adopted, the losses have been reduced from ten to one per cent.—Recent election returns show that out of five vigorously conducted state campaigns the Non-partisan League candidates were successful only in North Dakota.

Friday, November 8.

FIELD-MARSHAL FOCH allows representatives of Germany to pass through the fighting lines to consider armistice terms.—Report that Germany had accepted terms is officially announced to be untrue.—American troops capture the famous heights on the Meuse near Sedan where forty-eight years ago Napoleon III's empire came to a sudden end through the success of German arms.—Virtually all of the German fleet revolts and the men are complete masters of Kiel, Wilhelmshaven, Helgoland, Borkum and Cuxhaven; the greater part of the submarine crews in all German naval harbors have joined the revolution.—The United States warns Germany not to destroy coal mines in Belgium upon evacuation.—Hostile demonstrations have occurred in provinces on the border between Peru and Chile.—Great Britain and France agree on a policy whereby the peoples of the eastern Mediterranean countries are to be freed from the oppression of the Turks.—The Fuel Administration advances the price on hard coal, due to the recent stabilization of wages to anthracite miners. The production of this grade of coal has been reduced considerably by the influenza epidemic.

Saturday, November 9.

THE Bavarian Diet deposes its king and dynasty and establishes a republic. This province is the second largest in the German empire.—Press reports state that Kaiser Wilhelm refuses to abdicate on the ground that he must continue his rulership to save Germany. Prince Maximilian, Imperial German Chancellor, resigns.—German Socialist party demands the abdication of Emperor Wilhelm and the renunciation of the throne by Crown Prince Frederick Wilhelm.—Armies of the Allies operating along the Meuse advance seven miles where the American forces smash the last German defenses.

—British capture Avesnes and push by Maubege.—France appeals to America for \$10,000,000,000 with which to finance the rebuilding of that country.—Turkey releases 116,015 British prisoners.—Austrian provinces are begging food of Switzerland.—United States Shipping Board urges the use of trucks for moving of food in this country.

Sunday, November 10.

THE abdication of Emperor Wilhelm is officially announced and the Crown Prince renounces the throne of the German Empire and of Prussia. Imperial Chancellor Prince Maximilian is chosen Regent. Deputy Ebert, vice-president of the social democrat party and president of the main committee of the Reichstag is to be appointed imperial chancellor. A bloodless revolution is spreading over the western provinces of Germany. Germans are retreating rapidly along the entire western front. To protect her southern frontier German troops are being marched into the Austrian provinces of Tyrol and Salzburg.—British government announces that Canada, Australia and India will be associated in the future discussion of peace terms.—Food Administration requests discontinuation of afternoon teas, theater supper parties and all meals except the usual three-a-day to conserve cereals and sugar.—Recent compilations show Detroit to now have a population of 986,699 people.

Monday, November 11.

THE world war ends at six o'clock this morning, Washington time, the German envoys having signed the armistice terms imposed by the Allied and American governments as follows: Evacuate Alsace-Lorraine, Belgium, Luxembourg, Russia, Rumania at once; give up for occupation all countries on the west bank of the Rhine; give up for occupation Mayence, Coblenz and Cologne, principal Rhine crossings, and territory within a radius of thirty kilometres about each city; withdraw from all territory which belonged to Russia, Rumania or Turkey; disarm army and navy, hand over most of navy and quantities of war supplies; repatriate allied prisoners without reciprocity; return enslaved civilians; give "reparation for damage done"; abandon Russian and Rumanian treaties; return money, securities, precious metals taken as loot; evacuate Black Sea ports, give up ships, taken from Russia, forts and defenses barring way to the Cattegat (entrance to the Baltic); submit to allied blockade; release own ships to carry food, return all allied ships, and notify neutrals that the sea is safe again. A holiday was proclaimed in which great crowds gathered to celebrate military victory.—It is calculated that the world war took 8,504,000 lives and cost \$155,000,000,000. The war lasted 1,598 days.—The former kaiser and crown prince are in Holland where they have been interned. The emperor and empress of Austria are said to have gone to Switzerland.

Tuesday, November 12.

PRESIDENT WILSON warns the American people that our troops may face the German Bolshevik forces and Ex-President Taft declares that United States troops will be needed abroad for probably two years to do policing, both in countries of our enemies and in Russia.—United States government takes initial steps in planning for peace by eliminating overtime on war contracts and a relaxation on the percentage of material required for building purposes, by ceasing to convoy ships to Europe and by removing all censorship on news.



Rubber Footwear in "No Man's Land"

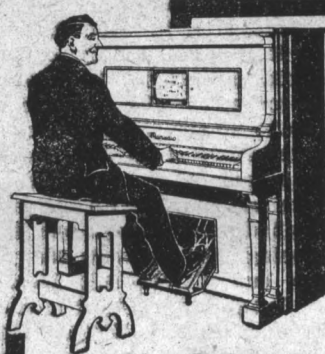
"Over there" our boys are fighting knee-deep in mud. Keeping fit under these conditions is difficult. Rubber footwear has therefore become almost indispensable for men in the trenches.

To keep America's troops supplied with rubber footwear is all-important. Men who are fighting must have first choice. This limits home supplies but saves valuable lives overseas.

Our outdoor-working customers, we are sure, will cheerfully meet this situation. We regret our inability to take care of every demand for "U. S. Protected" rubber footwear. We thank our patrons and look forward to serving them again. Until then, look for the "U. S. Seal" on every pair and remember the name.

United States Rubber Company
New York

U. S. Rubber Footwear



You do not operate
this player-piano—
You Play It!

THIS player-piano gives you—not the temporary novelty of operating a mechanical instrument—but the soul-satisfaction of personally playing a piano. The

House of Baldwin Manualo

The Player-Piano that is All But Human

is controlled from the pedals, the point where you instinctively try to put your natural musical feeling into the playing of the instrument. Each pedal stroke does not merely make certain notes strike, but it makes them sound with the exact volume and accent which your musical feeling desires. The force and style of the stroke are transmitted from the pedal to the piano strings as the striking of the artist's fingers is transmitted from the keys to the strings. It is as if you were in direct contact with the piano action, so sensitive is the Manualo mechanism to your every wish.

The Manualo is built into four standard instruments of the House of Baldwin, the Baldwin, the Ellington, the Hamilton and the Howard. The price varies with the price of the piano. The immense production of the House of Baldwin factories at Cincinnati and Chicago insures your getting the highest value player-piano at whatever price you pay.

Before you buy a player-piano, ask for "The ABC of the Manualo", giving complete information on the development of the player-piano and explaining in detail why the Manualo will give you continuous satisfaction.

FREE! "Songs of Our Country"

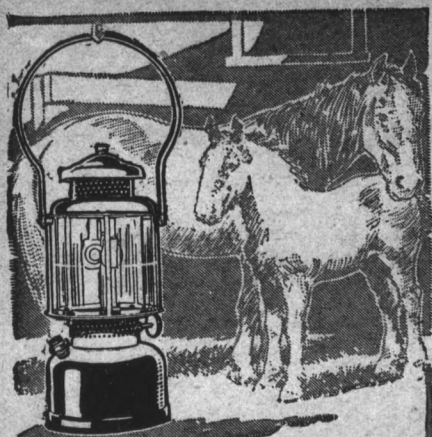
This book contains complete words and music in quartette arrangement of our ten national and patriotic songs. Tear out this advertisement, write your name and address in margin, and send to nearest address below, or mail your request on a postal card. We will send book postpaid and free.

The Baldwin Piano Company

Cincinnati, 142 W. Fourth Street

New York Chicago Denver St. Louis San Francisco
Indianapolis Louisville Dallas

When Writing to advertisers please state that you saw their ad. in The Michigan Farmer.



Most Brilliant Farm Light in The World

DON'T bother with the old style oil lantern any longer. Here's the most brilliant farm light ever invented—the safest lantern ever made. Makes and burns its own gas from common gasoline, giving a brilliant, steady white light of 300 candle power. The

Coleman Quick-Lite

Lights With Common Matches

Most brilliant light made. Brighter than electricity. More light than 20 oil lanterns. Cheapest—costs less than 1/2 of a cent per hour. Most convenient—no wicks to trim, no globe to wash or break, no dirt, grease or odor. Can't spill—no danger if tipped over. **Guaranteed 5 Years**—will last a life-time. Thousands in use on farms in all parts of the country.

Sold by Dealers everywhere. If your's can't supply, write nearest office for Catalog No. 29. **THE COLEMAN LAMP COMPANY** Wichita, St. Paul, Toledo, Dallas, Chicago.

For Style, Fit and Wear
buy

Mayer

HONORBIT SHOES

For all the Family

Ask your dealer for Mayer Shoes. Look for the trade-mark on the sole.

F. Mayer Boot & Shoe Co.
Milwaukee, Wis.



Vaseline Carbolyated

PETROLEUM JELLY

An antiseptic dressing for cuts and sores. Also good for corns and refuse substitutes.

Illustrated booklet describing the various Vaseline Preparations and their many uses mailed free on request.

CHESEBROUGH MFG. CO.
(CONSOLIDATED)
27 State Street, New York City



Woman and Her Needs

At Home and Elsewhere

"Ring In the New"

DON'T you just get sick and tired of the same old thing? Of course you do, for you are a real live housekeeper, and live folks always do long for a change. Housekeepers especially, with their three hundred and sixty-five days of cooking the same food, washing the same dishes, sweeping the same old carpets and darning

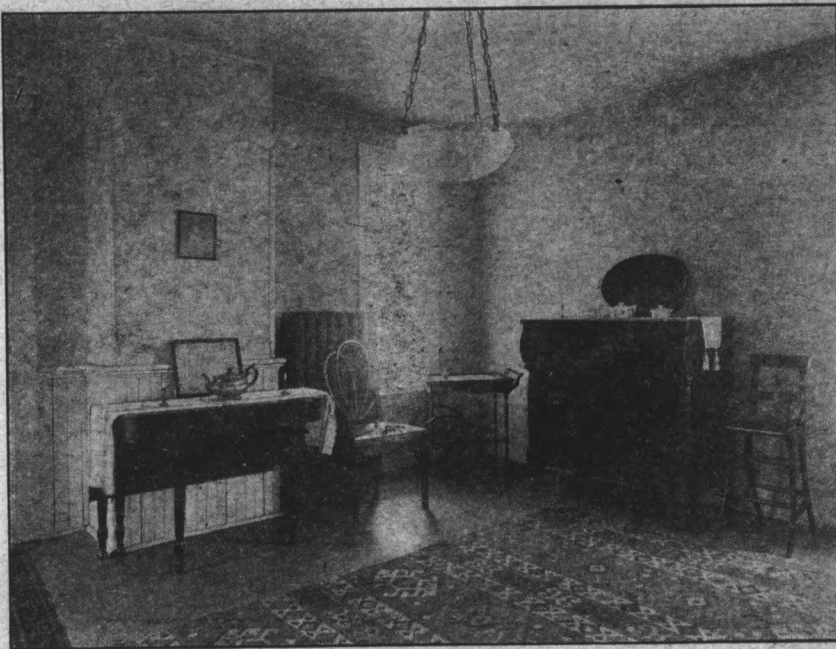
it runs east and west. It makes the room look different and you can almost imagine you've moved. Put the sideboard, if you have one, in a different place, diagonally across a corner, if you've had it flat with the wall, or flat with the wall if it's had a corner. Move the serving table, too, and try the effect of a few doilies in place of the

single high window, not even its treatment. The only things that seem like this generation are the tea-wagon and the indirect lighting.

Do you notice what the mistress of this home has pressed into service as a board? There are hundreds of those same pieces of furniture scattered all through Michigan, and their owners sighing because they haven't a sideboard or buffet. If you have one get it out, and if you can't send it to a cabinet maker to be refinished, do it yourself. Sandpaper off all the old varnish right down to the wood. Then get the best stain on the market and stain it and finish with a wax finish. But be prepared to rub and rub and rub and rub. The secret of the soft, even finish is the rubbing.

Without a doubt you have an old fall-leaf table, too, you could utilize as a serving table. Of course, if it is too large it will not do, but a small one could be refinished to match your board, and there you are. If you have not the time or money to make fine runners, the Japanese runners cost little and are pretty. Or you could make runners of cretonne—the basket patterns are nice for the dining-room—or of checked gingham, the checks a half-inch square in pink and white, blue and white or yellow and white. Hemstitch the ends and work your initial if you like. And with the present price of gingham you will have quite a luxurious looking throw.

The second dining-room is from a city home. The bare table with its lace center and bowl of narcissus and maiden hair fern is attractive. Probably you can't get either the narcissi or the maidenhair, but you can get wood ferns and if you haven't anything better, plant them in a syrup pail. Perhaps on the pantry shelf you



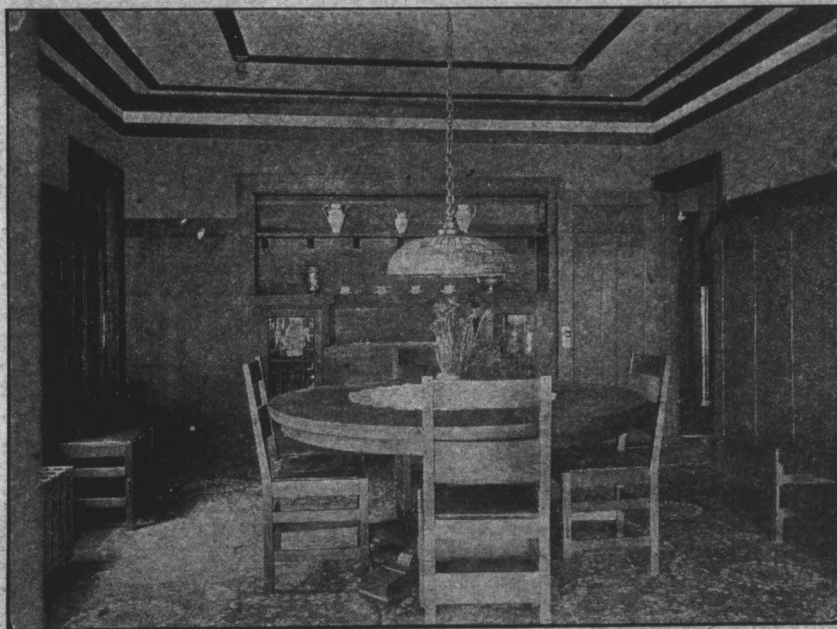
Can You Use Your Old Furniture?

the same old clothes, just naturally get into moods where they want to chuck the whole thing out of the window and jump after it. Now that war has made it a patriotic duty to make the same old things last a little longer it's going to be fearfully tiresome unless we make up our minds to treat it as an interesting study in economy and make a game of seeing how many changes we can ring in with the same stuff we've had since the year one. Sort of like seeing how many words you can make out of What's-His-Name's Millenium Spaghetti and getting a Liberty Bond for a prize. You see how many times you can turn the sheets before they get so narrow they won't cover the bed, and how many holes you can skillfully mend in the rugs before they begin to look like an attack of small pox, and then you buy your own Liberty Bond with the money you save by going without.

