

MICHIGAN FARMER

AND LIVE STOCK JOURNAL
PUBLISHED WEEKLY
ESTABLISHED 1843.

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

VOL. CLII. No. 14
Whole Number 4039

Detroit, Mich., Saturday, April 5, 1919

\$1.00 A YEAR
\$3.00 FOR 5 YEARS



The Michigan Farmer

Published Weekly Established 1843 Copyright 1919

The Lawrence Publishing Co.

Editors and Proprietors

39 to 45 Congress St. West, Detroit, Michigan
TELEPHONE MAIN 4525.

NEW YORK OFFICE—381 Fourth Ave.
CHICAGO OFFICE—111 W. Washington Street.
CLEVELAND OFFICE—101 1-1015 Oregon Ave., N.E.
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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

50 cents per line agate type measurement, or \$7.00 per inch (14 agate lines per inch) per insertion. No adv't inserted for less than \$1.50 each insertion. No objectionable advertisements inserted at any time.

Member Standard Farm Papers Association and Audit Bureau of Circulation.

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

VOLUME CLII. NUMBER FOURTEEN

DETROIT, APRIL 5, 1919



CURRENT COMMENT

Suffrage Becomes a Duty

WOMEN of Michigan have been granted equal suffrage and will exercise this newly granted right for the first time at the general election on Monday next. This privilege, which the women of Michigan in common with those of the country at large have earnestly sought for many years, has now become more than a privilege; it has become a duty which is incumbent upon the women of the state to perform. Along with the privilege goes a responsibility which should not be shirked. The women of Michigan have commendable interest in the selection of candidates for public office to be voted upon at the spring election, and in educating the public in important issues for which they were especially interested.

Every woman should perform her full duty by voting at the coming election whether she was in sympathy with the granting of the franchise to women or not. It is a duty which should be shirked by none.

Vote on the Amendments

AGAIN we would call the attention of every Michigan Farmer reader to the important proposed amendments to the constitution of the state which are submitted for their consideration at the general election on Monday next. Two of these are of special importance to the state at this time. The amendment providing for the sale of bonds to provide funds for permitting highway improvement, is perhaps less generally understood than the other proposal to be submitted. This proposition has been carefully explained in recent issues, and any voter who does not fully understand it can inform himself by referring to back numbers of this paper. About the only opposition which has been expressed to this amendment is by those who do not believe in borrowing money for public improvement, but would prefer to have a sufficient tax levy spread to offset

the federal funds which would be available for any given year and follow a "pay as you go" policy. This, however, would necessitate so long an addition of our tax levy as to be a serious burden to taxpayers at the present time. It is estimated that the state's share of the federal apportionment for road improvement will be something like seven and a half million dollars. Every reader will appreciate that the addition of so large a sum to our tax levy in a single year would be most burdensome.

As to the proposition of whether governments should borrow money for the making of public improvements, it seems clear that it is just as profitable for the state as a municipality to borrow money for road improvement as for the owner of wet land to borrow money at a reasonable rate of interest to tile the same and make it more productive. The betterment of our highways will be an improvement which will benefit the people of the entire state, and under this plan the people of the whole state will contribute to the payment of both the money borrowed for this purpose and the interest on same.

The so-called beer and light wine amendment is, perhaps, better known as the saloon amendment. The country people generally are against this proposition and they should not fail to cast their vote on same at the coming election.

Farmer Faces Big Problems

A VITAL problem confronting the future welfare of the world is that of maintaining an adequate supply of food stuffs. In the readjustment of industries and commerce agriculture must be given proper consideration if other industries are to prosper and find profitable outlets for their products. With the coming of a better understanding between the leading commercial powers and the spread of democracy there is sure to develop a higher standard of living among both the middle classes and the laboring classes.

This improved standard of living and close commercial relationship among the nations means new markets and an increased demand for many kinds of food stuffs. Many articles of diet, practically unknown to the people of Europe, such as American canned goods and dehydrated products are finding a permanent place in the markets of England, France, Italy and other European countries. Carrying food products from America to Europe where they were needed during the war and the period immediately following has resulted in breaking down the prejudice against imported food stuffs and whetted a European appetite for many kinds of food products hitherto unknown to the people of these countries.

The export demand for American food stuffs, such as dairy products, meats, grain, canned goods, fats, oils, dehydrated fruits, vegetables and many other products at war-time prices created an enormous home demand for cheaper substitutes and imported food stuffs. These new products have gained a foothold in our markets that is going to prove difficult to overcome when normal conditions are restored. All of these changes in our American diet have greatly complicated our agriculture problems and brought about decided changes in our standards of living. In becoming a competitor for world trade we must follow the course of other great trading nations and carry things from where they are plentiful to where they are needed. This means that our farmers must study world markets and world conditions rather than depend upon a home demand for the products they have to sell. Becoming the leading commercial nation of the world within a few months has its disadvantages as well as its advantages, and few economists

can tell us what the future has in store for the American farmer.

One thing is certain, we have a serious food problem today and for many years to come. The use of modern machinery and the heavy drain upon our fertility resources during the past four years has enabled us to grow enormous crops of grain and produce thousands of tons of food to supply our allies, but the "whipping" up of our farms under the spur of war-time requirements, breaking up crop rotations and neglecting soil-improving crops is sure to be reflected in diminished production per hour of labor. From now on our demands for more food stuffs must be met by importation from foreign countries or the tillage of poorer land at higher cost, with, of course, diminishing crop yields.

One thing is evident to the close student of American agriculture, and that is, we cannot successfully continue as exporters of wheat and other grains after normal conditions are restored in the world's commerce. If we are to maintain agricultural supremacy it must be accomplished through the feeding of live stock and the production of profitable cash crops that can be sandwiched in between clover, grass and grain crops in our rotations. Fruit and vegetable crops, especially those that can be preserved in good condition for home consumption and for export are sure to play an important part in the future of American agriculture.

In connection with the development of our live stock farming, more especially the production of dairy products, there seems to be opportunity for far-sighted capitalists to develop an enormous business in the manufacture of oils and fats from Oriental beans and peas. This business should prove profitable, not only from the commercial standpoint, but from the value of the pressed beans and peas for feeding live stock and furnishing valuable fertilizing elements for our soils.

It would seem good policy on the part of our Departments of Commerce and Agriculture to gather comprehensive data and seek to interest capital in this project. Japan is at a decided disadvantage in this industry as she is without live stock to consume the by-products. If we are going to develop export trade for our food stuffs plans must be made to import feeds and fertilizers so that the fertility problem may be provided for.

Another factor which has greatly complicated our farming problems is the breaking down of our transportation system, and the increase in rates of freight and refrigeration to such an extent that great specialized food producing districts are placed at great economic disadvantages. With our transportation lines in their present condition the problem of competing successfully for foreign trade is going to prove extremely difficult, except in the sale of condensed products. A few especially favored sections in proximity to Atlantic, Gulf and Pacific seaports will find it less difficult to transport their products to the world's markets than the farmers of the great middle west. Altogether the agricultural situation is so perplexing that few men care to undertake an analysis.

Food Prices Continue to Advance

ONE of the problems puzzling the consuming public is the fact that food prices are soaring higher and higher since the removal of the check on prices. With the abandonment of authority vested in the Food Administration, no one can quarrel with the prices made by the fair play of supply and demand.

It is clearly a case of the depletion of the food stocks of the consuming world, and the fact that millions of people are looking to America to stand between them and starvation until harvest time shall come again. The people of America should thank their

lucky stars that they are in a fortunate position in regard to its supplies of food stocks.

Prices of food stuffs in America cannot be based upon the supplies we have here at home unless we build a Chinese wall around our food reserves and stop our ears to the pleadings of suffering humanity in other countries. Even friendly neutrals have a right to depend upon us to aid them in feeding their people and friendly relations with other nations were never quite so essential to American industry, commerce and safety as now. We would not be true Americans if we refused to divide our food supplies with suffering countries.

News of the Week

Wednesday, March 26.

GERMAN delegates to the peace conference are reported to have been instructed not to go beyond a reasonable interpretation of President Wilson's fourteen points, not to give up the valley of the Saar and the port of Danzig on the Baltic.—Egypt is in a virtual state of insurrection.—Martial law is proclaimed throughout Spain, following a general strike in Barcelona.—Belgium and Rumania are buying over \$50,000,000 worth of United States war goods.—It is reported that the Vatican in Rome is disposed to call a pan-Christian congress as a prelude to the union of all christian churches.—Saginaw orders that inter-urban cars be prevented from passing through the city unless fares on city lines be reduced to a five-cent basis.

Thursday, March 27.

ITALY notifies the peace conference that the Adriatic blockade is lifted.—The Prussian assembly is determined not to yield additional territory.—Official reports show that two thousand houses in Egyptian villages were sacked during the recent riots.—Chambers of Commerce throughout the United States are asked to aid in finding employment for discharged soldiers.—A conference to give consideration to the subject of control of public utilities in Michigan is held at Lansing.—Michigan legislature passes the Lewis bill, which prohibits the possession, receiving, transportation, sale or gift of intoxicating liquors.—State retailers intimate that prices on men's clothing will be reduced ten per cent by next fall.

Friday, March 28.

RUSSIAN Bolsheviks with an army of 300,000 men expect to start a great drive along the Dvina river in May.—Great Britain and France plan a new alliance against Germany.—The American amendment concerning the Monroe doctrine and the Japanese racial amendment, are not included in the covenant of the League of Nations as presented to the drafting committee.—Secretary of War Baker announces that he will leave for Europe on April 6.—The railroad men of Great Britain agree with the government that they will not go out on strike.—Legal steps are being taken to free I. W. W. workers now in Fort Leavenworth prison.—Up to March 15, 1,357,294 enlisted men were discharged from the army.

Saturday, March 29.

FRANCE insists on the restitution of Alsace-Lorraine, the ceding to France of the entire Saar basin, the complete military neutralization of the left bank of the Rhine and the payment of indemnities in excess of \$38,000,000,000.—Germany is increasing the garrison at Danzig.—More than 20,000 Jews are reported as killed or injured in riots in the Ukraine.—The War Department prepares to call for 50,000 volunteers for service in Europe.—Arrangements are being developed for the purchase of 4,000,000 acres of land in Michigan by the federal government to provide farms for returning soldiers.—Fifteen men were injured by an explosion at the ordnance proving grounds at Aberdeen near Washington, D. C.

Sunday, March 30.

THE allied nations make preparations to send troops to Danzig where the Germans refuse to permit the landing of Polish troops; Marshal Foch is to be in charge of the situation.—Lemberg is heavily shelled by Ukrainian forces.—Lettish forces defeat the Bolsheviks along the Mitau-Tukum Railway in the Riga district.—After April 1 domestic telegraph rates will be increased twenty per cent (Continued on page 567).

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TO
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VOLUME CLII.

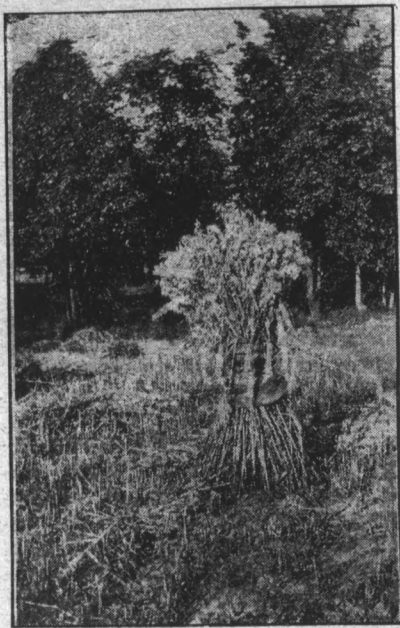
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A Practical Journal for the Rural Family

QUALITY
RELIABILITY
SERVICE

NUMBER FOURTEEN



OATS are not a highly profitable crop in Michigan, yet necessity compels many farmers to grow a few acres each year to seed clover and grass with. To apply manure and fertilizers and give the ground ideal preparation, primarily to grow oats seldom returns a fair profit. As a secondary consideration the growing of oats after a cultivated crop that has had an excessive supply of plant food may be made very profitable.

Of first importance is a well-prepared seed-bed. The object in preparing a seed-bed for the oat crop is to make conditions favorable for the roots of the tender plants to grow and develop. Plants demand moisture at all stages of their growth. They do not get the moisture from above at all times. Sometimes there is too much, sometimes a great scarcity, hence the permanent supply must come from below. The ideal seed-bed requires close capillary connection of the furrow with the subsoil. It can then draw moisture from below and enough of it providing the subsoil has a water-holding capacity, such as porous clay which takes up water and holds it, to give out as needed by the crop. Whatever the depth of plowing, or disking, the capillary connection with the soil below must be secured.

This is why successful oat growers have the turned furrow well-packed to press the soil particles close together and enable them to draw up moisture from below. They do not wish a cloddy under-furrow, nor coarse manure or trash between the furrow and subsoil. It pays to use the disk harrow to mellow the surface of the soil be-

The Oat Crop

How to Make this Important Crop Fit into the General Scheme of Farm Management.

By Lester J. Meredith

fore plowing the ground to prevent the formation of clods which create air spaces that interfere with the upward movement of moisture and consequently with the germination of the seeds.

Mellow Surface.