Anyhow, you can make it interesting or deadly, just as you approach the task. And one way to make it interesting is to ring in some new change every week. It's surprising what a difference changing everybody's place at the table will make for a few days. Father has always insisted on the end by the window where he can read the paper where he eats. Just quietly, but firmly—politely or otherwise, as the case demands—shift him around to the dark corner where he can't read. Shake the rest of the family up and let them drop hit or miss, and you will have diversion for a meal or two at least. Besides, if father can't read while he's eating, you may get a few words of pleasant conversation from him, and he'll get less indigestion from half-masticated food.

Then while you are at it, make a few other changes in the dining-room. Move the table half way around if the room is large enough. For instance, if it has been standing with the length running north and south, change it so

spread you've had on it. If you have a plate rail covered with fancy dishes, take them down and stow them away. Leave your plate rail bare, and at the earliest possible chance have it torn out. You save yourself a lot of dusting, rid the room of its cluttered up look, and incidentally bring your dining-room up to the 1918 model. Plate rails are no longer being built in modern



Built-in China Cabinet and Buffet Combined.

houses. As Ruggles says, "It isn't done."

The illustrations may give you an idea or two to adapt to your own dining-room. Of course, you can't copy them exactly, but you may utilize some of your Same Old Things in a new way after you study these pictures.

One is a corner of the dining-room in an old-fashioned house, note the strip of white wainscoting and wall paper without a break to the ceiling. There isn't a thing modern about the

have an old blue bowl of grandmother's which would make a fine jardiniere for your fernery. If you haven't one, cover your can with crepe paper and set it on a plate.

I am quite positive you have some old china like the three pitchers on the built-in china cabinet, which you have stuck away out of sight. Get the "old-fashioned things" out, wash them in good warm suds and rub them with a clean cloth till they shine. Then put them on your sideboard and put away

your pieces of cut-glass for awhile. Grandmother will see them and tell you when her grandmother bought them, and the children will get a peep into family history and the life of a forgotten generation.

We've got to use the "Same Old Things" for some time yet. Let's go about it in a different spirit and try to see how new we can make them appear.

DEBORAH.

LETTER BOX.

Dear Deborah.—I read about the mother with the little ones and no one to help her except a mother and sister who were interested in "war work." Now I wish I lived where I could help her out, as I need the work as badly as she needs the worker.

Here is my problem: We have a farm of eighty acres, not paid for, of course. We have bought bonds, subscribed for War Savings Stamps, and to the Red Cross, to the limit of our ability. Now there is interest, taxes, and payments to meet. My husband works away from home every moment he can spare from the farm, and with the crops he can take care of these by careful management. But in the meantime we must have shoes, overshoes, winter underwear, etc., as well as groceries.

I am well and strong and have more or less hours every day that I could work if I had something to do. I have helped every day, since harvesting began, to gather in the crops. We have everything taken care of now. I have raised all the chickens I possibly could, but lost so many hens last winter that I must keep a large share of them to replenish my flock. We have two boys, one fourteen, the other twelve years of age. The older one goes to high school and the other one to the district school. I have to be here nights and mornings, besides doing my washing, ironing, cooking and numerous other things that have to be done. I can't go away from home to work, or I might drive into the town, three and a half miles, and pick beans. My neighbors don't hire their work done. But I know there is so much work to be done, helpers are needed so everywhere, that it seems as if there ought to be something a body like me could do to help.

I have studied and thought, but have not found any solution so far. There must be one if I can only find the right person or persons. I can do all kinds of ordinary sewing but so can nearly everyone that has any to do. I have patched and turned and made over for three winters until I can do nothing more with the garments.

Everyone has her own problems and it is selfish of me to ask anyone to help solve mine. But if I could help anyone in any way, by suggestion, or from experience, I would be only too glad to do so, and perhaps you feel the same.

S. B. F.

Who can give this anxious woman help?—Ed.

DRYING APPLES.

Use winter apples, not the early or sweet varieties. Pare, core, and cut into eighths. Or core and slice in rings, using fruit or vegetable slicer. Do not let stand long before drying.

To prevent discoloration dip fruit, as it is prepared, for one minute in a cold salt bath, one ounce of salt to one gallon of water. Remove surplus moisture by placing fruit between towels, or by exposing to the sun and air. Spread thinly on trays or earthenware plates.

Dry in sun, in oven, over the kitchen stove, or before the electric fan, until the apples are tough and somewhat leathery. Stir from time to time.

Shoes that squeak can be cured by dipping the sole in kerosene oil.—L. M. T.

Fresh Home-Made Bread With Real Butter

Sounds good, doesn't it?

Somehow the very mention of fresh home-made bread bountifully spread with rich golden butter touches a tender chord.

It takes us back to childhood days, back to the old home on the farm, or in the village; back to the time when we tugged at dear old mother's apron strings and "teased her almost to death" for a slice of her wonderful bread and butter.

We never really forget those occasions and it recalls to our mind the superiority of good home-made bread over what is considered good Baker's bread.

This is particularly noticeable when

Lily White

"The Flour the Best Cooks Use"

is employed, as LILY WHITE is, made particularly for home baking, and it produces splendid results for every requirement of home use.

It is necessary now, more than ever before, to use good flour, as 25% of the amount of flour is to be used in substitutes, or on the basis of four pounds of pure wheat flour, such as LILY WHITE FLOUR is, to one pound of substitutes.

Besides, it is mighty convenient to have a flour in the house from which thoroughly delicious biscuits, rolls and pastries, as well as the best of bread, can be made.

These results are made possible by the blending of various kinds of wheat which incorporates in the flour the desirable qualities of both the hard and soft wheats.

Also bear in mind that LILY WHITE FLOUR is sold under the guarantee to give perfect satisfaction.

Our Domestic Science Department furnishes recipes and canning charts upon request and will aid you to solve any other kitchen problems you may have from time to time. Public demonstrations also arranged. Address your letters to our Domestic Science Department.

VALLEY CITY MILLING COMPANY

Grand Rapids, Mich.

The 20th Century Tea "SALADA" ORANGE PEKOE

The Flavor is Delicious,
The Purity is Absolute.

Sold only in sealed packets.

Farms and Farm Lands For Sale

Beautiful modern home, steam heat, 8 lots, expensive shrubbery, fruit and shade, block from CENTRAL MICHIGAN NORMAL COLLEGE, will sell or trade for small farm, or stock general merchandise. Cooper, Gover & Francis, Mt. Pleasant, Mich.

Farm for sale. 40 A. Good Clay, farming land, all cleared, well fenced. Six miles east of Onaway \$1200 cash. Want to sell at once. Inquire of FRANK OLESON, Millersburg, Mich.

McClure Stevens Land Co.

We have for sale: 15000 acres of fine unimproved lands, well located, joining well settled locality, on easy terms. A tract of 160 acres, 5 miles from Gladwin, on daily mail route, all fenced with woven wire, 20 acres under fine state of cultivation. 6 acres in fruit. A Sheep Ranch of 310 acres, all fenced, well grassed over, living water, 700 acres cleared, 30 acres under fine state of cultivation with fruit, good buildings, 250 head of sheep, 4 stock ranches well grassed, fenced and watered with living water. McCLURE STEVENS LAND CO. Gladwin, Mich.



Help Win Victory Against Sickness—Death.

Destroy old style outhouse or privy which breeds disease. Install our sanitary and practical INDOOR CHEMICAL CLOSET. No odor, no care, no plumbing. Ready in 5 minutes. Will last a lifetime. Beautifully enameled and strongly made. Oak seat. Emptied once a month. Absolutely Guaranteed. Worth \$25.00, our price \$15.75. Special offer. Send \$15.75 at once and we ship to your address. FREE all supplies to same for six months, also a pair beautiful lace curtains. FISHLEIGH & CO., Dept. 724 Chicago, Ill.

\$600 Down Gets 60 Acres, Near City.

House alone worth more than price asked; 1/4 mile good village stores, schools, churches, post office, near electric cars, 1 1/2 miles R.R., town 7 miles big city. 30 acres smooth, level, loamy fields, balance spring-watered pasture, wood; abundance apples, pears, cherries, berries, etc. 7-room house, barn, poultry, hog houses, etc. Owner's business in distant city forces sacrifice. \$1400 gets everything; nearest farms valued at \$4500, \$6000. Details page 36 Strout's Catalogue, copy free, with many bargains with stock, tools, crops included. E. A. STROUT FARM AGENCY, Dept. 101, Ford Bldg., Detroit, Mich.

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

Wanted To hear from owner of farm or unimproved land for sale. O. K. HAWLEY, Baldwin, Wisconsin

Wanted: To rent a farm with all equipment furnished. Plenty of good equipment required. Box B.116, care Mich. Farmer, Detroit.

TRAPPERS

It's FREE

WITHOUT OBLIGATION SEND ME
"The Shubert Shipper"
AN ACCURATE FUR MARKET REPORT AND PRICE LIST ISSUED AT EVERY CHANGE IN THE MARKET
and keep me posted on Raw Fur Market
Conditions during the Fur Season of 1918-1919.

Name _____ County _____ R.F.D. No. _____
State _____ Box No. _____
Post Office _____
© 1918 A.B.S. Inc. 61
FILL IN THIS COUPON AND MAIL IT TODAY

"The Shubert Shipper" is a reliable and accurate Market report and price list, issued at every change in the Fur Market. It is something more than merely "something to read." It is the advisor, friend and sign post to the right road to reliable market information and accurate market quotations. "The Shubert Shipper" is received by hundreds of thousands of trappers and fur shippers all over North America. Never was a serious misstatement of facts published in "The Shubert Shipper" and this character of accuracy and reliability has demonstrated that such information is absolutely essential to the successful trapper and fur shipper. You should read "The Shubert Shipper"—we want your name on our mailing list.

Fill in the Above Coupon NOW and Mail it—AT ONCE

A. B. SHUBERT, INC.
THE LARGEST HOUSE IN THE WORLD DEALING EXCLUSIVELY IN
AMERICAN RAW FURS
25-27 W. AUSTIN AVE. CHICAGO, U.S.A.

MARK YOUR RAW FUR SHIPMENTS

TO
GEORGE L. FOX
Raw Fur Market
164-166 W. 25th St.
NEW YORK, N.Y.

OUR TEN COMMANDMENTS.

1. Quote actual market prices.
2. Honest and Liberal Grading.
3. Highest obtainable values.
4. Give shipper the benefit, if doubtful in assortment.
5. Check mailed promptly upon receipt of shipment.
6. All express charges paid.
7. Furs held separate for approval, if requested.
8. Goods returned, prepaid, if valuation is not satisfactory.
9. No commission charges.
10. 5 Percent additional allowed on shipments amounting to \$30 or over.

Send for our latest price list "505"

Ship Your Furs direct to Mr. Pfaelzer

He's the man who helped make New York the world's Premier Fur Market—leader of liberal assortments of high prices—instant settlements—the square deal. Mr. Pfaelzer will help you buy Liberty Bonds and War Savings Stamps by being unusually liberal for quick shipments. He needs your furs. No shipment too small. None too large. His money awaits your furs. Send for price list and ship to 115-123 West 29th Street (Desk 20), New York MEMBERS RAW FUR MERCHANTS' ASS'N

M. F. PFAELZER & CO.

COLD WEATHER

Will soon be here. Are your Fur Coats, Robe and Fur Sets in condition to last you the coming season. If not, we would like to do the work for you. We Re-line-Repair any kind of Fur Coats or Robes, make over Ladies Fur Coats, remodel Ladies Furs and relines Muffs and etc. Write to us for an estimate. We will gladly send samples of lining, catalogue and etc.

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

TRAPPERS

Know the value of skins, and should be sure they get it.

We Want Your Raw Furs

We promise you fair treatment and absolute satisfaction whatever the size of your shipment. We will spend \$500,000 this season. How much can you send us?

One Skin or a Thousand We will grade them carefully and pay you full value. We charge no commissions. We do not claim to be the largest house in the world, but our check will convince you it is worth while dealing with us.

WRITE FOR PRICE LIST.

Vreeland Fur Co. 43 Jefferson Ave., Detroit, Mich.

FURS

GET THE HIGHEST PRICE FOR YOUR FURS

Our prices are always the highest the market affords. We charge no commission, and pay express charges. Liberal assortments and prompt returns.

Send for Free Price List on Furs and Hides. HENRY STREIFF FUR CO. Dept. 13 Monroe, Wis.

HIGHEST PRICES

Paid for all kinds of Raw Furs

I need large quantities of all kinds of furs, and it will pay you to get my price list. I especially solicit furs from all northern and central sections. Write for price list and shipping tags today to O. L. SLENKER, P.O. Box H2 East Liberty, O.

SKUNK

We pay highest cash prices for all staple furs—Skunk, Mink, Muskrat, Raccoon, Red Fox. Fancy furs a specialty, including Silver and Cross Fox, Fisher, Marten, etc. Est. 1870. Our continued prompt returns and liberal policy are now bringing us shipments from all North America, Alaska to Mexico. Send for Free Price List. Address M. J. JEWETT & SONS, REDWOOD, N.Y. Dept. 11

TRAPPERS AND BUYERS WRITE FUNSTEN FOR FREE

Market Reports, Supply Catalog, Game Laws, Trappers Guide & Shipping Tags

This is going to be one of the biggest years for trappers and fur shippers ever known. More furs needed—fewer men to trap. Get ready early for big money.

Look over your traps and supplies now. Get our FREE BOOK—Supply Catalog, Game Laws and Trapping Secrets—all three in one book. Shows furs in natural colors. Factory prices on traps, smokers, etc. Write today—sure!

FUNSTEN BROS. & CO.

412 Funsten Bldg. St. Louis, Mo.

TRAPPERS GUIDE FREE

RAW FURS WAR CONDITION

open up undreamed of advantages to shippers. Demand is so great and supply is so limited that we are this year paying unheard of prices for big or little shipments of furs.

Get Your Big War Profits

by shipping to a big fur house in the big market. No deductions, no commissions, no quibbling. Just big, quick returns for quick shipments.

Send today for price list G.

SPEER FUR CORPN 136 West 31st St New York

Our Boys' and Girls' Page

Camping Out with the Boys

THE war had its effect on the Boys' State Fair School this fall during fair week at Detroit. There was a good representation, but it was hard work for farmer boys to get away from the home farm for a whole week when there was so much to do and precious little help to do it.

Last year we camped on the fair ground in the boys' section and the accompanying picture is one of several we took of the entire bunch in a group in the lecture tent. They were a fine lot of youths and presented an interesting picture in their various drilling stunts on the parade ground. Each

A number of the boys visited our touring camp and we had talks about their home life, present prospects and what they hoped to accomplish in the years to come. In later issues of the Michigan Farmer we may say something about these talks.

It is just a year since we took this picture, and many things have happened during the interval. Two or three have died, and many of them we suppose are in the latest draft. Several have entered the Agricultural College. The larger number are probably at home now working like the dickens trying to get the fall work along the



How the Bunch Looked.

one had uniform enough on his upper end so that he could be distinguished from the common herd anywhere withing range of the naked eye.

Mr. Sattler has done a highly commendable job of it in this State Fair school. For several years he has engineered and personally managed the plan of giving one farmer boy from each county an entire week of study, drill and recreation that will stick for life in every boy who was fortunate enough to secure the privilege.

best they can. Some expect to go to France yet and are really hoping they may get a chance to help kick the old kaiser clear out of Berlin so far he will never see the old place again.

Looking at the picture, we wonder what boys are still at home working on the farm. It would interest us to hear from some of them. In the center of the group and back of the boys stands Mr. Sattler, wearing a soft wide-brim hat. He is the major-general, and a good one, too.—J. H. B.

How I Did My Canning

ON June 25 a girl friend and I and the rest on exhibit for prizes. I went to Hillsdale, our county seat, to see a demonstration given by Miss Cowles, our State Club Leader for girls. My mother helped her prepare the vegetables for canning, and so we got very interested. That day we bought some asparagus, and the next day we bought a lard can, pounded a kettle lid full of nail holes, wired on some spools and this made our canner, false bottom and all. We had excellent luck with our asparagus.

Two other girls were interested so we started a club of four, with Mrs. Fast, my mother, as leader. Mr. Turner, our county leader for Boys' and Girls' Clubs, came down from Hillsdale to help us organize.

We canned strawberries first and then wild greens, which were very hard to get, it being so late. The next thing was cherries. I got these by picking on shares and canned them the day before I came down with the measles. I had three pints of raspberries but one was sealed too tight and broke. On that same day I canned currants. I was the only one who had these. I got them through the kindness of a neighbor. I broke a jar of beans while in the canner, and a can of plums also broke, but I managed to save the plums and can them over, thus only losing the syrup that was on them.

Our club planned to go to the State Fair, but at the last minute one of our girls failed us, so we could not go, but a few days after that there was a grange fair at a little town but four miles from Montgomery. We went and demonstrated two days there. We each put fourteen of our jars in our booth

THERESA FAST.

LEARNS TO CARE FOR LIVE STOCK.



This is little Gladys Herr, of Monroe county, and her pet lamb "Timothy." Gladys is certain she knows a whole lot about sheep and that much of this knowledge was obtained first-hand in caring for her pet. That, after all, is the best way to learn how to shelter, feed and train animals, whether for profit or pleasure.



**Don't Divide
Your Fur Money
with Brokers and
Middlemen**

Ship Direct to

**Silberman
and SONS**

**And Get
"The Check That Satisfies"**

Here is a money-making opportunity for every trapper to get full value for his furs. We now buy direct and save you all broker's commissions and middlemen's profits. Our new policy means thousands of dollars and greater satisfaction to trappers. It makes trapping worth while.

**Get Your Share of
These Higher Prices**

We have over two million dollars waiting for furs. And leading manufacturers are asking for immediate delivery. This makes it to your advantage to act quickly. Send a trial shipment and see what it means to get Silberman's extra prices.

**"The House With
A Million Friends"**

We have been in business for 52 years. Our liberal treatment and honest prices have brought us a million friends. Join this army of satisfied shippers. Send your trial shipment now.

Also send for new guaranteed price list and latest fur market information. Quick action means more money for you.

S. Silberman & Sons
Capital Over \$2,000,000
1125N West 35th Street, Chicago
(67)

Ty Cobb's Advice

MICHIGAN young people, boys in particular, will be interested in what Tyrus Raymond Cobb, the greatest baseball player in the world, has to say to the aviators of the United States and her European Allies, about keeping themselves in physical condition. Here is the substance of his message:

"To win in any game your stomach must have the best of care. It is your power plant and the one organ that keeps you going. Now, if your stomach is not properly cared for it can put you out of business in short order.

"Here are some points that I have observed in the care of my stomach and they may interest you. I am sure that they would help any fellow to be a better winner, a better flyer, a clearer visioned marksman, and a come-back-alive hero, because any man who faces bullets has paid in advance for every service his country ever can render.

"1. Exercise is the keynote of health, so take some exercise EVERY day, a mile walk and end up with a sprint. Exercise keeps the liver clear and when one's liver is O. K. his eye is clear and his nerve is steady.

2. Before a game I NEVER eat any lunch. I go in on an empty stomach. If you eat before you go up I would like to know from you how much better you would feel if you went up light, how clearer your eye would be, how much more acute your senses would be.

"3. I NEVER drink sweet milk before a game (it fogs the eyes) and NEVER drink coffee at night or before a game.

"4. Smoke NO cigarettes."

Pigs are Pigs

ACCOMPANYING illustration shows Wildah Ferguson, Reading, Michigan, doing her bit in the cause of Liberty, by caring for and feeding three little pigs, given to her by a neighbor.



Wildah's brother is in France with General Pershing, and Wildah, twelve years old, is raising the pigs that the soldiers may have more meat. When the pigs are marketed, the money is to go for war stamps, so you see she is being doubly helpful to Uncle Sam.

At the time the pigs were given her, they were but four hours old and required lots of care, now they are nice thrifty pigs and eat out of a trough. But the care and the feeding still go on. The day will soon come when they will be added to the food supply of the nation, and a young girl will be glad and proud that, when brother comes home, she can tell him how she, too, helped to win the great war.

Cousin Bill says: "Now that the war is over and the world is made safe for Democracy, the next thing to do is to make our Democracy safe for the world."

Abraham Fur Co.

St. Louis, Mo.

**America's
Leading
Fur House**



Furs Are Worth Big Money

Furs will be higher than they have ever been in the history of the fur business and the Abraham Fur Co. will again be the leaders in paying trappers more money for their furs than they can get from any other fur house in the World.

We were the only large fur house in the United States that made a gain in number of shipments received last year; all others showed a decline. Why? Because trappers everywhere have found out that it pays and pays big to ship furs to Abraham Fur Co.

Anybody can tell you how high furs are but we will show you with real money. Send us furs you have on hand now.

For many years we have made a specialty of handling early caught furs and we can pay you a better price for this class of furs than ever before.

We will pay you more than you can get at home—more than you can get from any other fur house and more than you expect yourself—that's going some, but we are in a position to beat all price records for furs and we are going to do it.

Write For Our New Book Today

—the most complete catalogue of trapper's supplies carried by any house in the United States—quality of goods guaranteed to be as represented and prices the lowest possible. Most valuable information for trappers ever published—will show beginners how to be successful on the trap-line, giving rules and methods for trapping that never fail, contains information for old timers that will surprise them.

Pictures of a Herd of Seals in beautiful colors illustrating how the seal lives in his native state. Free to anyone interested in fur business. Write today.



Abraham Fur Company
355 Abraham Bldg., St. Louis, Mo.

WE WANT ALL KINDS OF FURS
WOLF, LYNX, BEAR, FOX, BEAVER,
WILDCAT, MUSKRAT,
SKUNK, MINK, ETC.



WE'LL PAY THE MOST
Remits Quickest. Pays Cash. If desired, FURS ARE
RIGHT. Cash all you can. Follow our illus. TRAPPER'S GUIDE.
IT'S FREE. Send for it. Make big money. Frequent PRICE
LISTS sent to keep you posted. TRAPS AND BAIT, the kind you
want. Get to know us. In business HALF A CENTURY. Biggest
Bones. MOST VENTURE LOANERS. Ask any Bank about us.
First in U. S. to send Price-Lists to Trappers. Cash for Hides.
Set-up quote.

WEIL BROS. & CO.
"The Old Square Deal House"
Box 128, Fort Wayne, Ind. U.S.A. Capital \$1,000,000.00 Paid
Everybody interested Write

**RAW FURS
WANTED**

WE pay express charges and
guarantee satisfactory and
prompt returns. Send us trial
shipment. Will hold shipments
separate if requested.

Milton Schreiber & Co.

Dept. L
138-140
W. 29th St. NEW
YORK
CITY.

RAW FURS

Send for our price list today.
Let us prove to you that we pay
HIGHEST PRICES. We pay exactly
what we quote and know you will be
pleased with our LIBERAL GRADING.

WULFSOHN

A house you can depend upon.
We make no deductions of any kind, give
every shipment individual consideration
regardless of how small or large. On
account of our unusual outlet for
furs, we can actually pay you
more money. Write for price list.

M. Wulfsohn & Co.
268 West 27th Street
New York City

RAW FURS

Established 1853
Capital, \$1,100,000
Incorporated 1889

We Pay the Market's Highest Mark

TRAUGOTT SCHMIDT & SONS

145 Monroe Ave.

Detroit, Mich.

FREE

Price List and Booklet
"Successful Trapping"
Write TODAY

RAW FURS

**New York is Now
The World's Fur Center**

New York, the greatest city in the world, is
the center of the World's Fur business. No
matter where you ship your Raw Furs, they
must eventually come to New York.

We are the Fastest Growing Raw Fur House
in New York because we always pay the highest
market prices.

Send for our Latest Price List. It's free on request.

David Blustein & Bro.
163 West 27th St. New York

GET THE MOST MONEY

For Your
RAW FURS

I need all your furs to fill waiting orders and
will pay the highest prices to get them. Coon,
skunk, fox, opossum, mink, muskrat, wolf and
all others. Five percent additional on all ship-
ments over \$25. Send shipments at once.
Checks sent same day shipment arrives.

BEN CORN, 262 SEVENTH AV.,
NEW YORK, N. Y.

The Co-Operative Raw Fur Co.
Pays You MORE CASH

for your furs, remits promptly, and does NOT charge
commission. You will receive 10 per cent more
CASH from us than from any other house in Amer-
ica. Send at ONCE for LARGE PRICE LIST.

The Co-Operative Raw Fur Company,
81 Jefferson Ave., Detroit, Mich.

LEARN AUCTIONEERING

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

Mention The Michigan Farmer When Writing Advertisers



Are You Feeding Blindly?

THOUSANDS of farmers have opened their eyes to the danger of mixing their own feeds. Have you? Thousands of wise dairymen have cut out all feeding guesswork—all danger of poor quality unbalanced rations. Have you? Thousands of farmers are using the feed that's ready mixed for them—and for you—

INTERNATIONAL READY RATION Means More Milk—Less Work—Bigger Profits

Run no more risks. Take no more chances with short-age and low quality of ingredients, or mixing mistakes.

International Ready Ration goes right from bag to feed box—without any worry or work on your part. It is always uniform, always balanced, always guaranteed to increase the milk flow.

Try it! It will open your eyes. If your dealer can't supply you, we will.

INTERNATIONAL SUGAR FEED CO.

Minneapolis - - - Minnesota

BREEDERS' DIRECTORY.

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

CATTLE.

Wildwood Farms

Breeders of Best Strains of 1—
Aberdeen Angus Cattle
and **Duroc Jersey Hogs**

Several young bull calves on hand, three of which are of serviceable age, out of Black Monarch III, three times Grand Champion, Michigan State Fair. Also several AI Brood sows. Will be glad to correspond with you by letter regarding stock. Write

SIDNEY SMITH, Supt.

Wildwood Farms, Orion, Michigan
W. E. SCRIPPS, Proprietor.

WOODCOTE ANGUS

TROJAN-ERIGAS & BLACKBIRDS (BLACKCAPS) only. The most fashionable strains of the breed. Great care given to matings and pedigrees. Every animal BRED IN THE PURPLE. Breeders and feeders of many INTERNATIONAL WINNERS. WOODCOTE STOCK FARM, Ionia, Mich.

Cloverly Angus Good quality bulls of serviceable age and younger. Inspection invited. Geo. Hathaway and Son, Ovid, Mich.

GET GUERNSEYS

Tabulations made by the U. S. Department of Agriculture show that the average income over cost of feed from one cow that produces 450 lbs. fat is equal to the average income over cost of feed from 20 cows that produce 100 lbs. each. The average of all official Guernsey records is 450 lbs. fat. Learn more about these profitable cows. Ask for our free booklet "The Story of the Guernsey."

THE AMERICAN GUERNSEY CATTLE CLUB, Peterboro, N. H.

GUERNSEY BULLS

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

Ballard Farm Guernseys. 40 head. May Rose and other popular lines of breeding. State tuberculin tested. Free from disease. Herd bull, son of Don Diablo of Linda Vista greatest bull of breed. A. R. Cows, bred heifers, heifer calves and bulls from A. R. dams. A price on each individual, take your choice. BALLARD BROS., R. 4, Niles, Mich.