The surface of the seed-bed should be reasonably fine, not dust, but a nice crumbly, mellow surface. The newly-sown seed must have warmth and moisture to enable it to germinate quickly. The soil below the depth the seed is planted should be compact so that it will hold moisture and make conditions ideal for the seed to germinate and grow. There is no one way to prepare seed-beds for the oat crop that will apply to all conditions. When sowed on corn or potato ground a good seed-bed may be secured by thoroughly disking and harrowing early in the spring. Never give the field one disking, or the crop will come up uneven, or never try to remedy this by

great value. The seed-bed can be quickly prepared on fall-plowed ground and the work of seeding expedited as soon as the ground is dry enough to begin work in the spring. However, some heavy clay soils that are inclined to puddle and bake should not be plowed in the fall.

Without seed of good vitality and growing power, fertility and careful preparation of the soil are practically wasted. With first-class seed at least a fair crop may be expected on even inferior land. This brings up the question at once, "What is good seed?" The first requisite of good seed is a strong germ which will spring quickly into growth when the seed is sown in a warm, moist soil. Everyone recognizes the much more vigorous growth made by a pig or calf that is strong and vigorous at birth. The same principles apply to young oat plants, that apply to pigs and calves. Unless a



starch has been injured and the vitality of the seed reduced.

It has been proved that where large seed oats were sown the crop yield was increased from ten to twelve bushels per acre. It tends to ripen the crop more evenly, thereby doing away with a large percentage of light grain. Very little of the small and split seed that is sown grows. Many small kernels may start, but they produce small delicate plants with correspondingly small heads. Here is where the fanning-mill claims attention. To remove small and inferior grain and weed seeds and increase crop yields is its mission on the farm. Fanning-mills not only grade the seed oats but they remove noxious weed seeds and prevent the land from being seeded with foul weeds. Considering that every hundred bushels of oats from the bin contains more than twenty-five bushels that are unfit for seed it is plain to see that a fanning-mill will soon pay for itself in the amount of seed saved to say nothing of the increase in the yield of the crop.

If the soil is in good condition it will support a heavier seeding, which will result in finer straw and perhaps greater yield. On the other hand, if the land is worn and somewhat thin but free from weeds, the lighter seeding will almost surely give us better results than the heavier. The question of weeds is one always confronting a farmer and is probably one of the chief reasons why the popular idea is that a seeding of not less than three bushels per acre is the most satisfactory.

(Continued on page 558).



The Tractor Solves the Problem of Horsepower at Harvest Time.

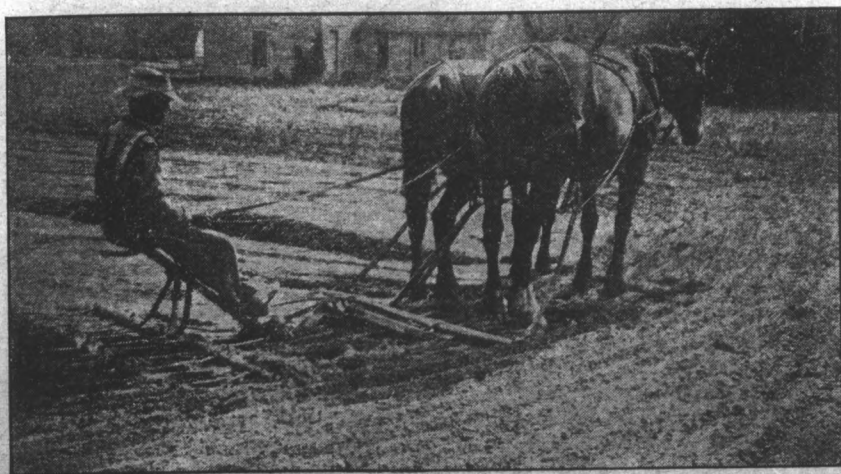
cross-disking, or the field will show streaks both ways. The best method is to drive so that the disk harrow will overlay one-half, allowing the outside disk to turn the small, narrow strip left in the center. This should be followed by a thorough harrowing, the more thorough the better seed-bed will be given about the same line of treatment, although it will usually require less working.

One of the essentials in securing a good yield of oats is early sowing. It is of the greatest importance. Two weeks' difference in the time of sowing often means success or failure. To this end, fall and winter plowing are of

strong germ is present, sending out strong rootlets with vigorous feeding zones the plant starts in life poorly. Quite as essential as the strong germ, is a large supply of starch which is converted into plant food for the small plantlets. This is why large, firm oats furnish a stronger growing plant than shrunk, immature seed.

Weight Best Method.

Weight per bushel is perhaps the best method to determine value in seed oats. The oats should be of good color, which indicates that they have been properly stored. If bleached out by rains or burning in the bins, it is more than likely that the germ or the



A Smooth and Compact Seed-bed Prepared Early in the Spring is a Mighty Factor in Overcoming Drouth and Insuring Good Stand of Clover and Grass.

Bean Prices, Pork Prices, Fixed Prices

Farmers Are Befuddled and Prices Muddled

THE first food to be shipped to Germany under the agreement made with the allies will consist of pork and beans. Natural, then, and not strange is it, that bean prices should follow pork prices. The Cleveland, Patricia and Cap Finstere, German steamships, which are to be handed over to the United States, have already left Germany for a British port. American crews will be placed aboard these ships when they arrive in the English port. Then the vessels will be sent to French ports to take American troops to the United States. They will then take pork and beans abroad. Germany has begun the movement of gold to Brussels, which is to be deposited as collateral for the food to be shipped from the United States. The fact that pork products have gone sky-rocketing since the government abandoned its control of prices is a pretty good indication of what is going to occur in bean prices, now that the good old law of supply and demand is going to be given an opportunity to assert itself.

Herbert Hoover Says:

Under date of March 20, Herbert Hoover, director general of foreign relief, is quoted as follows: "With ocean transport still restricted, food must be shipped overseas in the most concentrated form, but when more tonnage becomes available such foods as beans, canned vegetables, pork and fish, of which the United States has an abundance, will be sent abroad." Already the bean market is strengthening and in the face of the tremendous demand for food products from abroad there is no probability of a decline.

We Have Helped Some.

We take pardonable pride in the result of our eleventh-hour fight to obtain better prices for the percentage of beans in the growers' hands. Since we called the attention of our readers to the fact that "beans were acting queer" prices have advanced from \$5.00 to \$6.25 per cwt, for choice hand-picked stock at Michigan shipping points, and prospects are favorable for more substantial advances.

The fact that hundreds of our readers have written letters thanking us for our good work makes us feel that, after all, this is a pretty good old world to live in. We are glad we were in a position to serve you and we are glad to know that something has been accomplished without having an inside knowledge of gentlemen's agreements, playing politics, beating our tom-toms, stooping to Pharisaical headings or quoting Aesop's fables to cover up the spirit of our intentions.

"All is not well" with us when there is a spread of \$4.25 between the farmer and the government prices of beans. We have no beans to job. We have no interest in elevators. We have never played politics and secret diplomacy for the purpose of befuddling the great mass of clear-thinking, hard-working farmers or bringing business to our advertising pages. "Sour grapes" are sweet, indeed, compared with the disposition of those whose only impulse is to tear down, wreck, smash and denounce.

In an optimistic statement made the twentieth of March, Mr. G. A. Turner, president of the California Bean Growers' Association, says: "Our government is doing everything possible to speed up the movement of food. No further purchases of foreign beans will be made as long as the domestic product is available. Shipping is becoming more plentiful. Some of our allies have opened offices in the United States and are making direct purchases, using their own vessels to move the

goods. Freight rates have been reduced and exporters are in the field."

California Beans Advance.

The fact that the bean prices at California shipping points have advanced to \$6.25 per cwt. for small whites indicates that bean prices are following the trend of pork and other foodstuffs.

Already the Department of Commerce Industrial Board is becoming alarmed at the reports Mr. Hoover is sending from abroad regarding the demand and probable prices for food products believing that such prices will tend to prevent a satisfactory adjustment of prices in other lines of business. Conferences between the Department of Commerce Industrial Board and the Food Administration officials are being held and no doubt efforts will be made to hold food prices at as low a level as possible, but we fail to see how these results are going to be

are Commissioner of Immigration Caminetti and T. C. Powell, of the United States Railroad Administration, and the "Passive Accelerators" are four heads of large business and industrial concerns. On account of the delay in getting out certain cost production bulletins in the Department of Agriculture offices, agriculture is without an "Accelerator" on this "Industrial Equilibrium Board."

The "Old Fliver" Ditched.

The first staple these door-keepers of the house of American industry proposes to reduce is the price of food. This is going to be an easy matter because the great food producers of the country have no "Accelerator," either active nor passive, since Doctor W. J. Spillman got to running too fast for the mechanism of the "old fliver" to which he was attached. An "Accelerator" can't work without a machine

John Mitchell, the great labor leader, said: "The wage earner doesn't blame the farmer in the present crisis in food prices. He wants to see the farmer get a just and proper return on his investment and labor. Union labor really has a sympathetic interest not only in the farmer's labor problem, but in the problems involved in his getting a better living out of his business. Union labor understands the farmer better than anyone else, for the simple reason that so great a percentage of union men came from the farms and so many of them hope to return to the farms if conditions ever permit."

Get Busy Farm Bureaus.

Never in the history of American agriculture was there greater need of an efficient organization to meet the great problems confronting our country than today, and it is to be regretted that our new Federal Farm Bureau is not prepared to get into the game and present the farmer's side of the case before the other thoroughly organized interests. Has agriculture no place in the sun when it comes to solving the problem of demobilizing prices? Are we going to sit back and accept the recommendations of this and that Industrial Board simply because we have no organization to appoint representatives to sit in these readjustment councils? The public mind is fixed upon the idea of the cost of production plus a reasonable profit, and other interests are going to get it at the expense of agriculture, unless immediate plans are made to thwart their efforts. If the new Federal Farm Bureau is going to function and raise our agriculture from the level of a bargain and barter occupation now is the time for it to come to the aid of the farmers.

Mr. Bingham Writes.

It is only fair to the leaders of the Michigan Farm Bureau to inform our readers that Mr. Charles A. Bingham, their efficient secretary, has been making every effort within his power to obtain cost of production figures, on beans and other staple crops, from the Department of Agriculture at Washington. The only reply he has received from his letters to Mr. Houston is a circular letter addressed to Mr. E. E. Miller, editor of a southern agricultural publication, and signed by Clarence Ousley, assistant to the secretary of agriculture.

In this letter Mr. Bingham is informed that all of the reports and bulletins covering the cost of production figures are being held up. It seems that the secretary had an idea that perhaps there might be a slight technical error in some of Dr. Spillman's reports so he invited a number of great agricultural doctors to examine these reports and sure enough they found that the reports and bulletins do not cover the subject adequately, nor in the way it should have been presented. To prove his point Secretary Houston called in expert testimony and he now has a statement furnished by them telling the world that Dr. Spillman's reports should be suppressed.

Who is to Blame?

Whether Dr. Spillman or Dr. Houston is at fault, we do not know. We do know, however, that it seems mighty queer to the great mass of thinking and working farmers of the country that it should require so many years for the head of the great Department of Agriculture to discover that one of his leading workers is incompetent; and that his reports and bulletins, which for many years have been considered reliable, do not cover the subject adequately, nor in the way it

(Continued on page 526).

Good Prices for Berries

IN a recent interview with a member of the editorial staff of the Michigan Farmer a prominent canning factory owner of Western Michigan said: "Canners in Southwestern Michigan, namely, Berrien and Van Buren counties, are contracting berries at the best prices that they have ever been contracted for in this section of the country. They are contracting strawberries at \$1.50 to \$1.65 according to the quality of the berries, for sixteen-quart cases. Black raspberries a minimum of \$2.50 per crate and a daily market based on Benton Harbor prices. Blackberries and dewberries \$2.50 per sixteen-quart crate, and red raspberries at \$2.75 per twenty-four pint crates, all of these prices are net to the grower and cases furnished. These prices are being paid by five or six different canners and each canner has four or five men out getting all the acreage possible at these prices. All berry growers in Southwestern Michigan are certainly assured a good market for their fruit this year by the canners of this section."

This news should prove of interest in view of the fact that some of these canners are attempting to buy berries at much lower figures in other parts of the state. This canning factory owner informs us that the canned goods market will bear the above prices without any trouble and allow a reasonable profit to all canners.

brought about in peace times. Certainly bean prices cannot be reduced, for beans are the cheapest food in America today.

It would seem that any further effort on the part of organized interests to recommend the further control of the prices of food products should meet with small favor in government circles. The past experiences of the producers suffering through the manipulation of prices and bearing of the farmers of this country have proved patriotic in responding to production during war times, and they are in no mood to be made "hapless goats" and forced into producing cheap food to the end that wages can be cut down to an extent which will permit big business interests to make fabulous profits.

The Fair Price Machine.

To facilitate a meeting of minds, as between buyers and sellers of staple products such as steel, building materials, fabrics and food, on something like a fair basis and establish an equilibrium in prices, Secretary of Commerce Redfield has arranged to bring capital and labor (please note agriculture is not mentioned), together in a joint endeavor to fix a level of prices which the government can turn to the public and say, "these are fair prices."

The secretary calls this a process of accelerating industrial equilibrium. The "Chief Accelerator" of this new "Industrial Equilibrium Board" is a Mr. George N. Peek, a wealthy manufacturer, formerly on the War Industries Board; the "Active Accelerators"

and a machine cannot function properly without an "Accelerator." Hence the farmers of the country must sit back and see a board composed of six capitalists and one representative of labor fix the prices on what they have to sell. At the same time they have one perfectly good "old fliver" on their hands that cannot function without an "Accelerator."