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.

Guernseys 45 Registered head, all tb. tested. Nora's May King, son of Imp. May Rose King, heads our herd. 19 of his half sisters sold averaging \$1850 each. His bull calves are booked ahead at reasonable prices. Avondale Stock Farm, Wayne, Mich.

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

1 Registered Guernsey cow 7 years old. FRANK NASH, R. 3, Box 57, Fremont, Mich.

REGISTERED GUERNSEYS

Two fine Grand Daughters of Pauline Spottwood, A. R. O. 750 lbs. bred to May Rose Bull with fine A. R. O. records. \$550 buys this pair. J. M. WILLIAMS, No. Adams, Mich.

For Sale Registered Guernsey Cattle and Berkshire Swine. JOHN EBELS, R. 2, Holland, Mich.

Jack Bill,

Winn--Wood Herd

Registered Holsteins
Sire in Service
Flint Maplecrest Boy

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

JOHN H. WINN, Inc.

Lock Box 249, Roscommon, Mich.

"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.

OAK Leaf Farm. Herd sire Lenawee Pontiac Calamity King offer Registered Holstein bull calves from A. R. O. cows and the above sire whose dam holds the milk and butter record in the state of Ind. 7 days milk 796.3, butter 22.51—35 days milk 2378.3, butter 326.75. E. H. GEARHART & SON, R. 4, Marcellus, 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

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

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

Additional Stock Ads on Page 424

Replies to Dairy Queries

CARROTS FOR MILCH COWS.

I am in need of a little advice regarding carrots for milch cows. Can you advise me in regards to same? St. Clair Co. C. H. M.

Carrots are one of the very best of the root crops for dairy cows. In food analysis they do not differ so much from beets or mangels or rutabagas. They are a little richer in protein, however, but all of these crops are especially valuable because they are very appetizing and because they have a beneficial effect upon digestion, keeping the animals in good condition. An animal will eat more dry food and will digest it better if a portion of its ration is some root crop, and there is nothing better than carrots.

To get the best results out of carrots, however, or any other root crop, they should not be fed in excessive quantities, that is, one should not try to have the biggest part of the ration carrots, because they are too bulky and too watery, but a small portion fed each day regularly is very beneficial. They are a good food in themselves and besides they assist in the digestion of other foods. A half bushel of carrots a day, feeding a peck night and morning to a cow, will bring more profitable results than feeding in larger quantities. COLON C. LILLIE.

feed of cabbage in the morning to take the place of roots or of corn silage would be very beneficial. They are not only a good food but their succulency assists digestion and a cow would eat more dry food and digest it better by including cabbage as a portion of the ration.

If you would attempt to feed a cow nearly an entire ration of cabbages you would be very likely to get extremely poor results because of the large percentage of water. There would be so little dry matter and food nutrients in the cabbage that a cow couldn't eat enough to produce a good flow of milk for any considerable length of time. That, I imagine, is the reason why some people have had poor results with cabbage. You get the same results with beet tops. People harvest their beets and then they turn the cows into the beet field and if there are plenty of beet tops they think they don't need hay or grain, but they make a sad mistake. It would be much better to haul the beet tops up and feed a small feed in the morning together with hay and grain, and the same principle will hold true with cabbage, but rest assured that if cabbages are properly fed to dairy cows they will not dry them up but, on the contrary, they will stimulate the flow of milk. COLON C. LILLIE.

CABBAGE FOR DAIRY COWS.

I have a lot of cabbage on hand. I would like to know if cabbage is a milk producer or not, or will it help to dry the cows up? I would like to feed it. I feed ensilage, dry fodder, hay, oats and peas ground. St. Clair Co. A. A. S.

Cabbages furnish a good, succulent food for dairy cows but usually they are worth so much for human food that it would be impracticable to feed them to the cows. Cabbage should be fed rather sparingly. It will not do to give a cow all the cabbage she wants to eat, especially at first, because it will taint the milk and the cow will not do well, but a comparatively small

VENTILATION CONSERVES THE HEALTH.

Study up a system of ventilation for the dairy barn if it has none. The cows need fresh air to keep them healthy. The milk is better if the barn is ventilated and as free as possible from odor. Everything that conserves the health of dairy cattle should command the attention of dairymen as there is nothing more discouraging to peace of mind and profits than a sick cow. The cattle with plenty of fresh air develop a vigorous condition that helps them to resist disease and produce quantities of milk.

Cooperative Testing Pays \$50,000,000

(Continued from page 457).

The improvement of dairy stock must provide for a study, and record, of the performance of the individual cow, as well as deal with the management of the herd, including its care and feeding, and the breeding of animals to replace those which are discarded in the "weeding out" process. Individuality can only be determined by the weighing and testing of each cow's milk.

It is quite practicable for individual farmers to test their own herds, and many in Canada are doing this, but some form of cooperation has been found an incentive to a more workable plan of community effort, thus raising the general average yield rather than the general individual average. The competition for highest average production brought about by cooperative effort, one neighbor seeking to do better than his neighbor, is healthy and conducive to the best interest of all dairy farmers.

The demand for this cow-testing work has been so great that the Canadian officials found themselves forced to inaugurate a new system starting with the 1918 work. The dairy record centers were abolished and the services of cheese and buttermakers enlisted, the farmers paying these men, or those qualified to test the milk, at the rate of ten cents per cow tested. This plan makes it worth the while of the tester, and the rate is not overly excessive for the farmer to pay. Each tester provides his own outfit.

The milk factory is the natural center of herd record work of all kinds. The samples may be conveniently collected here on the milk or cream

wagons, and it is likewise easy to communicate with the farmers who are patrons of the factory. An increase in milk production of the herds in the factory district means not only greater returns to the farmers themselves, but likewise a larger output for the creamery or cheese factory, thus insuring a larger revenue for those who depend upon it for their profits.

W. E. Thompson, of Woodstock, Ontario, says: "I have raised the average of my herd from 5,500 pounds to 10,400 pounds per cow." This man has been able to nearly double his production through cow-testing. Charles Wilkins, of East Farnham, Quebec, says: "In 1908 our cows gave a revenue of \$20 each, but now their return is \$60 a head." This man multiplied his returns by three. Any number of farmers have in a single year increased their profits from thirty-three to seventy per cent, simply by weeding out the drones and feeding and breeding up the producers.

DEVELOPING THE BACON HOG.

(Continued from page 455).

mer or roots in winter so that their ration will be about one-third grain. The object now is to keep them growing until they are about two hundred pounds live weight, when they should be sold. It is desirable that they be fed so as not to attain this weight much before they are eight months old so as to insure firmness to the meat and prevent fattiness. When they show signs of developing too fast the grain and milk may be diminished and the green food increased.

CAPACITY OF SILO AND VALUE OF SILAGE.

As I have a silo 10x44 feet will you please tell me how many tons it will hold, and what the average ensilage is worth per ton at present prices of clover hay?

Mecosta Co.

H. B.

Careful experiments show that in the ordinary silo after the silage is well settled that it will weigh on the average forty pounds to the cubic foot, therefore, find the cubical contents of the ensilage in the silo and multiply this by forty and that will give you the number of pounds of silage. This 10x40 silo, if it was full to the top with well settled ensilage would hold over seventy tons.

We can only get at the value of silage by comparing it with some other food because silage is not usually bought and sold on the market. The analysis of corn silage doesn't differ materially from timothy hay and experiments show that three tons of corn silage has a food value of one ton of timothy hay, therefore corn silage would be worth one-third as much as timothy hay. If timothy hay is selling for \$27 a ton then good corn silage would be worth \$9.00 a ton. That is about as close as we can get to the value of it.

TOP-DRESSING GROWING WHEAT.

I have a piece of land which was in rye, and this fall I put in wheat with 100 pounds of phosphate to the acre, and I would like to know if I could spread some stable manure as a light top-dressing, when the ground will freeze, as it shows nice stand of wheat, and in the spring I want to spread about 150 pounds of complete fertilizer. Do you think this would be good?

A. T.

It is a splendid practice to top-dress growing wheat in the winter time with stable manure. Nothing could be done that would improve the chances of getting a good crop of wheat than top-dressing with stable manure. Sometimes it is difficult to do the work. If the winter has been open and ground doesn't freeze hard it cannot be done very successfully because driving over the field would injure the wheat. Again if there is heavy snowfall it is almost impossible to properly top-dress, but when the ground is comparatively bare and frozen so that it will hold the team, then it can be done economically and it will give the very best results. It is better to put it on in the early part of the winter rather than toward spring because this fine covering of manure protects the crop during the cold weather and in a number of instances has prevented winter killing.

Some people have reported excellent results in top-dressing with commercial fertilizer, especially with a fertilizer that contains a good per cent of available nitrogen, but as a usual thing I would much prefer to use a liberal application of fertilizer when the wheat is sown in the fall, mixing it with the soil, than to top-dress. In top-dressing with fertilizer you don't get the beneficial mulch effect that you do with stable manure.

COLON C. LILLIE.

THE CROPS.

LATE crop advices to Bradstreets, tend to enlarge estimates of all crops, and the only crops showing any heavy losses from a year ago are animal feeds. Frost damage to corn has been negligible, and there is more good corn in the crop than there was in the larger crop of a year ago. Other late crops, and particularly potatoes, have been fairly free of frost damage.

Dry weather is noted in west Kansas, Texas, Iowa and parts of the northwest, but the bulk of the largely increased winter wheat area has had a pretty good start, a feature in sharp contrast with a year ago.

With the war over more food than ever will be required to feed the added millions of mouths that have come under our protection.



You should use UNICORN DAIRY RATION

Because—it will make more milk and cut down your milk costs.



Because—you can save from 10 to 20% of your feed costs through the use of fewer pounds of grain per cow and the increase in milk or fat per cow.

Because—there is 10% more available food material in Unicorn than in any ration on the market.

Because—it saves labor and the mistakes of mixing and feeding. It is always uniform and reliable.

Because—Unicorn Dairy Ration is suitable for feeding alone, or can be fed with home-grown corn, oats or barley. Unicorn contains ample protein and may therefore be used either as a protein feed or as a complete ration.

Ask your dealer or write

CHAPIN & CO.,
Dept. M, Chicago

Vul-Tex Fibre

Half Soles & Heels



FOR HOME REPAIRING

Half Soles 1/2 in. thick put up pair in envelope WITH NAILS and FULL instructions for NAILING ON OLD SHOES. Heels with nails in cartons. Water-proof, keep feet dry and warm. WEAR BETTER THAN LEATHER. Very high quality.

Pair half soles 50c and heels 25c post paid. Send size of shoes, and pencil outline of exact size of heel.

THE VUL-TEX COMPANY,
Barberton, Ohio.

CATTLE

The Pontiac Herd

"Where the Champions come from"

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

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

REG. Holstein: Bull calf born Dec. 28, 1917, a splendid individual, straight, deep bodied 3/4 white. 7 nearest dams have A.R.O. records, that average butter 7 days 22.21 lbs. milk 497 lbs. W.B. Reader, Howell, Mich.

For Sale Cheap: 2 Holstein bull calves, born Jan. 28 and Mar. 22, both from 29.42 lb. sire. One from 23.80 lb. 4 years old dam, also a few females. A. F. LOOMIS, Owosso, Mich.



For Two Thousands Years

the people of Holland have been developing the Holstein-Friesian breed of dairy cattle. They have developed a breed that most economically turns large amounts of coarse fodder into valuable dairy products, and is valuable for beef purposes. Holstein-Friesian cows exceed all others in milk and butter production and return a greater profit upon the cost of their feed.

HOLSTEIN CATTLE

Send for our booklets—they contain much valuable information.

HOLSTEIN FRIESIAN ASSOCIATION OF AMERICA, Box 164, Brattleboro, Vt.

HOMESTEAD FARMS

A Federation of Interests

Holsteins: From a herd of 50 Holsteins headed by the Bull King Zerna Alcartra Pontiac, son of King Segis Pontiac Alcartra, the \$50,000 Bull, we offer a number of bred cows and heifers, younger heifers and calves, and young bulls. One particularly high class young bull now ready for service. If you want Holsteins of any class, will you please write to us for descriptions and photographs? Every animal guaranteed.

BLOOMINGDALE FARMS, Bloomingdale, 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.

For Sale 2 Registered Holstein heifers. 2 yr. old. 27th sire 18.81 and 20.78 lb. dams. \$100 each. R. J. BANFIELD, Wixom, Mich.

The Traverse Herd

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

TRAVERSE CITY STATE HOSPITAL
Traverse City, Mich.

Want Yearly Records?

Our new sire has four sisters whose semi-official records are 677, 742, 913 and 946 pounds of butter in one year respectively at 2 to 3 years of age. His dam is a daughter of Friend Hengerveld De Kol Butter Boy, four of whose daughters have records over 1000 pounds and she is also a granddaughter of Pontiac Aggie Korndyke, with six daughters above 1000 pounds of butter in one year.

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

Holstein Females

Sun Haven Edith Pontiac De Kol, four years old, will freshen in January. Daughter of a five hundred pound cow. Sired by a grandson of Hengerveld De Kol, excellent type, kind and gentle, \$200.00. Sun Haven Nettie Segis Pontiac, one year old. Daughter of above cow. Her sire was sired by the son of a twenty five pound daughter of a thirty two pound cow sired by Hengerveld DeKol. A nice typey heifer. \$100. The first check for \$25 takes the two.

Morley E. Osborne, Sun Haven Farm, Standish, 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.

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.

REGISTERED JERSEY bull ready for service, sired by Oxford's Flying Fox. Champion at Kalamazoo Fair, dams official test 783 lbs. butter, 1378 lbs. milk in one year. Priced low. O. S. BASSETT, Drexel Pl., Kalamazoo, Mich.

For Sale Choice Jersey bull registered, age 22 months. Sires St. Lambert and Majesty. Markings solid color, black tongue and switch. Reason of sale, related to owner's herd. SEYBURN FARM, R. 7, Pontiac, Mich., Tel. 710F4.

Additional Stock on Page 481

THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

Gombault's

Caustic Balsam

IT HAS NO EQUAL

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

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

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

REMOVES THE SORENESS—STRENGTHENS MUSCLES
Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than \$120.00 paid in doctor's bills."
Price \$1.75 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet R.
The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.



Send for Calf Facts

DON'T feed milk to calves. Feeding high-priced human food to calves is waste. Mature calves early, big and healthy on Blatchford's Calf Meal at 1/4 the cost of milk. The other 3/4 is clear profit to you. Write for the facts today.

Blatchford's CALF MEAL

Write Today Send your name and address for pamphlet "How to Raise the Finest Calves on Little or no Milk". No obligation, it's free—write today.

Blatchford Calf Meal Co.

Dept. 9818

Waukegan, Illinois



The Extra Eggs

will soon pay for one of these

Automatic

Self-

Heating

Poultry

Fountains

and Heaters

Requires less than a quart of oil a week. Made of Galvanized Steel. A long felt want supplied. Every Hen-House needs one. Price of 1 Heater and 2 gallon Automatic Fountain complete \$1.75. Order NOW or write for Circular 1 and testimonials.
Agents Can Make Big Money. Write for Offer.
C. A. S. FORGE WORKS, SARANAC, MICHIGAN



We Want More Fresh

Hennery

EGGS

Write Us For Prices

F. J. Schaffer & Co.

Eastern Market, Detroit, Mich.

Chickens Sick?—Use Germozone
Roup, colds, bowel troubles, sore head, limber neck, etc. At dealers or postpaid 75 cts. with 5 book Poultry Library.
GEO. H. LEE CO., Dept. 426, OMAHA, NEB.

POULTRY

BREEDING COCKERELS

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

Barred Rocks—EGGS FROM STRAIN with records to 230 eggs a year: \$2 per 15. Delivered by parcel post, prepaid. Circular free.
FRED ASTLING, Constantine, Mich.

Buff Leghorns Now is the time to place your order for next years stock.
Dr. WILLIAM SMITH, Petersburg, Mich.

Cockerels: R. and S. C. R. I. Reds and R. I. Whites, \$2.50 up, good stock, satisfaction guaranteed.
O. E. HAWLEY, Ludington, Mich.



Ferris White Leghorns

A real heavy laying strain, trapped 17 years, records from 200 to 264 eggs. Get our special summer prices on yearling hens, breeding males, eggs for hatching, 8-week-old pullets and day old chicks. We ship C. O. D. and guarantee results. Catalog gives prices, describes stock, tells all about our farm and methods; results you can get by breeding this strain. Send for your copy now—it is free.
GEORGE B. FERRIS 224 Union, Grand Rapids, Mich.

Clean Up and Kill the Bugs

By DON B. WHELAN

MANY of the insect pests that will come out early next spring and summer, have already gone into hibernation for the winter. If one will destroy these winter quarters before the snow covers the ground he can directly, or indirectly, kill many of the insects that would, with their offspring exact a heavy toll from the garden or field. Now is the vital time and the

field and in old raspberry canes, many pests are enjoying a winter resort and next spring will come out possessed with an appetite that will be satisfied at the expense of the farmer. Weeds are also the friend of the insects and are a necessary part in the existence of many of them. Without them the eggs of many of our insect pests would not be able to pass through the winter,



Old Cabbage Fields Afford Winter Breeding Places for Insects.

secret of success lies in the destruction of these hibernating places.

After harvesting a crop there is usually some portion of it allowed to remain on the ground. This refuse provides a retreat for the insects peculiar to that crop and they will be right on hand when the crops are planted in the spring. Under piles of rubbish or beneath the squash or melon vines many pests are seeking shelter from the cold. On the leaves and stumps of cabbages, under shocks of corn left in the

and also without them the corn root-aphis would die before corn is planted in the spring. Grass along the roads and fence rows also affords shelter for many insects and if burned late in the fall would destroy many of them and deprive others of their customary dwellings.

*Clean up and kill the bugs now, for next spring after they have become active may be too late and "crop protection means crop production." Try to get credit for what the bugs eat.

Here and There

HOW MACHINERY HELPS IN MAKING FUEL WOOD.

WOOD can be made into fuel much more cheaply and quickly by machinery than by hand. Officials of the Forest Service, United States Department of Agriculture, estimate that a three-man crew will cut ten cords a day with an outfit consisting of a gasoline engine of six to eight horsepower costing \$275 to \$300, and a twenty-six-inch saw with its frame, costing \$75. If a double-action 500-pound power splitter (cost \$300) is added to this equipment, a four-man crew will average twelve to fifteen cords a day sawed into sixteen-inch stove lengths and split ready for use. This is at the rate of three to four cords a man in a day, while by hand labor one to two cords cut into four-foot lengths is the common average.

TREASURY ABSORBS FARM LOAN ISSUES.

LIBERTY BONDS hereafter will have no competition during loan campaigns. Treasury officials have cleared the path for all future war loans by absorbing bonds issued by the Federal Farm Loan Board.

The order, announcing that no more farm loan bonds will be offered to the public directly, simultaneously placed complete treasury control over every issue of stock or bonds above \$100,000. In effect, the United States Treasury becomes supreme in deciding where the nation's finances shall be used. Issues of stock or bonds by private interests have been under supervision of the Capital Issues Committee of the treasury since February.

Officials of the Farm Loan Board stated it is not likely any farm loan bonds will be offered to the public, even through the treasury, until long after the war ends. Proceeds of the bonds are believed to be sufficient to

meet loaning requirements of the banks until after January 1, 1919. Bonds now held by loan banks, if they are to change ownership, will be turned over to the treasury.

WHEAT ACREAGE ENOUGH.

MR. BARNES, president of the Food Administration's grain corporation, believes further extension of wheat acreage unnecessary and unwise. In a letter sent to Senator Hitchcock, Mr. Barnes said a fair yield from the present large acreage, with any peace developments opening up new sources of supply would necessitate a congressional appropriation to make effective the present price guarantee. "I feel it to be a fact," said Mr. Barnes, "that the wheat acreage of this country has already been stimulated as far as it should soundly be developed, and any further stimulation or expansion of wheat acreage is liable to be at the expense of necessary acreage of other crops, particularly the fodder grains. Last year's acreage of wheat of 65,000,000 acres was much the largest ever sown, yet this year's acreage promises to exceed that.

"A large acreage next year presents some problems under the price guarantee given which must very probably be solved by congress, for with a fair normal year on the acreage now in sight for the coming crops, and with any developments of peace, which restrains the demand upon us by throwing open other sources of wheat supply, it probably will require a very large appropriation by congress to make effective the present price guarantee.

IN HONOR OF THE AMERICAN FARMER.

The Fifth Annual Farmers' Exposition and State of Ohio Apple Show, will be held in the Terminal Auditorium at Toledo, Ohio, December 6-14, 1918.

Save Your Cream

With a Kalamazoo Cream Separator

Write For Our Wholesale Price

Learn how easily you can own this world-famous Swedish-made machine—now sold direct to users at "Direct-to-you" prices. Skims cream right down to the last particle. Easiest running and easiest cleaned separator ever built. Sold with lifetime guarantee. Write today for wholesale price. Ask for Catalog No. -B-

Kalamazoo Stove Company, Mfrs. Kalamazoo, Michigan

We manufacture Stoves, Ranges, Gas Ranges, Furnaces, Oil Stoves and Heaters, Kitchen Cabinets and Tables

A Kalamazoo
Direct to You

NEVERSLIP

Red Tip Calks

Insure STRONG EVEN PULLING ON ICY ROADS

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

Your Blacksmith Has Them.

THE NEVERSLIP WORKS
NEW BRUNSWICK, N.J.

This sanitary Waterer is non-freezing, automatic drinking box; is economical to operate.

Burns Kerosene

Patented self-regulating lamp, holds 1 1/2 gallons. Burns several days on one filling, without attention.

BUSBY HOG WATERER

Will last a lifetime. Made of galvanized and cast iron. Hogs must have 8 lbs. water to 1 lb. of feed. Send for Farmer User Agent's Offer on Waterer & Tank Heater.

C. W. BUSBY CO., Dept. 8 Washington, Ia.

Fowlers Buff Rocks, Cockerels, hens and pullets \$3 up. White Holland Turkeys \$5 & \$6 each.
R. B. FOWLER, Hartford, Mich.

For sale early hatched, Barred Plymouth Rock cockerels from trap nested 200 egg hens. Price \$4.00 and \$5.00
Ray Campbell, Parma, Mich.

FOR SALE R. I. Roosters for brood stock.
A. J. VOSS, Waltz, Mich.

Pure bred Light Brahma cockerels from Harvey G. Wood strain. \$5 to \$5 each. Also a few yearling hens. Mrs. R. B. WILLITS, R. 1, Reading, Mich.

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

PULLETS at \$2.00 each. Brown Leghorns, White Leghorns, White Wyandottes. WALTER PHIPPS FARM, 80 Alfred St., Detroit.

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

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

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

ROSE COMB BROWN LEGHORNS from winners at the largest shows in America. Mrs. CLAUDIA BETTS, Hillsdale, Mich.

Yearling Leghorn Pullets About 50 yet for sale.
BLOOMINGDALE FARMS, Bloomingdale, Mich.

GIANT Bronze Turkeys at lowest possible prices. Have accepted a position as Assistant in Poultry Husbandry, Extension Division for Mich. Agricultural College and must dispose of my entire stock of fine young pure bred stock at once. Grand in color, type and bone.
N. Evelyn Ramsdell, Ionia, Mich.

Giant Mammoth Bronze Turkeys. Big boned young thoroughbreds. Write for prices.
Mrs. MILLA DILLWORTH, R. 2, North Star, Mich.

Mammoth Bronze Turkeys \$5 & \$10.
WALTER DILLMAN, R. 5, Dowagiac, Mich.

Mention the Michigan Farmer when writing Advertisers

Veterinary.

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

Retention of Urine.—Have a gelding that is troubled with retention of urine and I would like to know what to do for him. A. H. W., Paris, Mich. Give your gelding a dessertspoonful of acetate of potash at a dose in feed or drinking water two or three times a day until the desired effect is produced, then give a teaspoonful at a dose occasionally when you believe it necessary. Applying hot applications to loin will have a good effect. In applying hot cloths, be sure and wring as much of the water out of them as possible before they are applied.

Breeding Question.—I am at a loss to know whether or not to change the breed of my rabbits. The stock I have are closely inbred and I have been told that I should secure a male of other blood. C. E. A., Addison, Mich. —You have been making the same mistake that a great many breeders of rabbits have done. Too close inbreeding is usually harmful and an out-cross should be made; therefore, you should select males from good stock that are not related to yours and results will be satisfactory. Very close inbreeding usually lowers the vitality of stock; besides, they are inclined to be small.

Diseased Chickens.—My chickens are unthrifty and out of condition, but so far as I can tell am unable to tell what is wrong with them. Very few of them are laying eggs and they have an unhealthy appearance. P. V. H., Grindstone City, Mich. —First of all, you should clean and whitewash with fresh lime wash, your hen roost, the roosting pole should be saturated with kerosene and if the ground is damp, it should be drained, and sprinkle some airslaked lime occasionally on floor. Mix together equal parts of cooking soda, ginger, ground red cinchona, ground fenugreek and ground gentian, mix some of this powder in their mash once or twice a day. A teaspoonful is enough for six or eight full grown hens. It is perhaps needless for me to say that they should be fed a good quality of food, and do not allow them to eat decomposed meat or fish for, if so they are quite likely to suffer from ptomaine poison, causing what is commonly called limberneck, leg weakness, etc.

Surfeit—Mange.—I have a nine-year-old horse that is partly covered with small lumps, especially along his sides, root of tail and hips. There are also a few little lumps on each shoulder. Perhaps I am mistaken, but I am inclined to believe he has the mange. I hesitate to put him in the stable with my other horses for fear of spreading the disease. J. A. T., Prescott, Mich. —Give him 30 grains of potassium iodide and a half ounce of Fowler's solution at a dose in either feed or drinking water two or three times a day. Wet itchy portions of skin with one part liquor Cresolis Compositus (U. S. P.) and 40 parts water, or apply one part commercial coal tar disinfectant and 30 parts water once a day.

Bunches on Legs.—Have some pigs four and a half months old that have enlarged knees, also have bunches on hind legs below hock joints. Would it be all right to fatten these pigs? Would you advise me to keep their mother and try to raise another litter from her next spring? G. S., Rives Junction, Mich. —If your pigs are not lame, leave them alone, if sore paint bunches with tincture iodine three times a week. By all means fatten them. If the sow is a good mother and raised last litter all right keep and breed her again. Her next litter may be free from unsoundness of their limbs.

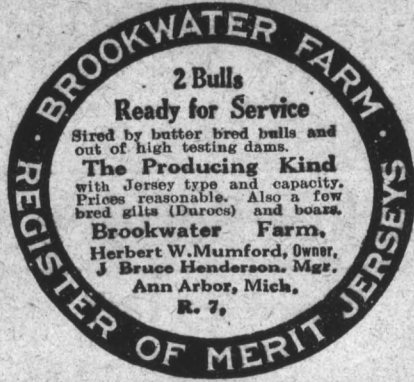
Impaction.—I have a ram three years old that drops food from mouth while chewing his feed and his bowels are constive. L. A., Saginaw, Mich. —His mouth should be examined for there is perhaps an abnormal tooth or possibly a foreign body. His throat may be sore. If so dissolve a teaspoonful of salt in 12 ozs. of water and gargle throat and mouth two or three times a day. Rub throat with camphorated oil twice daily. Give him two table-spoonfuls castor oil daily, if necessary to move bowels.

Weak Heart.—While plowing last summer my four-year-old colt seemed to pant and tire easily, so much so that I discontinued working him. When hitched and driven he seems to lag back as if he was very weak. I am not working him, but he eats well, is fed oats and hay. J. F. C., Lawton, Mich. —Your horse suffers from weak heart and by giving him a long rest he might recover. Give him 60 drops of fluid extract of nux vomica at a dose in either feed or drinking water three times daily.