It seems that Capital 6, Labor 1, Agriculture 0, is a fair representation of a democracy. At least, that is the reasoning of the Secretary of Commerce, and further acquiesced by Secretary of Agriculture Houston who seems rather uncertain of just which interests he represents in the great economic problems of the day.

The Shock Absorbers.

By fixing a low price on food products so as to reduce the present cost of living the "Industrial Equilibrium Board" will automatically reduce the prices of other commodities. This reduction in the cost of living will make it possible for wages to be reduced without any lowering of the standard of living. It is believed by the "Accelerators of the Equilibrium Board," (and has been proven by war-time experience that the great agricultural division is made up by experienced shock-troops), that the farmers can stand the first attack without faltering. In this great struggle to maintain prices that are just for all concerned labor is a better friend of the farmer than capital. In a recent interview

Utilizing the Cull Potato

ON March 18, 1919, the Falk Company, of Pittsburgh, Pa., began the manufacture of potato flour in their initial factory, which is located at Cadillac, Michigan. This company owns and operates large factories in and near Pittsburgh for the purpose of refining animal and vegetable oils, the manufacture of glycerine and many other similar products and by-products. The concern is a wealthy one and has not started in the business of manufacturing potato flour for the purpose of selling shares in the company.

During the war period they offered to loan the United States government the use of their patent process of making potato flour but the war ended before this generous offer could be realized. They have been encouraged by the government to go into this line of work in order that there may be built up in this country an industry which has heretofore been practically monopolized by Germany. The Falk Company have investigated very thoroughly the possibilities of the manufacture and sale of potato flour. They are confident that with sufficient cooperation on the part of the growers and selling agencies they can not only realize a profit in this line of business but at the same time be a great benefit to the potato industry of the country.

The location of the first plant by this company at Cadillac was due in a large measure to the untiring effort of W. P. Hartman, Agricultural and Industrial Agent of the G. R. & I. R. R. The William's Brothers' plant which has been used for the manufacture of shoe lasts was well suited for the purpose of storing potatoes and the manufacture of potato flour. The thirteen acres

A New Industry that Will Convert a Liability Into a Profitable Asset. By C. W. Waid



of ground and the buildings as shown in the accompanying illustration were purchased by the Falk Company. The present capacity of this plant is from eight hundred to nine hundred cars annually, and it can easily be doubled in a few weeks' time. This represents an investment of about \$50,000. The secretary and general manager, Mr. I. A. Simons, informed the writer that it is the intention of the company to extend these operations until there are at least ten such plants in the United States. One more plant will probably be built in Michigan during the coming season.

Space will permit of only a brief statement relative to the process of manufacturing potato flour in this factory. The machinery for this purpose is of such a nature and so arranged that the potatoes start in at one place and in the course of a half-hour or an hour at the most, come out at another place in the form of potato flour. No handling is necessary anywhere along the line. The machinery is arranged in the following order: Washer, peeler, cooker, flaker, flour mill and bolter. The peeling is done by friction and centrifugal motion. The flaker is much like a large printing press. The con-

nections between all of these machines is made by the use of elevators and blowers.

The product is darker than wheat flour but of about the same degree of fineness. It is used in various ways, but chiefly in combination with wheat flour in the making of bread. When so used it adds to the palatability as well as keeping quality of the bread. The Falk Company propose putting on a campaign of advertising this season which will no doubt do much to increase the use of potato flour in this country.

Few people realize what this new industry will mean to the potato growers. If it continues to develop as planned it will prove a very great factor in stabilizing prices and especially in preventing very low prices. They are paying sixty cents per hundred for small potatoes at this writing. They can use sound potatoes of any size and when the market is low they will no doubt purchase No. 1 potatoes and thus help keep the prices of all potatoes at a higher level than would be the case with no such outlet for the surplus.

Michigan ships annually about 10,000 cars of potatoes, some years more, some less, depending on the size of the crop. When it is realized that the Falk Company may be in position, another season, to utilize at least 2,500 cars of potatoes, some years more it can readily be seen that this company may be of great benefit to the potato industry of the state.

Visitors are welcome at the plant. Mr. M. J. Doherty is manager of the Cadillac plant and those who call should ask for him.

Potato Problems In Wisconsin

ON examination of several potato belts in America will show how the lines of work under development are the result of conditions peculiar to the territory. For example, in Wisconsin, as is also the case in several other states, the successful potato grower has, as a rule, an investment in the live stock business. By attention to dairying, for example, he secures each year a valuable supply of stable manure. On his farm will be found an allotment of land in rotation to clover, corn, grain, potatoes and root crops. This diversified farming has, of course, its effect on such matters as rotations, methods of fertilizing, annual acreage, etc. Successful potato growing under these conditions requires unusual attention to system and management.

Again, in Wisconsin as in Michigan, a large amount of new land is annually coming under development. Settlers are steadily coming into Wisconsin from the older settled states and from European countries. The potato likes the fertile well drained, new soils of the north; it grows to a very high de-

How Organized Effort is Improving the Potato Crop in a State Where Conditions are Identical with Ours.

gree of perfection on these soils.

Organized work should be successful in a big industry like potato growing. The grower, dealer, shipper, manufacturer and consumer have many problems in common in addition to their own special interests. The adoption of correct cultural practices, the maintenance of soil fertility, the elimination of waste in shipping, the guarantee of quality, all these factors have a common interest.

In Wisconsin we have found the organization of a strong community interest and spirit has been essential to the development of organized state potato work. The farmer and potato grower have joined in state work largely through interest as aroused in local problems.

Many counties, for example, have become aroused to the possibilities of raising one or a limited number of standard varieties. Possibly either the Rural New Yorker or Green Moun-

tain proves to be especially adaptable. It may be apparent to them that as the industry develops it will be important to maintain these varieties pure. The county agent may have been able to point out that the fields are mixed and also the importance of remedying the situation.

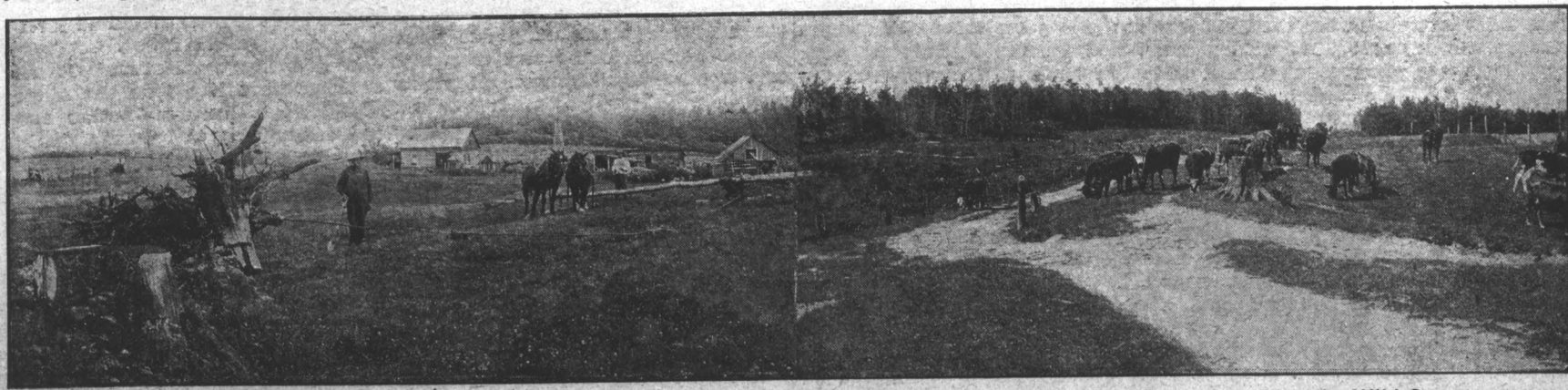
In many ways, community organizations are fostered, and after this community spirit is aroused a very fertile field is opened for such specialized work as seed inspection and the development of active workers in State Association work.

Branch stations and demonstration farms have been located in several sections of Wisconsin. Most of the potato work is located at Spooner, where favorable soil and storage conditions are available. On this station only standard varieties are grown on a field scale. Through field selection and careful cultural practice, progress has been made in growing annually a limited

amount of good seed of the Rural New Yorker, Green Mountain, Triumph, Early Ohio, and Irish Cobbler varieties. This stock has been disseminated to growers and has been awarded to boys and girls for use in club work. Fertilizer trials, hill selection work, spraying experiments and demonstrations are organized at this station. The Horticultural Department of the Experiment Station has charge of this work.

Careful attention has been given to the adoption of standards consistent with growing conditions and the behavior of the crop under actual field conditions. A record is furnished on variety, purity, disease, stands, cultural conditions, yields. The fact that about one hundred and twenty-five growers receive certificates from a list of one hundred and seventy-five applicants, indicates about the average number of rejections and withdrawals under the present plan during the last four years. Rejections have been due largely to blackleg, rhizoctonia, faulty vine growth, common scab; variety

(Continued on next page).



New Settlers on Cut-over Land Find Potato Growing Profitable, Because it Yields Cash Returns and Aids in Subduing the Wild Grasses.

mixtures, faulty sorting, coarse stock and faulty cultural methods. This policy has provided a close spirit of cooperation in improving the crop.

Under the seed certification plan now in operation in Wisconsin, the Experiment Station simply furnishes the above record to the individual grower or organization. A sales organization has been formed to handle the sales side of the business. This organization is incorporated and is entirely distinct from the State Association or any department of the Experiment Station.

It will grow and develop rapidly as the seed potato business becomes better organized. Variety standardization and community organization are important features of association work.

The Wisconsin Potato Growers' Association receives an annual appropriation from the legislature for the legislature recognizes the problems of development and standardization. In this respect the same treatment has been given to the live stock organizations, cheese makers, the Horticultural Society, Wisconsin Experiment Association

and other state agricultural and cooperative organizations publicity bureaus. This is proving of great benefit to all concerned.

The State Association was organized to promote the interests of every branch of the industry. Growers, dealers, transportation interests, manufacturers, state and government workers all are represented in its membership.

The association has operated exhibit cars through potato growing territory and in surrounding states. Through bulletins, circulars and posters the as-

sociation circulates descriptive charts, premium lists, variety descriptions and similar matter.

Above all, the association believes that the entire industry should get together once a year in what is now known as the Wisconsin Potato Exposition. This has developed from what has been known heretofore as the Wisconsin Potato Show and Annual Convention. The exposition now is permanently located at Milwaukee and the week preceding Thanksgiving is known as "Potato Week in Wisconsin."

News of the Agricultural World

ASKS \$500,000 FOR CONTROL OF CORN BORER, SPREADING.

SECRETARY HOUSTON has asked that an appropriation of \$500,000 be made immediately available for work in connection with the control of the European corn borer. The request is contained in a letter addressed to Senator Gore, chairman of the Senate Committee on Agriculture and Forestry.

Until recently the insect was not known to be present except in some sections of Massachusetts, but the secretary says that within ten days prior to the writing of the letter it has been found near Schenectady, New York, over an area comprising perhaps sixty square miles, and in a restricted region in Connecticut. It is entirely possible, he thinks, that it occurs in other restricted areas not yet ascertained.

The department has been forced to the conclusion, says the secretary, that the insect is so firmly established as to make extermination impossible, and that it is a question whether it will be feasible to develop any satisfactory method of control. But, he adds, the danger of the spread of the insect from infested points in regions of intensive corn culture is so great, and the damage it would probably do so serious that he believes congress would be justified in making available the appropriation asked for use in carrying out any control measures that it may be possible to devise. It is impossible to say whether the full amount of the appropriation asked will be required.

BINDER TWINE PRICE LOWER.

FARMERS will be able to buy their binder twine this year at a price slightly less than last year. There is no prospect of a shortage such as was threatened in 1918. Sufficient sisal fibre already has been imported to meet the demands during the present year, even though a huge wheat crop is in sight.

The price of 21½ cents is two cents less than last year, when a price of 23½ cents prevailed.

While the price of binder twine will be about three times as much as four years ago the farmers probably will not do much complaining, while the \$2.26 wheat guarantee prevails. A Department of Agriculture expert estimated roughly that it would cost a farmer about twenty-eight cents per acre additional for twine to bind his wheat over what it did four years ago, but that his revenue under the \$2.26 guarantee will be about \$19.50 an acre more than it was when wheat did not go higher than \$1.00 a bushel.

In 1915 sisal fiber cost the twine manufacturers 4½ cents a pound, and the twine sold at wholesale from 7¼ to 7½ cents. The prices in 1918 were, respectively, 7½ cents and 9½ cents. In 1917 they jumped to 14½ cents for the fiber and from 15½ to 18½ cents for the twine. Last year, in January, the fiber cost 19½ cents and the twine 23½ cents.

The latest quotations for fiber were from 15½ to 16½ cents. This price is not likely to vary much during the com-

ing season, although there may be slight reductions.

Recently there was a surplus of sisal fiber in Yucatan, where most of it is produced. This situation was relieved to a considerable extent by the shipment of 45,000 bales to Spain.

SOLVES FRUIT MARKET PROBLEM.