Lansing, Mich., Wed. Nov. 20, 1 P. M. COMBINATION SALE 40--Pure-Bred Holstein Females--40 30 Fresh or to Freshen Soon

This herd contains daughters of Pontiac Ceres Korndyke, Sherlock Lilith DeKol Hengerveld, Prince Ybma Spofford the 4th, King Model Johanna Fayne. All of the cattle have been raised by present owners and will be given the T. B. test. 50% Liberty bonds accepted. Send for Catalogue R. F. D. 1. Sale held at the farm of Edward Stoll, 2 1/2 miles from city limits on St. Joseph St. West. Transportation provided, call Citizen phone 5-4. Bell 7139F5.

EDWARD STOLL, W. K. PARKER Owners.
W. A. MURRY, Auctioneer.
F. J. FISHBECK, Catalogue Reader.



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

Maple Lane R. of M. Jersey Herd. Bulls, bull calves and heifer calves sired by one of the best grandsons of Pogue 99th of Hood Farm and out of R. of M. dams. IRVIN FOX, Allegan, Mich.

For Sale. Choice bulls from R. of M. dams by Maj. Estey's Oxford Fox, average profit per head on entire milking herd \$22.58 over cost of feed for cream alone suberulm tested, and free from abortion. ALVIN BALDEN, Capac, Mich.

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

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

Meridale Interested Owl No. 11111 heads my herd. Bull calves from this great sire and out of R. of M. dams for sale. C. B. WEHNER, Allegan, Mich.

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

Herefords

5 Bulls 9 to 14 months old Prince Donald, Farmer and Perfection Fairfax breeding.

ALLEN BROS., Paw Paw, Mich.

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

BIDWELL SHORTHORNS
For Beef and Milk.

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.

Richland Farm
Shorthorns

Sires in Service: Fair Acres Goods and IMP. Lorne-Michigans Grand Champion Bull. The largest Herd of Scotch cattle in the State. Every animal Tuberculin Tested by the Sanitary Commission. Special offer on two extra good white bulls. The kind that produce roan calves.
C. H. PRESCOTT & SON,
Herd 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.

For Sale Three reg. Shorthorn bulls 12 mos. old, red little white Bates breeding, will crate and ship, satisfaction guaranteed or money refunded. Could use Liberty Bond in part payment.
Wm. D. McMULLEN, R. 1, Adrain, Mich.

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

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

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

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

Dual Purpose Shorthorns all ages, a ton Roan 3 yr. old herd bull, also Duroc Hogs all ages.
CHAS. BRAY, Okemos, Mich.

For Sale Shorthorn Bulls of the choicest breeding and ready for service.
LUD HASTINGS, Napoleon, Mich.

Shorthorns 100 head to select from. Write me your wants, price reasonable.
Wm. J. BELL, Rose City, Mich.

For Sale Best Bates Shorthorns; cows, heifers and young bulls at reasonable prices.
CLARE RIGGS, R. 4, Mason, Mich.

Brown Swiss Bull Calf
for sale registered. R. F. Spencer, Portland, Mich.

Sale of Guernseys
Beach Farm, Coldwater, Mich.

Because of Feed Shortage and change of tenants, I shall sell forty head of my pure bred Guernseys at auction. The sale will be at the Beach Farm, Coldwater city limits, commencing at one o'clock sharp on Tuesday November 26th. The choice of the herd will be sold consisting of cows, heifers, calves, bulls of varying ages. Some of them imported. A rare chance, easy terms.
MILO D. CAMPBELL.

HOGS

Berkshire spring and fall pigs, both sex. Pairs not akin, priced to sell, all stock guaranteed.
B. B. REAVEY, Akron, Mich.

Reg. Berkshires for sale. Service boars and bred sows.
FAIRMAN FARMS, Plymouth, Mich.

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

DUROC BOARS

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

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

Pleasant View Durocs Spring boars and gilts of exceptional quality priced right. Inspection invited.
O. A. BURLINGAME, Marshall, Mich.

Duroc Boar Royal Volunteer No. 73193. Having decided to go out of the hog business will sell, any one requiring a good boar should see this one.
D. M. Kennedy, Algonac, Mich.

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

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

Duroc Boars Gilts, Big, Long, Tall, 200 lb. Gilts, April 1, boars and gilts of the choicest breeding. Also an A. B. O. 1 yr. Holstein bull.
F. E. EAGER & SON, Howell, Mich.

Duroc Gilts and fall pigs sired by E. D's Defender Col. from King The Col. dams.
E. D. HEYDENBERG, Wayland, Mich.

FOR Sale registered and unregistered spring Duroc pigs. Excellent breeding and individuals, \$5 to \$15 above pork prices.
F. RAY BAYLIS, Dexter, Mich.

DUROC JERSEYS Nothing but spring pigs for sale. OAREY U. EDMONDS, Hastings, Mich.

Chesters May boars. Sept pigs in pairs or of the best blood lines obtainable.
F. W. ALEXANDER, Vassar, Mich.

LAST fall gilts all sold, have a good lot of last spring litters from 3 sires good growthy stock. Farm 1/2 mile west of depot, Citizens Phone 124.
OTTO B. SCHULZE, Nashville, Mich.

Raise Chester Whites
Like This
the original big producers

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

THE WORLD'S CHAMPION
big type O.I.C.B. Stock of all ages for sale. Herd headed by Calloway Edd, the World's Champion O. I. C. boar assisted by C. O. Schoolmaster, Grand Champion of Michigan, New York and Tennessee state fairs. Also, C. O. Giant Buster, undefeated Senior boar pig wherever shown and Grand Champion of Oklahoma state fair. Get our catalogue of Grandell's prize hogs, Cass City, Michigan.

O. I. C.'s I will ship C. O. D., record free of charge and pay the express of every service boar sold in November. F. C. Burgess, R. 3, Mason, Mich.

SERVICEABLE BOARS
Shipped
C. O. D. and Express Paid
J. CARL JEWETT, Mason, Mich.

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

8 Large Type O. I. C. spring boars also 2 prize Jr. yr. boar Mich. State Fair 1918.
CLOVER LEAF STOCK FARM, Monroe, Mich.

O. I. C. Serviceable Boars
H. W. MANN, Dansville, Mich.

For Sale Registered O.I.C. pigs either sex, high class stock at farmers' prices.
JOHN SANDRUS, Port Huron, Mich.

BIG TYPE POLAND CHINAS
Spring boar and gilts. Also fall pigs.
Hillcrest Farm, Kalamazoo, Mich.

FOR 25 YEARS
This establishment has been head quarters for Big Type Poland Chinas. We have a nice lot of boars and sows of strictly big type breeding at very low price. Let me know what you want. Bell phone.
JNO. C. BUTLER, Portland, Mich.

BIG TYPE POLAND CHINAS
200 lb. April boars of choice breeding and choice individuals, ready to ship, cholera immune. Prices reasonable. Inspection invited or write me.
WESLEY HILE, R. 6, Ionia, Mich.

Large type P. C. Mar. and April boars ready to ship, the big bone, big litter, biggest kind, that go out and make good, inspection invited. Free delivery from Farms.
W. E. LIVINGSTON, Parma, Mich.

The Old Fashion Spotted Poland Hogs. Early fall pigs either sex for sale \$25 each, fine ones.
J. M. WILLIAMS, No. Adams, Mich.

BIG POLAND CHINAS
Smooth easy feeders. Spring boars and gilts ready to go. One extra good spring boar only \$50. G. A. BAUM-GARDNER, R. 2, Middleville, Barry Co., Mich.

Big Type Poland Chinas—three litters of eleven each, one of ten, one of twelve. Boars ready for service. Giant Buster, Gerstale Jones blood.
O. L. WRIGHT, Jonesville, Mich.

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

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

LARGE Type P. C. Spring boars and gilts now ready to ship. None better in Michigan. Come and see them.
W. J. HAGELSHAW, Augusta, Mich.

Big type Poland China spring and fall pigs either sex. Shorthorn Bull and bull calves. Price to sell.
ROBERT NEVE, Pierson, Mich.

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

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

Big type Poland China boars, our herd won 41-1st, 22 2nd, 10 3rd prizes at leading Michigan fairs 1918.
E. R. LEONARD, R. 3, Box 53, St. Louis, Mich.

Big Type Poland Chinas. Spring boars for sale. Booking orders for bred gilts. Inspection invited.
L. L. CHAMBERLAIN, Marcellus, Mich.

Mammoth Poland Chinas. March, April, boars and gilts. Cholera immune, double treatment. Clyde Weaver, Mgr., Marshall, Address, Ceresco, Mich.

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

A FEW choice, large type P. C. Spring boars and gilts, also summer pigs.
OLYDE FISHER, R. 3, St. Louis, Mich.

L.S.P.C. Get a boar, pig sired by Smooth Jumbo the largest boned boar in the state, also by Big Defender.
H. O. Swartz, Schoolcraft, Mich.

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

HORSES Horses Will Be Horses Soon

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

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

Percherons, Shorthorns and Duroc Jersey Hogs.
J. M. HICKS & SONS, R. 2, Williamston, Mich.

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

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

Percherons for sale. Stallion three years old. Mare six. Barred Rocks Cocker.
E. J. ALDRICH, Tekonsha, Mich.

Additional Stock Ads. on Page 483

LATEST MARKET REPORTS

SECOND EDITION.

The markets in this edition were revised and corrected on Thursday afternoon, November 14.

WHEAT.

Now that the war is over and the peace news which has so frequently been used to bear the grain market is no longer available, the trade is turning its attention to the probable influence of reconstruction conditions upon the market. The best opinion of the trade is that the foreign demand for American wheat and other grains will be even more urgent than in the past. On the other hand, there is considerable wheat accumulated in the southern hemisphere that will become available as soon as transportation is provided. Local wheat prices Wednesday were as follows:

No. 2 red.....	\$2.23½
No. 2 mixed.....	2.21½
No. 2 white.....	2.21½

CORN.

Corn values have responded to bullish sentiment and advanced in the local market following the peace news. The quotations on Wednesday were:

No. 3 corn.....	\$1.35
No. 3 yellow.....	1.40
No. 4 yellow.....	1.33
No. 5 yellow.....	1.28
No. 3 white.....	1.40

In Chicago the corn prices advanced with December corn ranging from \$1.17 @1.19; January \$1.20½.

OATS.

A stronger feeling took possession of the oat trade, and prices moved upward in harmony with corn transactions. The closing prices Wednesday at Detroit were:

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

RYE.

Rye failed to follow the lead of other grains and quotations rule below last week's figures at \$1.62 per bushel for No. 2 spot

BEANS.

No important changes have taken place in the bean markets. In New York the trade is reported somewhat unsatisfactory and very irregular. Domestic consumption is reported rather light for this season, and the export demand is cut off by its being in the hands of the Food Administration. Some Michigan pea beans have arrived in New York City and are going to the jobbers at \$11@11.25 per cwt. Several cars in transit are offered at \$11. In Michigan farmers are bringing beans to market in fairly liberal quantities. The quality of this year's product is unusually good, and dealers report a much better reception by the trade than for the 1917 crop. At Detroit the price is quoted at \$9 per cwt. The Chicago market is showing a fair demand with offerings of the new crop increasing. Prices there rule about steady, with Michigan hand-picked pea beans, choice to fancy \$9.50@10 per cwt; red kidney \$11@11.50.

FEEDS.

Local prices for feed to jobbers in 100-lb. sacks are: Bran \$36.50; standard middlings \$38.50; coarse corn meal \$59; cracked corn \$60; chopped \$45 per ton.

HAY.

An active demand is maintaining the high prices for hay in the face of largely increased receipts. Detroit quotations are:

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

Pittsburgh.—While inferior grades of hay are difficult to sell and can only be moved at buyers' figures, the better grades sell quickly at the following quotations:

No. 1 timothy....	\$32.50@33.00
No. 1 light mxd	30.00@31.00
No. 1 clover mxd	30.00@31.00
No. 1 clover....	29.00@30.00

SEEDS.

There is a brisk demand for seeds and reports would indicate that the year's crop may not be sufficient to go round. Prime red clover is quoted on the Detroit market at \$24.50; March \$25; alsike \$18.75; timothy \$5.40.

POTATOES.

Michigan is now the heaviest shipping state with 121 cars starting on Wednesday. Prices to farmers are lower than on Monday. On Wednesday round whites, U. S. Grade No. 1, sacked, were selling at \$1.65@1.75 in Grand Rapids; \$1.65 in Cadillac, and from wagon loads at Michigan country loading points \$1.10@1.35 is being paid. The above grade is selling to jobbers in Detroit in 150-lb. sacks at \$2.50@2.60. In Chicago the demand and movement are good and price changes have been small, with the best round whites sacked, selling at \$1.65@1.70. Cleveland jobbers are paying \$2@2.25 for U. S. Grade No. 1 Michigan round whites sacked; Buffalo \$2.10@2.25; at Pittsburgh \$2; Cincinnati \$2@2.10 for bulk; Philadelphia \$2@2.10.

BUTTER.

According to the report of the associated warehouses, the stocks of butter in cold storage on November 1 were given as 50,012,000 pounds, or 16,931,000 pounds less than the same houses held a year ago. It is probable that 40 per cent of these holdings belong to the government, which would leave a comparatively small quantity for the public market. Despite this, the demand is rather moderate. Prices, however, are being well maintained and some of our better markets show a fractional advance over last week. At Detroit the price is higher, with fresh creamery extras quoted at 59c per pound and do firsts at 57½c. The New York market is firm with the range for creamery stock from 58½@64c, which is fully two cents above

last week's price. With the advanced prices prevailing, a somewhat improved demand for the lower grades of butter is developing. At Chicago creameries range from 53@54½c for seconds scoring 83 to 87 points up to 59½c for extras.

CHEESE.

A gradual falling off in production and a decrease in amount of cheese held in storage incline holders to insist on present quotations, notwithstanding reports that consumption is decreasing because of high prices. At Chicago dairies are quoted at 34½@35c, and Young Americas at 35c. At Detroit Michigan flats are quoted to jobbers at 34½c; dairies at 36½c.