SEVEN central fruit-packing houses have been formed, incorporated, and are now working in Niagara county, New York, as a result of intensive work done by the Niagara county farm bureau cooperating with the New York State College of Agriculture and the United States Department of Agriculture. These seven associations this year will pack approximately 120,000 barrels of apples, 50,000 bushels of peaches, 12,000 bushels of pears, and will sell cooperatively one hundred and thirty-five tons of grapes. At present prices the business will amount to about \$300,000, but as most of the apples are going into storage to be held for higher prices the amount involved may reach the \$1,000,000 mark.

The initial investment in packing houses and equipment, such as scales and graders, amounts to \$25,700 and has been raised among 174 producers. All apples and peaches are being packed to a common standard, the rules and regulations for which have been made by the county association, and all will be marketed under a common brand. This brand is owned by the county association, so that it may be withheld from any local association that does not meet the requirements.

ANNUAL REPORT OF THE ADRIAN COMMUNITY MARKET.

THE Adrian Community Market in its first year not only did a business amounting to \$100,000, but has a surplus fund of \$539.64 on hand which will be distributed among the stockholders in the form of a dividend.

As a result of the annual meeting of the stockholders, a recommendation was made that the capital stock of the market be increased and that a new market building with modern equipment be constructed. A meeting of the stockholders was held March 28, at which time the proposition of increasing the capital stock from \$10,000 to \$15,000 was submitted.

W. G. Braden, manager of the Market, read the report of the year's work at the meeting of the stockholders. Besides giving the information above mentioned, he also outlined the work which he hopes to accomplish in the future. After the report was read those present gave the directors and manager a rising vote of thanks.

The increase in capital stock will be used for the purchase of a permanent site and the erection of a new modern building, in addition to increasing the working capital of the market.

The election of officers resulted as follows: President, Paul J. Miller; vice-president, A. E. Hlenden; secretary, Franklin Russell; treasurer, Fred Westgate. The board of directors ap-

pointed was as follows: J. L. Richard, L. A. White, F. C. Ehinger, L. H. Remus and Edward Ballenberger.

Financial Statement.

Liabilities.	
Capital stock	\$7,097.50
Bills payable	42.97
Profit	539.64
	\$7,680.11
Assets.	
Cash on hand	\$ 599.29
Cash in bank	593.56
Merchandise stock	2,155.69
Office supplies and plant fixtures	3,719.65
Accounts receivable	651.92
	\$7,680.11

TURNING LOSS TO PROFIT.

WALL Street has many men who have kept their heads in the face of disaster and come out with a profit. Admiring them, it may have time to admire a similar feat by a farm bureau in Montana.

Last summer a hail storm beat down forty-eight thousand acres of magnificent wheat just ready for harvesting. With their all staked on the wheat, the farmers were discouraged and dejected, for it meant a year's work lost to them. But the members of the farm bureau decided the wheat could be saved. They telegraphed orders for large numbers of hogs to come and harvest the wheat, and raised the money to pay for them. The new-idea harvesters arrived by carloads and were set to work. Never did farmers and farmers' wives have such an easy summer, for these harvesters worked willingly and boarded themselves. The wheat was harvested and, packed in pigskins, was shipped to market, and what promised to be a total loss became a handsome profit.

Moral: Don't give up even when the elements are against you.

MAINTAIN THE BARLEY ACREAGE.

THE coming season is likely to be a critical one in barley culture in the northern states. Barley has not been grown nearly so widely as the yield per acre in pounds of feed would justify, and it is feared that the loss of the milling and brewing market may reduce the acreage still more. From the standpoint of farm economy, the barley acreage in the northern states should not be reduced below the need for farm feed. Barley is a good feed grain for all classes of live stock. In the northern states it yields more pounds of feed to the acre than any of the other small grains. It yields best on well-drained soils. It does not respond well on lands that are wet or lands that are sandy. On favorable soils in the northern states the farmer would do well to maintain his barley acreage, especially if he has live stock to which he may feed it. It will give a generous return in feed and at the same time fit into almost any rotation. It also lends itself readily to the management of the farm, as in many locations it can be seeded later than spring wheat and thus use farm labor to good advantage.

BEAN PRICES, PORK PRICES, FIXED PRICES.

(Continued from page 524).

should be presented. It seems more queer that all of this should have been discovered at a time when farmers want these figures. But then, we have the expert testimony of a number of doctors of agriculture that such is the case, so what can the farmers do?

Doctors Split Hairs.

"Nero fiddling while Rome burned" presented about as interesting a spectacle as these learned doctors and brilliant economists who are busy splitting hairs over technicalities in Dr. Spillman's reports while the millions of farmers in the country are facing the most discouraging prospect. Without cost of production figures of some kind the hands of the farmers are tied; they cannot claim representation in the great council of organized industries that is to decide upon the prices their products must be sold for.

The farmers are denied any cost of production figures because a few high oracles in Washington, whose intellects are cut on the bias, have not woken up to the fact that their days of hoodwinking the great mass of clear-thinking, hard-working farmers are past. In this present crisis of agricultural affairs the farmers are getting into a mood where they are going to rise up in one great organization and demand those cost figures, and judge for themselves whether or not Dr. Spillman has covered the subject adequately, or presented it as it should have been presented.

A Board of Censors.

If the suppressed reports and bulletins of Dr. Spillman's are unfit literature for the average farmer why not relieve the minds of these obfuscated doctors of agriculture by having our State Farm Bureaus get together and appoint a "Board of Censors," sort of along the lines of the great "Industrial Equilibrium Board" and have our various "Accelerators of Agriculture" demand those figures and bulletins. Then, if they are fit for the farmer to read have them printed and passed out.

So far as the danger of having them fall into the hands of innocent children is concerned there is little danger so long as the supply of Diamond Dick's, Rattlesnake Pete's and Nick Carter's stories are within reach. I never did see a normal child pick up a Department of Agriculture report or bulletin in preference to such stories; they do not cover the subject adequately, nor in the way it should be covered.

Adopts a Pet.

In adopting the National Chamber of Agriculture idea from the farmers of Michigan, Iowa and other states and endeavoring to frustrate the honest efforts of the farmers of the country in having a powerful National Farm Organization that could represent them in national councils, the great Department of Agriculture is in somewhat the same predicament as the "old woman" who adopted a baby lion. It proved an interesting pet until one day she was within the lion. In the meantime the farmers of Michigan want the cost of production figures. Get them, Mr. Bingham.



Should Local Organizations Affiliate with Farm Bureaus?

The question of whether our Farmers' Club shall join the State Club, and the State Farm Bureau, that was organized at East Lansing a short time ago during Farmers' Week, will come up for discussion. Will you be good enough to tell me your opinion of the latter? Is it the same as the National Board of Agriculture that you have been advocating for some time, or is the college at East Lansing and the Department of Agriculture at Washington seeking to pull wool over our eyes? After reading Dr. Spillman's disclosure the conservative farmers wish to be reasonably sure before joining either.

Newaygo Co.

W. J. S.

IN my opinion, what the farmers of the state need today more than anything else is business organization. Agriculture is handicapped because farmers are not organized for business. We see this in national affairs more than anything else. In this reconstruction period the farmers of America have no central business organization to take their part in the reconstruction of the business of the country. It is said that a group of wealthy men, largely interested in manufacturing, are willing to combine their wealth and their influence to beat down the price of agricultural products largely to satisfy their employees, to give them cheaper food. If they can reduce the price of food products it will save them from maintaining or increasing the price of wages because the laboring man must have a sufficient wage to make a decent living and of course, the lower the cost of food the lower can be the wage of the laboring man. But a movement of this sort is not justice to the farmer. The farmer ought to have the cost of production plus a decent profit and then the wage of the laboring man ought to be adjusted to correspond. It isn't fair to the farmer to fix the laboring man's wage at a certain amount and then ask the farmer to produce food cheap enough so that the laboring man can make a living. The farmer is the foundation of all and he should be the one to be first considered. It is only reasonable that he ask the cost of production and a profit and let the other industries base the wage scale on this basis.

Now if we had a great national farmers' business organization that was entirely free from politics or anything else, simply a real farmers' business organization that could make itself felt in national affairs, a thing of this sort could be adjusted fair to the farmer, but with no organization of this sort the farmer is liable to be made the "goat." In the end, of course, this would not work to the advantage of the laboring class. If the farmer is compelled to produce food below cost of production then he is going out of business eventually or he is going to lessen production at least and with a lessened production there will be greater demand and an increase in price and the result will be the reverse of that sought to be accomplished.

Therefore I believe every local farmers' club ought to join the State Association of Farmers' Clubs. We want to get a state and national organization. But the farm bureau is an organization of a little bit different type, a different character. This organization as you probably know, is composed of farmers of each county organized under the supervision of the county agricultural agent. The county agent works with them in all of their plans and recently the various county bureaus met

at Lansing as you say, and organized a state farm bureau. This is purely a business organization. It seems to me that it has the right foundation to do the work that I have outlined above. It comes from the right source to have the proper influence on national agricultural and industrial questions and if this organization can be extended from the state to a national organization, including all of the states of the United States and the same basis of representation is maintained then we will have a farmers' business organization that will be a power in maintaining a just influence in the industries of the nation. That is what agriculture needs today. I believe this organization is built with honest intentions. I have great confidence in the man they elected as state president of the Farmers' Clubs, Hon. Robert Morrell, of Benton Harbor. I believe he can be relied upon. If a man like that could be elected president of a national farmers' bureau and be properly backed by the state and county organization, the farmers would have a just hearing and the place of agriculture in the readjustment would be carefully considered and justice would be done to all concerned.

The very foundation for the farmer's getting cost of production and a profit is in properly estimating the cost. Two or three semi-social organizations representing different farmers' interests cannot get together and determine the price of agricultural products. In the first place, it is impossible to do that; and in the second place the people will not believe that they have the proper data at hand to determine the approximate, actual cost. But such an organization as the state farm bureau would have the necessary data to determine the cost of production and when determined in this way this would be above suspicion. You would have facts then which could be placed before the great court of public opinion and be confident that they were substantially correct.

To my mind, all that is necessary for the farmer to get a square deal is to put his case honestly and squarely before the great mass of consumers of this country. I don't believe a majority of them want him to produce crops below cost. They want him to have a square deal, to get the cost of production and a small profit. In determining this cost the farmers must be fair and square; they must not take undue advantage of crop failures and that sort of thing, and if you have an organization composed entirely of farmers, men who get their living from farming, and will put the proposition of this sort fairly and squarely before the people it will have the right kind of influence and people will stand by the farmer for justice and right.

This new organization is practically the same as the one proposed by State Market Commissioner James N. McBride. His idea was to have a national chamber of agriculture but "what's in a name?" It means the same thing. The national farm bureau would amount to exactly the same thing as the national chamber of agriculture. The idea of Mr. McBride was to have an organization based on the foundation of the farm bureaus which is identical with this organization. I really think this new organization is a little stronger because it has the sanction of government officials.

C. C. L.

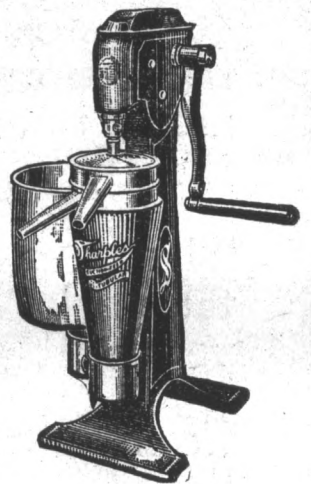


Which Separator did John Brown Buy?

Suppose you were Farmer John Brown and you wanted to buy a separator. You asked several separator manufacturers to send you a *ten-word* telegram, stating in the most convincing way, why their separator was the one you should buy. Sharples would only need *five* words: "Skims clean at any speed," and you would not have to ask for anything further.

SHARPLES SUCTION-FEED CREAM SEPARATOR

No other separator manufacturer could put into five words or *fifty* words, as convincing an argument as "Skims clean at any speed." They would tell you about the durability of their separator, that it was well-known, that it cost less and everything else *but* the *one* big reason why you need a separator—to get *all* the butterfat out of your milk. Sharples *also* has the exclusive advantage of no discs in the bowl; knee-low tank; once a month oiling system; durable construction and, besides, it is the pioneer American Separator. Write for catalog to nearest office, addressing Dept. 18.



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(Indiana)

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The ownership is spread over 4623 stockholders—2084 of them women—not one owning as much as ten percent of the total.

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Contrary to popular opinion, the Standard Oil Company of Indiana is not a close corporation, owned and controlled by one or two rich men.

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Our Service Department

SHEEP KILLED BY DOGS.

I had a sheep killed by dogs, and the justice gave the town clerk a certificate of loss at \$30, which the town board cut to \$25. The supervisor said he could do nothing and advised me to hand it in to the town meeting. Should I go to law? W. F.

The owner of the dog that did the damage is liable for double the loss by the statute, and should be proceeded against before making claim against the town if he is known. The town board has authority to cut the award made by the justice, but cannot increase it, and the only liability of the town is the dog-tax fund, which is payable to the persons suffering loss in any year in proportion till all are paid in full before any losses for any succeeding year can be paid.

JOHN R. ROOD.

FORFEITURE OF LAND CONTRACT.

If a man buys a place on contract and pays the interest and installment for 1917 in 1918 (within a year after it is due) can the seller force him from the place if he cannot pay for 1918? L. C.

If the buyer of land on contract does not make the payments at the time agreed, the seller may at once commence proceedings before a circuit court commissioner of the county, by summons returnable not less than three days after its date and served at least to days before the time for appearance. On the return day the commissioner may adjourn the case or try it and give judgment. If judgment is given for the plaintiff and not appealed from within thirty days a writ of restitution may be issued by the commissioner to put the plaintiff into possession. But no such writ can issue if the defendant within that time pays the amount found due under the contract. The circuit may for cause extend the time to appeal.

JOHN R. ROOD.

LIABILITY FOR PAPER AFTER SUBSCRIPTION EXPIRES.

A man subscribed for a paper and when the subscription expired the publisher kept on sending it; the man died and I was appointed administrator and notified the publisher of the death and to stop the paper, but he just changed the name and kept sending it to the man's widow. Now she is dead, and I am her administrator, and the paper is still coming. Can the publisher keep on sending the paper and collect if it is taken from the mail box? H. D.

There is one decision by the supreme court of New Hampshire about fifty years ago that a subscriber who continues to take the paper from the post office year after year without notifying the publisher to stop it, is liable for the subscription to the time that he orders it stopped or refuses to take it from the post office. But some search has failed to find anywhere an intimation that the subscriber is liable for a subscription after such notice or refusal, and most clearly one who never was a subscriber is not liable for taking the paper sent him with no notice of how or why it is sent. Must I pay my neighbor for giving me a bath because he has thrown me into the lake without my request? No one can be compelled to reply to an offer at the risk of being held to an implied contract if he does not reply. In an old case a man having possession of a horse wrote the owner saying, "unless I hear from you I will understand he is mine at that price;" the owner made no reply, and the court held there was

no contract. This ruling has been followed in numerous kindred cases.

There is another angle to the case; the postal regulations are violated by the sending of a paper to a subscriber for more than a year after his subscription has expired without a definite promise by him to pay for the paper for a definite future time, unless stamps are attached at regular pound rates. It would seem that it is the publisher, not the administrator, who is in danger in this case.

JOHN R. ROOD.

IMPROVING A STAND OF WHEAT.

Last fall I treated my wheat for smut. The following day, Tuesday, I sowed about three acres. A big arin then came on and I was unable to sow the rest of the field until Saturday. The first three acres looks fine. The remaining eight acres is about a half a stand—perhaps a little better. I suppose this condition is caused by the wheat standing several days after treating for smut before I sowed. I have treated my seed for several years but this is my first failure. Next time I will know better than to sow treated wheat after it has stood several days. Experience is a good teacher but often a dear one. Some have told me to disk the field lightly and sow in about one bushel of spring wheat to the acre. Others say to sow in barley and use the mixture of feed. Still others say to sow oats and screen the wheat out. Now this is splendid clay land worth \$135 per acre. It has good natural drainage and I can work it as soon as any field on the place. It raised sixty bushels of oats per acre last year. I can't afford to leave the field as it is and run chances of a half crop. It is the good crop which brings the profit. Genesee Co. E. P. C.

It will be a difficult proposition to improve this seeding of wheat. If you attempt to reseed with spring wheat the chances are that the winter wheat and the spring wheat will not ripen together and there will be considerable loss in harvesting. The same thing is true in seeding oats. When the oats ought to be cut the wheat won't be ready to cut and if you cut in time to save one crop you will sacrifice greatly on the other, besides, too much discing will very much injure the present stand.

If, as you say, you have half a stand I am inclined to think there is more profit in it for you to let it alone and harvest this half a stand. Many times where the wheat is thin it develops wonderful heads and gets a much better yield in proportion to the stand than one would get from a thick stand. Of course, if this land is foul and there should be lots of grass and weeds grow up with a thin stand of wheat this would interfere with the development of the wheat. If you leave the field as it is and harvest it you are under no expense of either money or labor. If you attempt to patch it up with spring wheat, oats or barley, I am satisfied you will be disappointed. If it is half a stand it is too good to plow up, taking into consideration the extra cost and necessary risk for another crop.

Had you intended to seed this to clover then I would say without any hesitation, leave the wheat because you would without question have a better stand of clover with a thin seeding of wheat than you would with a heavy seeding, but if you do not intend to seed to clover this would not count. If you have plenty of labor and plenty of time to plow this up and put it into another crop you might make more money, but I doubt it. C. C. L.

The optimist sees a better world through all the smoke; the pessimist only notes the destruction of flames.

Locust Due this Year

By Don B. Whelan

THE seventeen-year locust, or Periodical Cicada as it is more correctly called, is due in Michigan this year. Its last appearance in this state was in 1902. This coming spring, after an absence of seventeen years, it will appear again in the same localities that they visited when they were here before. Late in May or about the first of June people living nearby will hear the shrill monotonous song of these insects. The gift of song is found in the male insects only, and the true sound apparatus consists of two ear-like or shell-like inflated drums situated on either side of the body behind the wings. These drums are vibrated by powerful muscles, producing the

where it will change into a "pupa." These pupae oftentimes construct little "chimneys" of earth that stand from two to three inches above the surface of the ground. When it comes time to emerge one would not think, if they could see them, that they had been inactive for such a long time, for they move with alacrity. Coming out of the ground through holes about the size of the end of the little finger, they immediately try to ascend the most convenient object, whether it be trees, bushes, weeds, poles, stumps, fences, in fact anything upon which they can get above the level of their recent homes. Soon after when they have found a suitable position they fasten their toes into whatever they are resting on. Then the skin along the middle of their head and neck splits and



Shaded Portions of Map Show where Cicadas Are Due this Month.

sound which, when once heard, is never likely to be forgotten.

The cicada is probably the most interesting of all insects found in Michigan, or perhaps in the entire United States. The strange feature of its life history is the fact that after hatching from the egg it goes into the ground where it stays for seventeen long years. During this time there is no visible sign to tell us where they are or what they are doing, but in just seventeen years they will come out again nearly full grown. Otherwise they do not differ much from the creature that went into the ground years before. The interesting part of it is that all of the several millions of these insects spending this length of time in the ground, come out at the same time or within a couple of weeks of one another. The appearance of this insect has been at such regular intervals that we know just about when and where to look for it. It has been recorded in this country for over two hundred and fifty years. As early as 1666 a paper printed the following account of a "locust year": "There was such a swarm of a certain sort of insects in that English colony, that for the space of two hundred miles they poisoned and destroyed all the trees of the country; there being found innumerable little holes in the ground, out of which these insects broke forth in the form of maggots, which turned into flies that had a kind of tail or sting, which they stuck into the tree and thereby envenomed and killed it."

Life History.

Next spring the full-grown nymph, after its long subterranean life, will come up to the surface of the ground

out of this aperture a creamy white creature comes forth. Within a short time the wing-pads spread out and finally form the large membranous wings of the adult cicada.

Damage Done by Cicadas.

The adult cicadas do little if any feeding and so there is slight chance for damage in this manner. The greatest damage done by them is when they lay their eggs. They choose the smallest branches for this purpose most generally the previous year's growth, and thrust their ovipositor, or egg-laying organ, into slits cut into the twigs. The damage done when these eggs are laid in oak or hickory trees is not so severe as when they are laid in peach, pear, or apple trees. Even grape vines are often injured quite badly. These punctures in the branches weaken them so that a strong wind often causes them to break. The leaves on injured limbs often turn brown while the fruit remains small and do not mature. These open slits often afford a fine feeding place for the woolly aphis or among the plant diseases canker or fire blight may enter.

Where they will Appear.

The cicadas that will appear next spring in Michigan is known to scientists as Brood X. Another brood will appear in Michigan in 1922 which is known as Brood XIII. This will appear along the southern border of the state. Brood X is one of the largest in the country. Leaving out the numerous scattering colonies this brood may be said to occupy three important regions: (1) an eastern region, covering Long Island, New Jersey, southeastern Pennsylvania; northern West Virginia

(Continued on page 559).



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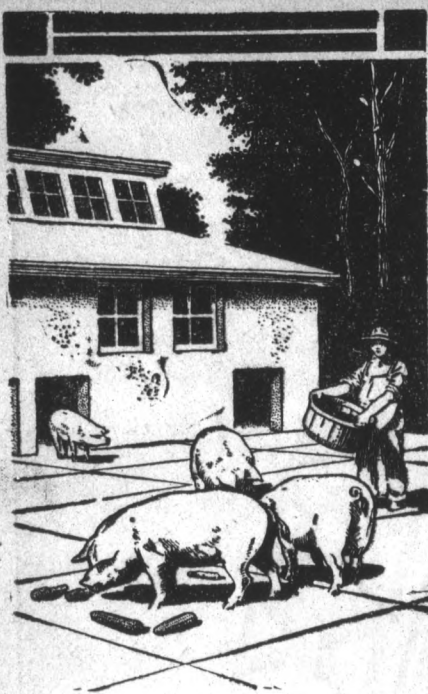
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Shall Land Owners Pay all Taxes?

IN an issue of the Michigan Farmer under date of February 8, 1919, appeared an article on the subject by "Earl W. Gage, Secretary-Treasurer of a National Farm Loan Association, telling how the single or site tax would benefit the farmer." If you did not read this article, please look up the Michigan Farmer of that date and read it; wish you would read it again if you have read it, as I want to take up and discuss some of the statements and illustrations used by him in his article.

First, let us ask ourselves, "What are taxes, or the taxes which we are discussing?" Webster says, "a charge, especially a pecuniary burden imposed by authority; a forced contribution of wealth to meet the public needs of a government, or a community." Very well, do the needs or wants of different communities differ one from the other? We all answer, undoubtedly they do, and we all concede that the wants or needs of the same community will vary one year with another, won't we? Will we admit that the actual wealth or value of communities will differ very greatly owing to various conditions not necessary to specify here? I think we can, in fairness to all. Then we can readily see how the amount of taxes necessary to be raised to meet the requirements in different communities would vary very greatly, and it would be unfair to say that because the average tax on a farm of a certain size, in a certain locality, in a certain year was \$23.50, that all farms of that size wherever located should pay a tax of \$23.50, no more, no less. Mr. Gage referred us to the fact that the tax on one hundred and sixty acres of land in Saskatchewan was \$23.50. To me this means nothing, without other very essential facts. In looking over my receipts, I find that in rural districts, the entire yearly tax budget is made up of the wants or needs of several different departments or divisions of "social service," so-called, by Mr. Gage, but appearing on your tax receipt as "State, County, Town, Road Repair, School & 1 Mill High. Imp. County Road, Weed, Bridge and Ditch tax." For my own information, I went over five of my tax receipts for 1918 and determined the rate of taxation that was assessed against the different properties for the different purposes, and in their several locations. I will submit the result for you. You will notice that I simply put in the rate or per cent used in the different divisions, not the amounts, as the valuations differ in each case. You will realize that a very small difference in the rate or per cent used, will make a very material difference in the amount of taxes assessed, especially where valuations were at all high; and as the valuations here used are the valuations placed by a committee or a commission appointed by the state, during 1918, for the express purpose of placing on record, an actual cash valuation of all real estate in the county where my farms are located, and a similar commission appointed by the same state and for the same purpose placed the valuations on the real estate in the city of Detroit, I think we can in fairness to all, accept them as fair valuations all around. Here are the tax rates:

*George H. Carpenter,
Rural and City Tax-
payer says "No."*

other, each paying for their land the price that Mr. Gage says is a fair land valuation for the average farm—\$5.00 per acre, or \$500 for the one-hundred-acre farm. Mr. Brown improves his farm, fences it, erects good buildings, keeps it in a good state of cultivation, and it is now worth an assessed valuation of \$10,000, as Mr. Gage says it is.

The following shows the total tax and valuations in the different localities, with total rates corresponding:

County.	Township.	Valuation.	Total Tax.	Total Rate.
Mecosta	Sheridan	\$ 7,250	\$171.36	.0236
Mecosta	Fork	1,800	40.10	.0223
Mecosta	Wheatland	11,300	177.28	.0157
Mecosta	Chippewa	1,100	21.77	.02
Wayne	Detroit	9,140	194.20	.0212

Remember that the amount shown above as taxes paid in Detroit, does not include the amounts paid for the privilege of sewers, paying, sidewalks, etc., as the expense of these are all obtained from the property owners of abutting property in what is known as "special taxes;" then for the privilege of water, electric light, gas, etc., we pay every month for the amount used. I have inflicted you with the above figures and statements for the purpose of impressing upon your mind the fact that the question of high or low taxation, does not depend upon the system of taxation, but does depend upon the amount of taxes to be raised and upon the amount or valuation of the property from which the tax must be raised; and this would be true, regardless of the system, and will always vary more or less, in every community, and always, one community with another. Under our present system, we endeavor to tax all wealth, of whatever nature, wherever found, (with a few exceptions, such as churches, charitable institutions, etc), and to make all stand their proper share of the tax for public improvement; if we do not succeed in doing this, it is the fault of the officials whose duty it is to so assess or spread the tax to be raised, and not the fault of the tax system. And we have no assurance that if we changed the system, we would change the officials.

In the second paragraph of Mr. Gage's letter he says: "Most farm land has little value compared with municipal, village, or town property." He should have said "municipal, village, or town land," as he does not propose to tax property other than land.