POULTRY.

In another column of this issue appears a statement by the Food Administration giving the regulations imposed upon the dealers in the handling of immature turkeys. Lower prices for live poultry are quoted on the Detroit market as follows: Springers 23@26c; hens 25@26c; small do. 23@24c; roosters 19@20c; geese 24@25c; ducks 23@30c; turkeys 32@34c per pound. The New York market is reported dull.

EGGS.

Further improvement is noted in the price of eggs. Supplies are short and the demand is fairly active, considering the prices consumers must pay. At Detroit firsts in new cases are quoted at 61c to jobbers, ordinary firsts, candled 59c; storage stock 42@46c a dozen. In New York the market is steady to firm with fine to fancy nearby western whites quoted at 98c@\$1; do browns 70@75c; mixed colors at 60@70c.

DETROIT CITY MARKET

Following the peace celebration there were few farmers and consumers on the market Tuesday morning. Potatoes sold at \$1.25; onions \$1.25; cabbages 55c; beets 50c; carrots 60c; parsnips \$1; turnips \$1; popcorn \$2.50; apples \$1@1.50; beans \$7.50 per bushel; celery 45@60c per dozen.

GRAND RAPIDS

Rain last week prevented farmers finishing the harvesting of the potato crop. They are marketing the crop in this section more closely than in previous years. Prices \$1@1.15 per bushel. Lack of cars has hampered movement of apples, though jobbers have shipped 18 cars the past week. Price to growers \$2 per cwt. Onions have moved more freely as jobbing firms have been filling contracts for army cantonments. No neck rot reported. City market prices to growers 50@60c per bushel. Milling firms are advised that the buckwheat crop will be light in this section. Price not yet fixed. Rutabaga crop is light and jobbing firms import cars from Canada.

LAND AND LIVE STOCK CONGRESS.

The Second Annual Land and Live Stock Congress will be held at the Association of Commerce, Grand Rapids, Mich. on Thursday, November 21, 1918. The Congress opens at 9:30 a. m., with noon luncheon, and the afternoon session will close at 5:00 p. m. The sessions are to be held under the joint auspices of the Michigan Agricultural Development Association and the Grand Rapids Association of Commerce.

The main subjects to be considered are: 1, more live stock, (sheep, cattle and hogs), for Michigan. Utilization of cut-over or logged-off land for summer grazing. Winter feeding. More and larger flocks of sheep among individual farmers; 2, land for the returning soldier and sailor; 3, greater financial assistance for agricultural development; 4, state drainage; 5, land clearing; 6, reforestation; 7, reclamation—swamp land development.

LIVE STOCK NEWS.

The government has begun buying beef carcasses weighing as low as 400 pounds, and this makes a demand for 900 to 1000-pound steers, which were handicapped by the former 575-pound minimum. Declaration of peace will not stop the enormous foreign demand for our beef products. Within a short time the food bureau has authorized the expenditure of \$34,400,831 for the purchase of frozen beef and smoked and tinned meats, purchases to be divided among the packers.

Live Stock Market Service

Reports for Thursday, November 14th

DETROIT

Cattle.

Receipts 2,385. Market strong.	
Best heavy steers.....	\$11.50@13.00
Best handy wt bu str.....	9.00@10.00
Mixed steers and heifers.....	8.00@9.50
Handy light butchers.....	7.00@8.00
Light butchers.....	5.50@6.50
Best cows.....	8.00@8.50
Butcher cows.....	6.00@7.50
Cutters.....	5.00@5.50
Canners.....	4.25@5.00
Best heavy bulls.....	8.50@9.25
Bologna bulls.....	7.00@8.00
Stock bulls.....	6.00@7.00
Feeders.....	8.00@10.00
Stockers.....	5.50@8.50
Milkers and springers.....	\$60@125

Veal Calves.

Receipts 1,060. Market strong.	
Best.....	\$16.50@17.00
Others.....	6.00@15.00

Sheep and Lambs.

Receipts 6,836. Market steady.	
Best lambs.....	14.50
Fair lambs.....	13.00@14.00
Light to common lambs.....	10.00@12.50
Fair to good sheep.....	8.50@9.00
Culls and common.....	4.00@6.00

Hogs.

Receipts 13,937. Market steady.	
Pigs.....	15.25
Mixed hogs.....	17.40@17.80

Reports for Wednesday, November 13th

BUFFALO.

Cattle.

Receipts 50 cars; the best grades are steady; others 50c lower. Prime heavy steers \$15@16; best shipping steers \$14@14.50; medium shipping steers at \$11.50@12.50; best yearlings, 950 to 1000 pounds \$12.50@15.50; light yearlings \$12@13.50; best handy steers \$11@12; fair to good kinds \$9.50@10.50; handy steers and heifers, mixed \$9@10.25; western heifers \$10@10.50; best fat cows \$9@10; butcher cows \$7@8; cutters \$5.50@6; canners \$4@4.75; fancy bulls \$9@10.25; butcher bulls \$8@8.50; common \$6@7; best feeding steers \$10@11.50; medium feeders at \$8.50@9.50; stockers \$7.50@8.50; light common stockers \$6@6.50; milkers and springers \$65@150.

Hogs.

Receipts 90 cars; lower. Heavy and yorkers \$17.80.

Sheep and Lambs.

Receipts 20 cars; 50c lower; top lambs \$14.50@14.75; yearlings \$11@11.50; wethers \$10@10.50; ewes \$9@9.50; calves steady; top \$19; rough calves \$7@9.

CHICAGO.

Cattle.

Only about 8,000 cattle were received today, bringing the receipts for the first half of the week up to 42,300 head, comparing with 72,649 for the same time last week. Evidently, stockmen have been uncertain as to how things would go, with a holiday Monday, and they were doubtless afraid of an accumulation of cattle and lower prices. The small supply is made up mainly of trashy cattle, and inferior steers

BUFFALO.

Pigs at \$16.25; others \$17.80; lambs \$15.50; calves \$19; cattle dull.

CHICAGO.

Cattle.

Receipts 18,000. Butcher cattle are strong to higher; packers and feeders stronger.

Good to prime choice steers \$15.75@19.75; common and medium butchers \$9.50@15.55; hfrs \$6.75@14; cows \$6.35@13; bologna bulls \$7.15@12.25; canners and cutters \$5.25@6.35; stockers and feeders, good \$10@12.50; do, medium \$7@10.

Hogs.

Receipts 60,000. Market steady to 10c lower than yesterday.

Tops \$18; heavy \$16.75@17.85; mixed and light \$17.60@18; packers' hogs \$16@17.25; medium and heavy \$17@17.50; light bacon hogs \$17.15@17.90; pigs, good to choice \$14.50@15.25; roughs \$15@16.25.

Sheep and Lambs.

Receipts 30,000. Market strong and 10@15c higher.

Choice to prime lambs \$15.15@15.35; medium and good lambs \$13.85@15.15; culls \$9@12; medium, good and choice feeders \$13@14.50; choice yearlings \$11.50@12; medium and good yearlings \$10.25@11.50; wethers, medium and good \$9@10.25.

are not selling much, if any, higher, but steers good enough to sell over \$10 are largely 25c higher than late last week. The best sale yesterday was that of two loads of choice yearlings averaging 1,170 pounds at \$19.50, and today's best sale is that of three cars of fat steers averaging about 1,400 lbs. at \$19.60. Cows and heifers have shared in the advance, fat butcher stock being salable at \$6@14.50, with few prime animals offered, while canning cows and cutters sell at \$4.75@5.95. Calves are 50c higher for the better class of light vealers, with a \$17 top. Stockers and feeders, too, are largely 25c higher, with sales on a basis of \$7@12.50 and not much call for inferior lots. Western range steers are firm at \$9.50@17.

Hogs.

Only about 18,000 hogs showed up today, making total receipts of only 80,400 for the first half of the week, comparing with 105,300 for the same days last week. There was a good demand at yesterday's small advance in prices, with hogs wanted at \$16.50@16.75 for rough, heavy packers, up to \$17.85@18.10 for the light and heavy butchers, while pigs were taken at \$14@16.25 mostly. There is a demand for 128-lb. feeder pigs at \$16. The highest priced barrows average from 195 to 290 pounds.

Sheep and Lambs.

Only about 10,000 head were received today, making but 65,700 for three days, comparing with 97,439 for the same time last week. Trade was fairly animated, with lambs salable at \$9.50@15.25, yearlings at \$9@11, ewes at \$3@9, wethers at \$8.25@10. Bucks sold at \$6.50@8, and feeding lambs were in demand at \$13@14.

Federal Crop Report

THE November crop report issued today by Verne H. Church, Michigan Field Agent, Bureau of Federal Crop Estimates, shows that the yields per acre of corn, buckwheat, potatoes and clover seed are below the ten-year average for the state. However, the total production of corn, buckwheat and clover seed is considerably greater than that of last year. The crops of apples, field peas and sugar beets are not only larger than they were in 1917 but are above the ten-year average. The quality of practically every crop is considerably better than it was last year. The month of October was ideal for rapid progress in completing the season's work. Much corn was husked, and considerable threshing of beans, buckwheat and clover seed and plowing for the spring crops was done. Mild weather throughout the month and good rains during the latter half placed the growing crops of wheat and rye in excellent condition.

Corn.—Based upon an estimated yield of 29.0 bushels per acre, which is 2.7 bushels less than the ten-year average, the total production for the state will be 50,750,000 as compared with 37,625,000 bushels last year. Of this amount, approximately forty per cent went into silos, leaving about 30,000,000 bushels for feeding purposes. The quality of this grain is far above that of last year, being 78 per cent as compared with only 40 per cent last year. The amount of the 1917 crop remaining on farms on November 1 was found to be only one-half of one per cent. The estimated yield for the United States is 24.2 bushels per acre, which gives an approximate production of 2,754,800,000 bushels as compared with 3,159,494,000 last year.

Buckwheat.—The average yield for the state is estimated at 12.5 bushels, or 3.5 bushels more than last year; and the total production is placed at 962,500 bushels as compared with 675,000 bushels in 1917. The quality is eight per cent better than last year, but two per cent below the average. For the United States the estimated yield is 17.6 bushels per acre as compared with 17.4 last year, and a ten-year average of 19.5.

Potatoes.—The yield varies greatly in different localities, being least in the southern part of the state where the crop suffered severely from the August drought. The average is 84 bushels per acre, six bushels less than the ten-year average and 11 bushels less than last year. This gives a total production of 28,875,000 as compared with 35,910,000 bushels last year. The quality is up to the ten-year average. For the United States, the production is estimated at 389,910,000 as against 442,536,000 bushels last year.

Clover Seed.—The state yield of 1.5 bushels per acre is one-tenth of a bushel less than the ten-year average and last year's yield. The total production is estimated at 140,000 bushels as against 124,000 last season. This is four per cent less than the average production. The crop is best in the central and northern districts where weather conditions were more favorable during the growing season. The production for the United States is estimated to be one-half of one per cent less than it was last year.

Field Peas.—The state produced 14 per cent more than the average amount, and 22 per cent more than last year.

Apples.—The total apple crop of the state is estimated at 68 per cent of a full crop, as compared with 25 per cent last year, and a ten-year average of 50 per cent. The crop was relatively better in the eastern districts than in the western, or main commercial producing sections, therefore the commercial crop is smaller than the agricultural crop, being estimated at 60 per cent of a full crop. The quality is

much better than last year and considerably above the ten-year average.

Pears.—There was 64 per cent of a full crop in the state, six per cent below last year and four per cent below an eight-year average. The quality was better than that of recent years. The crop for the United States was 62.1 per cent or five per cent less than the average for the past eight years.

Grapes.—The estimated production was 60 per cent of a full crop for the state, or nine per cent below that of 1917 and 14 per cent less than the eight-year average. The United States as a whole produced 69.7 per cent of a full crop, or 16.8 per cent less than last year and 12.4 per cent less than the average.

Sugar Beets.—The condition of the crop is 92 per cent, as compared with 87 per cent last month, 78 per cent one year ago, and 86 per cent the ten-year average. The condition for the United States is 92.7 per cent, 3.5 per cent better than a year ago, and 2.2 per cent above the average.

FATTENING GEESE AND DUCKS.

I would like to know what to feed my geese and ducks to make them eat and get fat.

WHEN goslings over six weeks of age are to be fattened they can be fed three times per day with a ration of one part corn meal and one part bran. Geese which have been pastured through the summer can be fattened on a ration composed entirely of corn meal. This should be given over a period of four or five weeks, depending upon the condition of the birds when the forcing begins.

Sometimes young geese are marketed as "green geese." Then the fattening process begins when the long wing fathers have developed until they reach the tail. The birds can be penned up and fed the following ration with good results: Four parts corn meal and one part beef scrap, given three times per day. A sprinkle of salt added to the wet mash is good for the birds and acts as an appetizer.

Ducks fatten well on the mash composed of one part corn meal and two parts bran. About five per cent of beef scrap and a little fine grit should be added to the mash to bring the best results. Green food should be given occasionally to help in keeping the digestive system in good order.

In fattening both ducks and geese the principle is to increase the amount of food consumed and reduce the exercise. Sanitary conditions in the yards and pens are very necessary. The profit in fattening either ducks and geese can be determined by comparing the cost of good quality corn with the price that will be received for the ducks. At the present price of feed it requires more than the usual amount of skill to fatten the birds at a profit, but underfed birds never pay so it is undoubtedly best to give the geese and ducks a certain amount of fattening and then endeavor to place them on a market where quality stock is appreciated.—R. G. K.

COSTLY FEEDS CALL FOR BETTER STOCK.

Due to current high prices of feed and the present price of pork, hog men are emphasizing the desirability of using good breeding stock. It is even better, they say, to use a mediocre pure-bred sire than a scrub of good appearance. He will aid in securing quick maturity of pigs, greater economy of gain, and more certainty of breeding true to type.

Gilts should be at least eight months old when bred. The sow three years old is better able to farrow a large healthy litter than a gilt.

In order that pigs may be farrowed early in March, sows must be bred between November 8 and November 15.