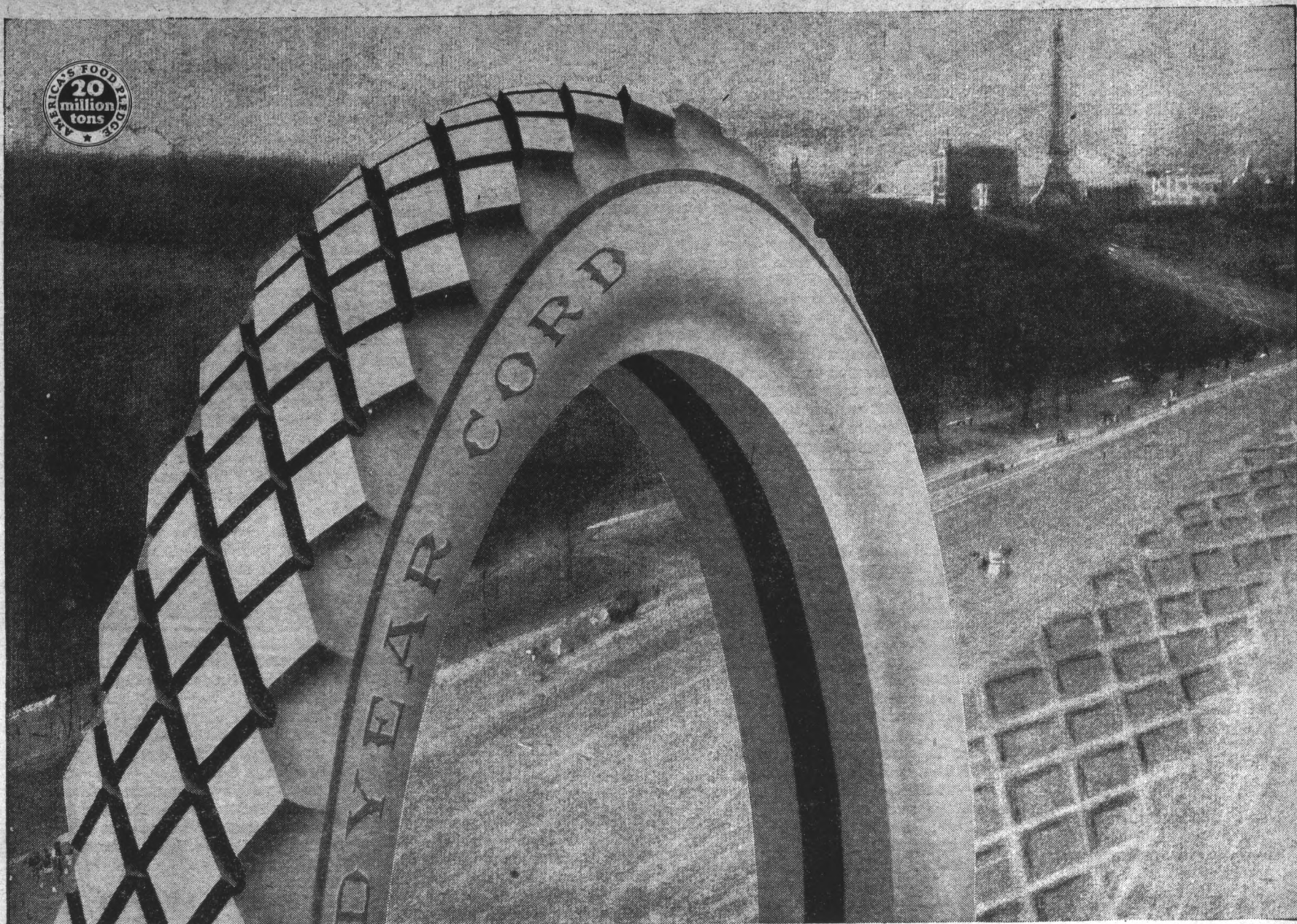
Let me quote Mr. Gage: "In the City of Detroit, you may find single building lots, the price of which is two or three times as great as for the largest farm in the state * * * this is because very little of the farm values of the state are land values; they are labor values. An ordinary farm worth \$10,000 has about \$500 worth of land value. Deduct the labor values represented by the house, barn, outbuildings, fences, drains, orchards, crops and conditions of culture, not more than \$500 would remain that could be said to be real land values." Let us see what this term "land value" means. As he uses it, it means this: To illustrate: Mr. Brown and Mr. Smith, ten years ago, each bought one hundred acres of land, the farms joining each

Why is it worth \$10,000? Because Mr. Gage says there has been added to it, \$9,500 worth of labor or man value and the farm is now worth \$10,000 as a business proposition; that is, a man can afford to pay \$10,000 for this farm and can make money on it with that amount invested in it, but that the land value has not increased and it should still be assessed for \$500 for tax purposes. Mr. Brown was able to go ahead and make his improvements because of good health, plenty of help and some money inherited. Unfortunately Mr. Smith had but very little money, could not pay cash for his farm, rather poor health, and conditions have been such that he has made very few improvements on his one hundred acres, buildings are small and poor, no fences, etc. But his farm should be assessed, under Mr. Gage's plan, as high as Mr. Brown's well-improved farm. All right, so far. Now let us go with Mr. Gage into the city. Ten years ago Mr. Adams and Mr. Jones each bought a lot, paying for each \$250 (I do not think the land value of either was \$250 but we will grant that it was). The lots were unimproved, rough, low in places. Mr. Adams filled his lot with dirt, put in the sewer, built sidewalk, paying for the same himself, and erected a fine apartment house on same, which brings him a monthly rental of \$300; the property is now worth \$30,000, because he had added \$29,750 of labor or man values. Mr. Jones has done nothing to his lot. Should they both be assessed at \$250 each, or should both be raised the same amount for taxation? Have the land values increased in the city. They did not increase in the country for Mr. Brown. The apartment house is worth \$30,000 as a business proposition, the same as Mr. Brown's farm is worth \$10,000 for a business proposition. Why should you increase land values in one locality and not in another? Mr. Gage did not tell us. But if he does raise land values increased in the city? They country, does he not discriminate against one locality in favor of another? And as farmers, I do not think we ask favors, but we do want a square deal all around.

We again quote Mr. Gage: "Taxation is payment for social service. A citizen should pay for what he gets from society. It is clear that the value of that service is not what a man does for himself. If a farmer builds a new barn, is that a service rendered by so-

(Continued on page 556).

County.	Town.	State.	Co. Tax.	Town. Tax.	Rd. rp. t.	Schl. ml. t.	Hgh. imp. t.	Co. rd. t.	Bdg. Tax.	Ditch Tax.
Mecosta	Sheridan	.00196	.00271	.00222	.0018	.00395	.0056	.00186
Mecosta	Fork	.00196	.00271	.00091	.0051	.003	.0037	.0018	.0028
Mecosta	Wheatland	.00196	.00271	.00078	.00063	.00356	.00252	.00188	.0008	.00092
Mecosta	Chippewa	.00196	.00271	.00177	.00177	.00246	.00208	.00188	.00035
Wayne	City of Detroit	.0017	.00165	1.00485625	2192 (Police Department).



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The Goodyear Cord Tire costs more money to buy than do tires of an earlier type.

Its additional cost represents additional material and labor that are actually embodied in the tire.

It is the experience of users that despite their somewhat higher purchase price, Goodyear Cords cost less in the end.

Our factories have succeeded in attaining normal production and Goodyear Tires are now available everywhere.

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Live Stock Men Cooperate

DAIRYMEN OF MACOMB COUNTY FORM UNION.

ONE of the really big steps in the history of Macomb county milk industry occurred when delegates from twelve different milk locals met and organized under one head known as the Macomb County Dairy Council.

This organization has for its purposes the unifying of the problems of the entire county and the dealing of same from the standpoint of a county unit rather than from the individual local idea. It is an organization to render the greatest amount of efficient service to the 1,094 men involved and the efficient handling of the 25,630 gallons of milk shipped daily in the market of Detroit, also to make possible a closer contact with the state organization and its officers, Messrs. N. P. Hull and R. C. Reed.

From this on the problems of the county will be carried to the commission meeting by one or two delegates representing the entire 1,094 men involved, these same delegates instructed as to the method of procedure. This step alleviates the old objectionable plan of sending delegates from each local with no definite idea of where each one stood on questions of importance.

One question, which created considerable interest, was the fact that Detroit, standing as one of the largest milk consuming centers of the United States, the section of Michigan which practically established the price for the rest of the state, sustaining a United States Bureau of Markets, is minus a dairy division. The trouble with the present system of inspection on the Detroit market is the fact that there is no careful analysis made of the situation. The time has arrived when the producer desires to follow his product through to the consumer and the only way that it can be accomplished is to have a careful daily analysis of the situation, and the producer kept posted by daily bulletin. If there is any one man who should be conversant with the details of the Detroit milk market it should be the producer and he should be just as conversant with the details as is the distributor or dealer.

Surplus Question.

The surplus question has occupied the attention of every local in Macomb county for some time and there has been a great deal of discussion as to ways and means of taking care of it. If such a surplus exists in the alarming quantity, which delegates have been led to believe, then surely the producer does not wish to grab Miss Detroit by the hair and drench her with milk. On the other hand, if no surplus exists certainly Macomb county or any other county does not wish to hold back one quart of milk that can be consumed by the citizens of Detroit, and the producer today questions seriously whether there is a surplus existing today or that it has ever existed. It was the opinion of the Macomb County Dairy Council that the proper point of attack for this analysis lays in the Bureau of Markets.

These and a multitude of like problems developed during the meeting and the gratifying feature was to see twelve separate and distinct sections of the county get their feet on common ground and with their shoulder to the wheel for the express purpose of getting out of the rut. The officers elected are competent men of long acquaintance with the milk question and the county is backing these men to the limit.

Mr. Gidian Bryce, of Romeo, was elected president; Mr. John C. Miller, of Mt. Clemens, vice-president, and L. Kamlowske, of Washington, secretary-treasurer.

Efficiency in production and distribution has become the watchword of the hour. The producer is ready and willing to go half way, but from now on he feels that it should be part of his problem to familiarize himself with the business from a business man's standpoint.

We are in hopes that every county will follow us, and form like organizations. We believe that by properly unifying our problems and taking them up and dealing with them from an efficient standpoint, carefully choosing our representation and delegates, instructing them as to the stand to take on all matters that infinite good will result to all parties concerned.

H. V. KITTLE,
County Agricultural Agent.

LIVE STOCK MEN COMPLETE ORGANIZATION OF EXCHANGE.

ON March 20-21, representatives of about seventy-five live stock shipping associations met at the Michigan Agricultural College, East Lansing, and organized a state-wide live stock shipping association to be known as the Michigan Live Stock Exchange.

A set of by-laws was adopted at this meeting and all shipping associations or others interested, may secure a copy of the same by request from Mr. L. E. Willet, Secretary, Laingsburg, Mich.

The board of directors chosen at the above mentioned meeting are as follows: Fred Smith, Grand Traverse county; H. T. Gleezen, Cheboygan county; F. E. Comson, Mecosta county; L. E. Willet, Shiawassee county; C. L. Harrison, St. Joseph county; C. E. Beamer, Lenawee county; Wm. E. Hill, Genesee county.

At the next meeting of the representatives of the various associations it is hoped to present a careful survey and map showing the location of each live stock shipping association and the volume of business done. It will then be much easier, either by districts or some other workable plan, to properly distribute the representation on the central board.

The board of directors above named met at East Lansing on March 27 and organized by electing C. L. Harrison, of St. Joseph county, president; E. C. Beamer, of Lenawee county, treasurer; L. E. Willet, of Shiawassee county, secretary, and H. T. Gleezen, of Cheboygan county, vice-president.

Committees covering the following divisions were appointed:

1. Membership; 2. railroad rates, claims and services; 3. selling service in markets; 4. accounting; 5. insurance; 6. shrinkage; 7. markings; 8. grievances.

No manager has as yet been selected, the board being of the opinion that it would be advisable to wait until some idea of the tonnage controlled by the association could be secured. The organization is to be financed by a membership fee of \$10 for each local association and a charge of fifty cents per car for each carload of live stock shipped by local member-associations.

A salient feature of the by-laws adopted is a provision empowering the board of directors to make reciprocal arrangements with other federations and exchanges as to membership and services. The main intent of this provision is to coordinate and unite the efforts of all the large cooperative organizations in the state, as for instance: a live stock shipping association in Genesee or Branch county may, through a reciprocal arrangement between the Michigan Live Stock Exchange and the Michigan Potato Growers' Exchange, receive all the benefits

of the Potato Growers' Exchange without expense except the actual selling charges.

A membership campaign is now being put on to line up all the live stock interests of the state behind this organization as it is realized that, in order to be effective and serve the live stock interests in the most efficient manner, it should represent the combined live stock organizations of the whole state. Every farmer interested in the production of live stock and all local live stock shipping associations are especially requested to assist in this membership campaign.

It is generally felt that the live stock industry is one of the largest, if not the largest, agricultural industry of Michigan, and it is the principal purpose of the Michigan Live Stock Exchange to so unite this industry that it can bring the great prestige and financial power which the industry represents to bear in the solution of the many problems that are now confronting the live stock organizations.

It is our urgent request that all local live stock shipping associations take up this matter at once and if any point should arise on which further information is desired, an effort will be made on the part of the exchange or some representative to visit the organization and furnish any desired information.

INDIANA LIVE STOCK MEN MEET.