SHIP FURS TO

Be WISE—don't wait—bundle up every fur you have on hand and ship to Hill Bros. Fur Co.—the old reliable house where you are sure of correct grading, highest prices and a square deal every time. Read these EXTRA HIGH PRICES we are paying if you ship your furs AT ONCE.

NO COMMISSION CHARGED. You get ALL your money—not one cent deducted for commission or handling.

MICHIGAN FURS

	Extra Large	Large	Medium	Small	Unprime
SKUNK					
BLACK	\$10.00 to \$8.75	\$8.75 to \$8.00	\$8.00 to \$7.00	\$7.00 to \$6.00	\$1.50 to .90
SHORT	8.00 to 7.00	7.00 to 6.25	6.25 to 5.50	5.50 to 4.50	4.00 to .70
NARROW	6.25 to 5.25	5.25 to 4.50	4.50 to 3.75	3.75 to 3.00	2.75 to .50
BROAD	3.50 to 2.50	2.50 to 2.00	2.00 to 1.60	1.60 to 1.25	1.25 to .40
MINK					
DARK	12.00 to 10.00	10.00 to 9.00	7.75 to 6.75	5.50 to 4.50	6.00 to .40
ORDINARY	9.50 to 8.75	8.50 to 7.50	6.50 to 5.50	4.75 to 3.75	5.50 to .30
MUSKRAT	3.00 to 2.50	2.40 to 2.20	1.85 to 1.55	1.15 to 1.00	1.35 to .10
RED FOX	40.00 to 30.00	28.00 to 25.00	23.00 to 18.00	15.00 to 12.00	15.00 to .50

DON'T DELAY—SHIP AT ONCE.

If you live in any other State, ship us your furs and we will pay you highest market prices.

HILL BROS. FUR CO.
352 Hill Bldg. St. Louis, Mo.

If you have no furs on hand now—send postal card for FREE Trappers' Guide, Shipping Tags and latest Price Lists.



Uncle Sam Says
"Buzz Your Wood"
SAVE COAL
with a Genuine High Speed

GUARANTEED CRUCIBLE STEEL SAW

Every blade guaranteed to be free from flaws, cracks and splits, teeth to hold their edge and corners not to crumble. Not to be compared with the cheaper mail-order house saws.

Filed and set ready for use. 1 3/8 inch hole.

Size	Price	Size	Price	Size	Price
20"	\$4.75	24"	\$6.75	28"	\$9.25
22"	5.75	26"	8.00	30"	10.50

Steel Saw Frame with self aligning dust-proof boxes; cannot pinch shaft; thoroughly braced; heavy balance wheel.

Order From This Ad.

Cut Out and Save this advertisement.

Satisfaction Guaranteed or Money Back.

Farmers' Cement Tile Machine Co.
Dept. A, St. Johns, Mich.

Comfort Indoor Closet

Odorless—Sanitary—Germ-Proof

Every home without sewerage, plumbing or running water needs one. Anyone can install. Placed in any room in house. 10,000 in use.

U. S. HEALTH BUREAU APPROVES

Says: "Chemical Closet complies with requirements." Abolish cold outdoor closets. Germ-life killed by chemicals. State Boards of Health endorse it. 10,000 in use. AGENTS WANTED. Exclusive territories. CATALOGUE FREE.

Comfort Chemical Closet Co., 671 Factory Bldg. Toledo, O.

FREE TRIAL

If You Want A Square Deal

and your money on receipt of shipment send your Poultry, Veal & Hogs to

J. W. Keys Commission Co.,
470 Riopelle St., East. Market
Detroit, Mich.

the best market in America; weekly market circular on request, please mention this paper. Are you doing your bit? Buy War Stamps.

CULOTTA & JULL

Eastern Market, Detroit, Mich.

We need your shipments of Poultry, Veal, Dressed Hogs, Live Roasting Pigs, Eggs, Live Rabbits and Game. Highest prices possible obtained on arrival. We can handle your Potatoes, Onions, Apples, Cabbage and root crops, carlots or less. Your shipments will be appreciated and have our best care and attention, and you don't have to wait for your money. Reference Peninsula State Bank.

Mr. POULTRY FARMER:

We make a specialty of White Henery Eggs and have created a profitable market for your eggs the year around. We pay the highest premium for your Henery Whites—We remit same day shipments arrive. Ship Often—Ship by Express

GEO. R. ELDRIDGE CO.

494-18th Street, Detroit, Mich.

Remember! We guarantee you satisfaction with every shipment.

Holmes, Stuve Co., 445 Riopelle St.

Commission Merchants. Dressed Beef, Hogs, calves, Poultry, Live & Dressed, Provisions, etc. Correspondence Solicited. Ref. Wayne County & Home Savings Bank, Bradstreet, Detroit, Mich. Cad. 2378.

HAY

Ship To The Old Reliable House
Daniel McCaffrey's Sons,
623-625 Wabash Bldg., Pittsburgh Pa.

Hercules Stump Puller

For sale. For particulars write
D. W. SHEPHERD, Delton, Mich.

SHEEP

Hampshire

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

8 Shropshire Ewe Lambs \$200 8 Hampshire Ewe Lambs \$320. 8 Hampshire Ewes (bred) \$400.
J. M. WILLIAMS, Box G, No. Adams, Mich.

Shropshires Ram lambs for sale, sired by an imported Buttar ram.
W. B. McQUILLAN, Howell, Mich.

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

Registered Shropshire yearling and ram lambs with test of breeding and size. A son of Tanners Royal at the Head. Priced to sell.
H. F. MOUSER, R. 6, Ithaca, Mich.

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

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

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

Shropshire Rams Yearlings and Ram Lambs of Quality.
H. D. KELLY & SON, Ypsilanti, Mich.

OXFORD RAMS

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

Reg. Oxford Rams Yearlings and Lambs. Prices \$50 and \$25. Jas. P. Gibbs & Son, Ithaca, Mich.

Reg. Oxford ram lambs: come by auto and take the choice at \$50 and \$55 fine stock. 2 S. & W. St. Johns, J. R. HICKS, St. Johns, Mich.

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

Reg. Oxfords Ram Lambs. O. M. YORK, Millington, Mich.

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

Lincoln Rams. 29 choice, reg. yearlings sired by Imp. Swallow Rams. Will sell singly or make special price on lot. **R. L. LYBROOK,** Berrien Springs, Mich.

Lambs from Western Ewes, fine for feeders. Breeding ewes and registered rams. **BARNARD SHEEP RANCH,** Clare, Mich.

Salesmen Wanted

We pay salary to good subscription getters, who can devote their entire time to our work. The offer our salaried men handle is especially attractive to farmers. Address

The Michigan Farmer, Detroit

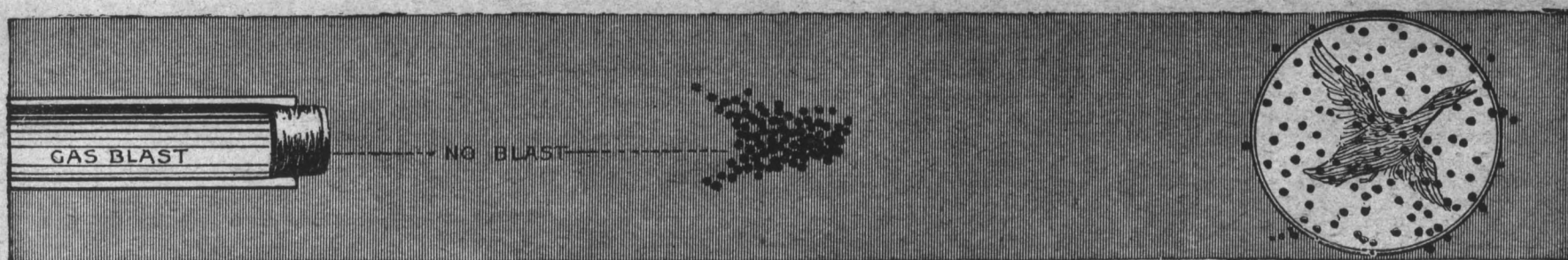
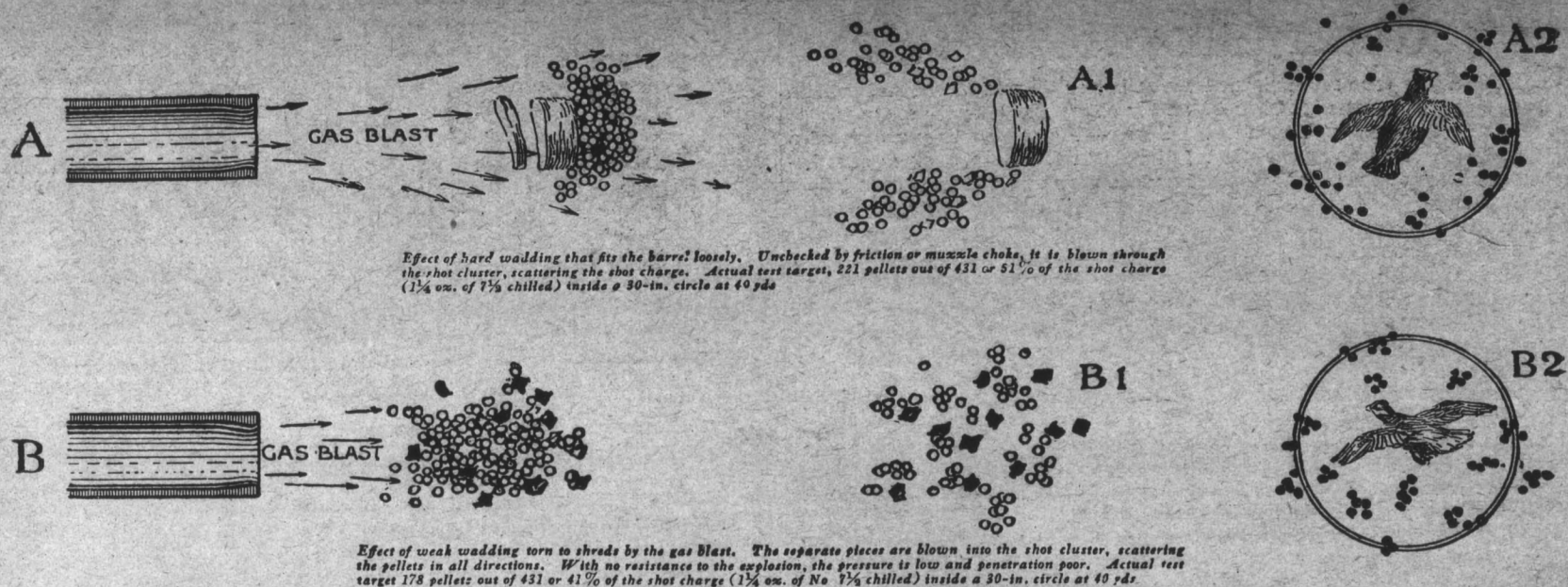
Good Clubbing Offer

No. 8.
Michigan Farmer, 1 yr., wk. \$1.00
Breeder's Gazette, wk. 1.50
Woman's World, mo.50
American Boy, mo. 2.00

Regular price \$5.00
OUR PRICE ONLY \$3.90

Send all Orders to

The Mich'gan Farmer, Detroit



Effect of wadding construction on shot patterns

Poor wadding responsible for more faulty patterns and lost birds than all other gun and shell troubles combined

A strong uniform shot pattern depends upon how perfectly the *wadding* in your shells controls the five-ton gas blast behind it.

The wadding, like the piston head of a gas engine, must give the explosion something solid to work against so that the shot may be *pushed* out evenly.

It must expand and fill the tube of the barrel, completely sealing in the gas behind it. No gas must escape to scatter the shot.

It must offer just the right amount of resistance so as to develop uniform pressure and high velocity without danger of jamming the pellets out of shape at the "choke" or muzzle constriction.

The illustrations at the top of this page show actual test patterns, 50% to 70% faulty, the result of poor wadding.

The Winchester system

Winchester wadding is the result of repeated experiments to determine the most efficient control of the gas blast.

The special construction of the *Base Wad* gives what is known as *Progressive Combustion* to the powder charge.

Combustion spreads instantly through the powder charge. By the time the top grains of powder become ignited the *full* energy of the burning powder behind is at work. Though the explosion is almost instantaneous, it is none the less *Progressive*, the final energy and maximum *velocity* of the completely burned powder being developed at the *muzzle*, where it is most needed.

Meanwhile, under the heat of combustion, the tough, springy Winchester *Driving Wad* has expanded to fill the barrel snugly all around. No gas escapes. It is completely sealed in. The wadding *pushes* up the shot evenly.

At the muzzle the shot pellets slip out without jamming, while the wadding is checked for a brief interval by the constriction of the muzzle. *It follows some distance behind the shot pattern.*

The shot cluster travels on unbroken by gas blast or wadding and makes the hard hitting, uniform pattern for which Winchester shot shells are world famous.

Fish Tail Flash All Winchester smokeless shells are made with the new Winchester Primer—the quickest and most powerful shot shell primer made. Its broad *fish tail* flash gives even and thorough ignition. Every grain of powder is completely burned up before the shot charge leaves the muzzle.

The Crimp The required degree of pressure necessary in seating the driving wads is worked out in combination with the *hardness* or the *softness* of the *crimping* required for any particular shell.

Water-proofing and Lubrication In the cold, damp air of the marshes, or under the blazing sun at the traps, Winchester shells will always play true. Winchester water-proofing process prevents them from swelling from dampness. Special lubrication of the paper fibres prevents brittleness and "splitting" in dry weather.

Uniform Shells From primer to crimp, Winchester shells are constructed to insure the maximum pattern possible from any load and under all conditions. \$100,000 is spent annually in the inspection and testing of finished shot shells. 25,000,000 rounds of ammunition are fired every year in testing guns and ammunition.

Clean hits and more of them

To insure more hits and cleaner hits in the field or at the traps, be sure your shells are Winchester Leader and Repeater for Smokeless; Nublack and New Rival for Black Powder. Write for our Free Booklet on Shells. Winchester Repeating Arms Co., Dept. M-51 New Haven, Conn. U. S. A.



WINCHESTER
World Standard Guns and Ammunition