MEETING in the greatest breeders' rally in the history of Hoosierdom and the first convention of its kind in America, Indiana's live stock associations came to a grand round-up at Indianapolis, March 19-20. The state dairy association, organizations of Jersey, Guernsey, Shorthorn, Angus and Hereford breeders, and the state live stock association were represented in the thousand or more present, and speakers of state and national fame discussed the more important subjects confronting the producers of beef, pork and dairy products today.

Dairy Association Resolutions.

Most important of the preliminary meetings was the convention of dairymen the first day, where it was brought out that the last year has been the most fruitful in the history of the association; although in fact every year has been one of rapid progress since C. R. George took hold of the reins to guide the affairs. In spite of high prices and labor shortage marked improvement has been noted this year in quality of the cattle, use of more and better pure-bred sires, cow testing associations and more economical feeding.

The tuberculosis eradication law recently passed by the legislature is considered the most constructive work fostered by the dairymen, and represents three years' efforts on their part. They have also succeeded in the passage of a bill to create a live stock sanitary board, which will make the choice of the state veterinarian.

Futurity calf shows were instituted at the state fair last year, proving an unusually attractive feature that will be extended this year. The association has nearly two hundred and fifty members including members of ten affiliated organizations.

Resolutions were passed at the meeting urging the use of butter instead of butter substitutes in all state charitable and correctional institutions, and that the state pure food department, with the aid of national representatives, use their influence to prohibit the sale of Hebe and other condensed milk compounds, the ingredients of which are not derived wholly from dairy products. An expression of sympathy was extended to the families of

the late H. C. Mills, former secretary, and C. B. Benjamin, former president, who died last year.

W. T. McCray spoke of the necessity of more pure-bred cattle and greater care in breeding, declaring that the breeder is known largely by the sires at the head of his herd. D. D. Aitkin, president of the Holstein-Friesian Association of America, substantiated this statement from his experiences with dairy cattle. He also urged the keeping of more accurate accounts so that the cost of production may be known, but said that before the value of any product can be fully known it must first be appreciated by the producer of it himself. For this reason the dairyman must first realize the food value of milk and butter, and not reduce the importance of his position by using substitutes for his own product.

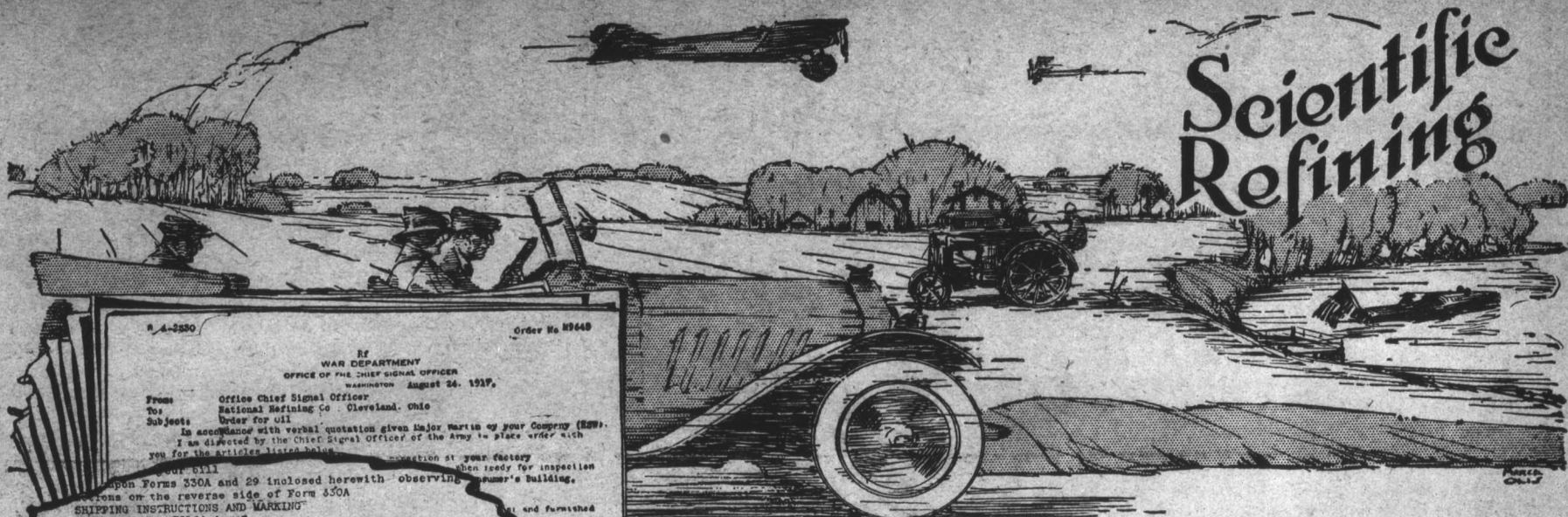
Speakers at the rally on March 20 dwelt mainly on three or four fundamentals of economical live stock husbandry, namely, the use of pure-bred breeding stock, principally high-class sires, reduction in the cost of producing meat, eradication of disease, and educational work in relation to live stock breeding and feeding. Governor Frank O. Lowden, of Illinois, spoke forcibly for elimination of scrub sires, pointing out the advantage of pure-bred bulls in his own experience in breeding Shorthorns. He declared that another fundamental feature of successful live stock farming is cooperation among members of a community, pointing to the community breeding plans followed by Holland and Denmark.

"Wherever a half-dozen farmers get together for a common purpose in advancing their interest, agriculture begins then to boom with greater activity," the governor said as he praised the work of the county agents and farm bureaus, which in his opinion are the greatest agency at work in his state in advancing the cause of agriculture.

A. J. Glover recited the history of Wisconsin with respect to its growth through dairying. W. L. Houser, the president of the live stock breeders' association of the same state, told of the growth of that organization until now it is considered the most active association of its kind in America. It maintains an office at the state university, sells thousands of cattle, runs a demonstration train throughout the state to advocate "More and Better Live Stock," which is its official slogan. The state organization, now aided by legislative appropriations, cooperates with local breeders' clubs, county agents, county superintendents of schools and teachers of agriculture.

Its campaign to eliminate scrub sires was one of its most noteworthy activities last year. Fond du Lac county was found to have only twenty-eight per cent pure-bred sires, and it is the greatest live stock community of the state. During the campaign breeders traded registered sires for the scrubs and now more than sixty per cent of them are pure-bred. The movement is spreading over the whole state.

Still, Mr. Houser exclaimed, this is not as important as their work in furthering boys' and girls' club work. Calf clubs have interested hundreds of the boys and girls, and animals have been produced under their care that have stood at the top in the open classes at the International. "These boys and girls are experiencing business transactions; they study the fascinating enterprise of live stock breeding, feeding, judging and marketing, and we think they are the hope of the world for successful soil cultivation and conservation," the speaker concluded.



WAR DEPARTMENT
OFFICE OF THE CHIEF SIGNAL OFFICER
WASHINGTON August 24, 1917.

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General B. D. Foulis,
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2 25,000 gal. Oil, extra heavy, Enarco,
3 25,000 gal. Oil, transmission, Enarco,
4 15,000 lbs. Grease, cup, Enarco, at

NOTE: Early shipment is urgent, therefore please apply for Government Bill of Lading in ample time to avoid any delay in delivery. A close observance of marking instructions and the enclosure of packer's lists is requested and will be appreciated.
The above to be delivered in export wooden barrels at the earliest possible moment.

OF NO. 1821 WILL FOLLOW.
(1821)

A. C. Downey
Captain, Signal Corps

Constant, Responsive Power

GREAT rivalry exists among automobile and tractor makers in their efforts to provide maximum power. They work constantly and spend vast sums to improve and increase the power qualities of their motors. Probably your own choice of an automobile or tractor was guided by power records.

Since power, in the last analysis, is what you buy, why not be sure that your motor develops all that it is capable of? Why not use the motor oil that insures this wanted satisfaction?

En-ar-co National Motor Oil

The Scientific Lubricant

En-ar-co products have successfully passed through the crucial tests of nearly forty years of service. They are made as lubricants should be—scientifically refined by processes that eliminate all possibility of the oil carrying residue or coke-like substance.

As En-ar-co National Motor Oil is extra efficient, so are other En-ar-co products. White Rose Gasoline for greater power. National Light Oil for tractor fuel. Also best for lamps, oil stoves and incubators. En-ar-co Motor Grease for every lubrication point around the motor car or tractor. Black Beauty Axle Grease for wagons.

Buy En-ar-co National Motor Oil the Economical Way

50 gal. wood barrels 65c per gal.	50 gal. steel drums 68c per gal.
30 gal. wood half-barrels . 70c per gal.	30 gal. steel half-drums . 73c per gal.

Buy of Your Local Dealer
If He Has En-ar-co Products in Stock
If He Cannot Supply You, Mail
Us Your Order Direct

Tell your dealer you want to try En-ar-co National Motor Oil and other products bearing the En-ar-co label. If he cannot supply you, write us.

The National Refining Co.
Branches in 78 Cities
General Offices : Cleveland, Ohio

**Sent
FREE**

The National
Refining Company
1832 Rose Building
Cleveland, Ohio

I own..... (Give name above)
automobile or tractor and en-
close two 3-cent stamps. Send
me Handy Oil Can FREE. Please
give nearest shipping point in this
province and quote prices on the items
I have marked. I will be in the market

about..... (Give date above)

I use.....gals. gasoline per year	I use.....auto grease per year
I use.....gals. motor oil per year	I use.....gals. kerosene per year
I use..... lbs. axle grease per year	I use.....gals. tractor oil per year

My Name is.....
Address
Postoffice..... State.....

Tear or Cut Out — Mail Today
NOTE: This can will not be sent unless
you give make of your auto or tractor.



FOR FOOD CONSERVATION



The Big Profit Maker that Pays for Itself

ON MORE than 60,000 farms the Indiana Silo has already paid for itself in crops saved, in fatter cattle, in more milk, and is returning big profits to every owner, every year.

High meat, milk and butter prices make it doubly important to preserve the full food value of your crop—to keep it succulent, whole and tasty. These prices increase the profits from the

INDIANA SILO

One year's saving with an Indiana under present conditions more than pay back the investment. And the silo can do the saving before you pay for it.

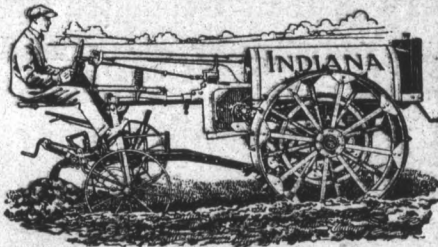
Our large purchasing power enables us to supply better materials and better workmanship than can be had in silos that cost more. Ask the owners of Indiana Silos in your neighborhood. Prove to yourself that there is no silage better than that made in an Indiana. It's a big profit maker for your farm, and lasts a lifetime.

Write for our easy payment plan and descriptive catalog.

INDIANA ALL-ROUND TRACTOR "The World's Tractor"

This tractor does all kinds of farm work with the horse implements you already have and without special and expensive hitches or equipment. Weighs no more than one large horse. Replaces four horses and one man. Costs less than horses and 60 per cent less to keep going. Cuts time spent on chores. The Indiana plows, harrows, drills, cultivates, mows, pulls a binder and does belt work.

Write for folder that tells what the Indiana Tractor can do on your farm.



THE INDIANA SILO COMPANY

826 Union Building, Anderson, Ind.
826 Silo Building, Kansas City, Mo.

826 Indiana Building, Des Moines, Iowa
826 Live St'k Bldg. Ft. Worth, Tex.

FOR FOOD PRODUCTION



Prevent Dairy Casualties

MANY serious losses in the dairy business are caused by careless mistakes which might be prevented. On one farm a fine cow died and the postmortem found a piece of wire which the animal had eaten. It pays to pick up nails, tacks, pieces of wire and metal scraps of all kinds which may become mixed with feed and be eaten by the animals. Scratches from broken-down barbed wire fences often cause needless injury to dairy cows.

When there is a wooden floor in the barn it is best to examine the boards at least once each year. Sometimes the floor behind the stanchions may decay and then some day a cow breaks through, and even though the fall to solid ground is only one or two feet, a broken leg may result. Even if the cow is only strained and bruised by such an accident it may cause a serious reduction in the flow of milk.

An icy approach to the barn or the water trough may cause cows to slip and suffer injury. An animal may break its leg by a heavy fall when hurrying into the barn at feeding time. It is best to keep the ice away from the approach to the barn and throw salt or dead ashes on spots where the ice is apt to accumulate.

Horns are often a useless ornament on a utility dairy cow and sometimes the animals injure each other with their horns. In primitive times the cows of the plains needed horns to fight their natural enemies but now the farmer is busy fighting enemies for them and the horns are just as well removed. The best way to do it is with the old reliable caustic potash stick applied when they are calves.

Fire is another cause of many cas-

ualties in the dairy business. The oil lantern is placed near a pile of hay. Scene two, the hired man hits the lantern over with a pitchfork full of hay. Scene three, the barn is soon in flames. Scene four, the farmer and his family are surveying the charcoal and mentioning the fact that the insurance money will hardly build a pigsty at the present cost of labor and material. When farmers can all have properly installed electric lights in their dairy barns it is going to save a lot of fine cows from a terrible death. Until that time it pays to be careful and place the oil lanterns where they will not be knocked over by the hired man or kicked over by the stock. Smoking in the barn is another cause of serious losses and the farmer who cannot milk and feed his cows without smoking at the same time had better sell the farm and get a job in a pool-room. The hired man who insists on smoking around the barn should be fired today or the barn may be fired tomorrow. Possibly the hired man will be good-natured and stop smoking in the barn if he receives the request delivered with skilled diplomacy.

Sometimes cows are pastured near swamps, drainage ditches or rivers where the banks are soft and marshy. Recently a farmer lost a fine registered cow which became mired in a ditch and when she was found her condition was such that she had to be killed. When cows are missing at night, there should be no delay in hunting them up if they have access to soft ground. If a cow is immediately found she can often be rescued without serious injury. If she is allowed to remain in such a position long, it may mean a dead cow or a cow that has to be killed.

The Pure-Bred Herd

RECENTLY a writer stated that it is not necessary for all farmers to have pure-bred herds of dairy cattle. He explains that the owner of the pure-bred herd should have the same relation to the owner of grade cattle as the corn breeder has to the other farmers who raise crops of market corn. Of course, it is not necessary for all farmers to be corn breeders but they do wish to have a place to go to obtain pure seed when they need it.

However, this does not mean that more good blood is not needed in most herds. This blood can be supplied by the use of the pure-bred sire and good grade herds. The farmer who owns pure-bred stock is able to supply pure-bred sires to other farmers who do not own a pure-bred cow but wish to improve the quality of their herd by the use of a pure-bred sire. The point seems interesting and if it is correct some farmers who feel that they have to apologize for their grade cows can now feel that they are doing all right if they are selling a fair quantity of market milk from their grade cows and making an effort to improve their herd by the use of the pure-bred sire.

For many years, however, we have learned of the difference between pure-bred and scrub stock and it has always seemed that the arguments have been all in favor of the pure-breds. It is rather difficult for some farmers to feel that they are really getting along with their dairy cattle until they are able to own some pure-bred stock. The

ownership of a pure-bred herd gives a farmer some business opportunities that the owner of grade stock lacks. The chance of selling stock at auction in cooperation with other owners of the same breed, is a great advantage to the farmers in some communities. The sales of bull calves for sires often prove very profitable transactions. The study of pedigrees and breeding records is interesting and instructive and no farmer really gets interested in such things until he owns a few pure-bred animals.

One thing is certain. There is no immediate danger of there being too many breeders of pure-bred dairy cattle. The writer believes that farmers with good grade herds can make fine progress by the use of a pure-bred sire but also believes that the farmer who is able to take up pure-bred stock raising on at least a small scale should not be satisfied to continue with grades if he is interested in pure-bred animals and enjoys working with them. There will always be enough farmers who do not wish to breed seed corn or pure-bred cattle. The farmers who do take up that work seem to find it very profitable.

R. G. KIRBY.

The Bureau of Markets announced that an effort would be made to distribute 100,000 tons of nitrate of soda this month from eighteen cities where the nitrate is stored, many urgent orders having been received from farmers because of the mild weather.

WHO AM I?



I am the fellow that Milks With "MEHRING'S MILKER"

It makes me smile when I see poor guys pulling away by hand. Buy a Mehring milker and you can smile too. It was the first practical milker and still has the lead in speed, efficiency and cheapness of operation and repair. Send for a catalogue and be convinced. It will milk one or two cows at once. Price \$30 cash or \$35 on trial. Also engine power milkers. W. M. MEHRING, Keymar, Maryland.

Lasco Vitrified Tile Silo



It is now possible to secure a Lasco Tile Silo

With the Famous Ladder-Hinge Door

Door forms a perfect ladder—steps 15 inches apart. Safe, easy—any boy can operate. Door always in place—no lost doors. Lever Lock operated by one hand. Keeps on hinge perfectly next to the door. Does not sag, bind or stick.

Write for Booklet. Agents Wanted. You can also secure the Ladder-Hinge Door with our stone silos. LASCO SILO COMPANY 304 E. Ohio St., Lansing, Mich.

Please mention the Michigan Farmer when writing to advertisers.

Sturges Milk Cans Guaranteed Capacity



Each is carefully constructed of highest grade steel and designed to give a lasting service regardless of the bumps and jolts of daily transportation. To make them easy to clean and keep perfectly sanitary all seams are soldered smooth and the cans heavily tinned. The Sturges trademark on a can is a guarantee of accurate capacity and a long-lived, economical service.

Write for Catalog 46

Sturges & Burr Mfg. Co.

Makers of Sturges Guaranteed Capacity Milk Cans

Chicago Illinois

Only \$2 DOWN ONE YEAR TO PAY

\$38 buys the New Butterfly Jr. No. 2.

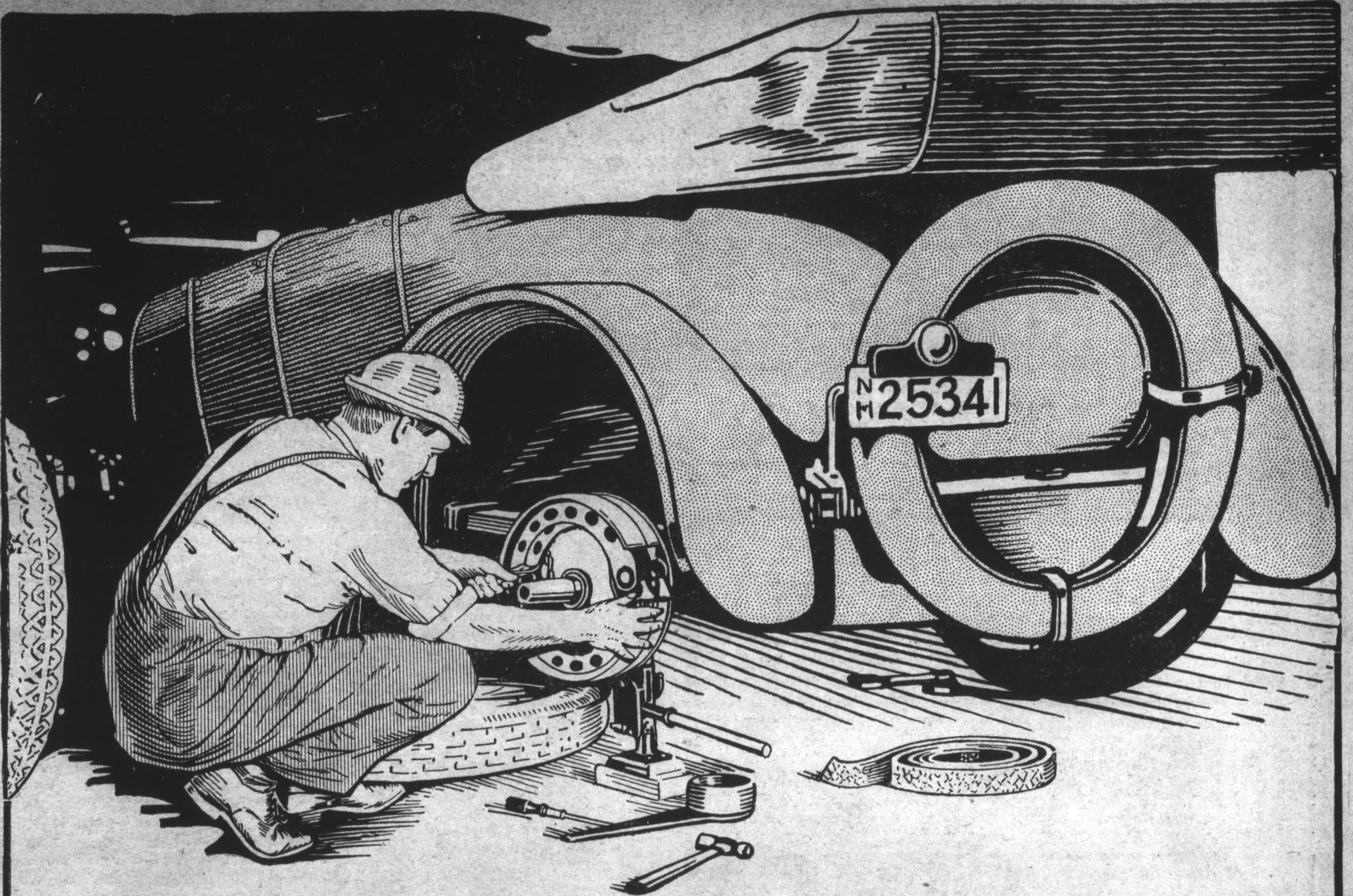
Light running, easy cleaning, close skimming, durable.

NEW BUTTERFLY

Separators are guaranteed a life-time against defects in material and workmanship. Also in four larger sizes all sold on 30 Days' FREE TRIAL

and on a plan whereby they earn their own cost and more by what they save. Postal brings Free Catalog Folder. Buy from the manufacturer and save money.

Albaugh-Dover Co., 2165 Marshall St., Chicago



Don't Let Him Put "Cheap" Lining on Your Brakes

"Cheap" brake lining is often hidden beneath the brake bands. You only find this out when the lining quickly wears away and refuses to hold. Then the car goes back to the shop for *new* lining, followed by another repair bill. These are thrifty times. Make every dollar do the work of two. Save gas by coasting down hill. Conserve it by stopping engine when standing. Buy good oil and tires. Get substantial wear at the brakes. Buy Raybestos which is *guaranteed to wear one year*. It grips, it gives added security and insures satisfactory service.

Raybestos

BRAKE LINING

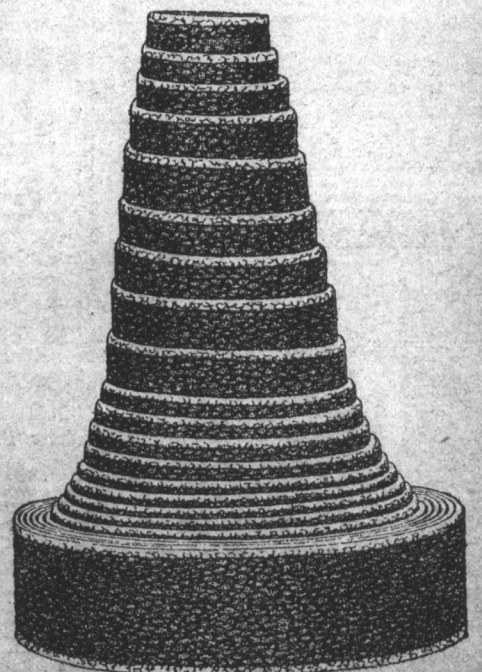
You can readily tell whether or not *your* brakes are lined with *real* Raybestos. Look for the Silver Edge. Raybestos conserves time and labor. It wears and wears and wears—it is a motor economy which saves dollars, increases efficiency and conserves essential materials.

For FORD Cars

Use Raybestos (without wire) for the transmission. \$2.00 per box. Raybestos Rolled Steel Cam Brakes, \$1.35. Raybestos External Emergency Brakes, fit drums now on your car. \$10.00 at your dealer.

If your car needs new clutch facings, be sure to ask for Raybestos Molded Disc Clutch Facing, patented and guaranteed.

THE RAYBESTOS COMPANY, Bridgeport, Connecticut





Homer Users Tell the Homer Story Best:

"I can think of nothing that would tempt me to again use a heating stove of any kind, with all the dust and dirt it entails."

Wm. B. Darling,
Adrian, Mich.

When You Take Down Your Stoves This Spring

Take them down for good. Rid yourself forever of this disagreeable bother, dust and dirt. Save your rugs and furniture, keep your rooms and walls clean and free from smoke, ashes, dirt—and at the same time enjoy plenty of uniform heat with less cost and trouble.

The Homer Pipeless Furnace—especially adapted for houses already built—can be installed in one day, without tearing up floors and partitions, or disturbing the family. With your stoves down, you have no heat for chilly, rainy days, in late spring or early fall.

With a Homer, a little kindling will keep you in comfort whenever the weather is bad. Then, when winter sets in, you'll enjoy a healthful warmth, in all rooms, such as you've never known before.

35,000 Satisfied Homer Users—Eight Years of Success

The Homer Furnace Co. invented and perfected the pipeless furnace. In accord with Nature's laws, the hot air rises and the cold air descends through the combination register directly over the furnace, heating every room comfortably. No heat lost in useless, expensive piping.

Assures perfect ventilation, air kept pure by constant circulation. Costs less, uses less fuel and gives more heat than stoves or pipe furnaces. Burns coal, coke, wood, cobs. Food keeps better in cool Homer cellars.

Homer furnace parts are made of our special brand, secret process, rust resisting STROKEL Iron. Will not chip or break as ordinary cast iron does. All parts, except grates, guaranteed for five years.

The Homer cost is surprisingly low. Quickly pays for itself with the fuel it saves. Our booklets fully explain how you can get more heat, at less cost, with less bother—as thousands of others are doing. Clip the coupon and send for them now.

HOMER FURNACE

THE ORIGINAL PATENTED PIPELESS FURNACE

It Heats

It Ventilates

It Satisfies

Coupon

Homer Furnace Co., Dept. F-4 Homer, Mich.

Without obligation on my part, send me full information about the Homer Pipeless Furnace—and how I can get more heat in a _____ room house with less fuel, cost and bother.

Name _____

Street or R. F. D. _____

City _____ State _____



FENCE

Direct to Farmer
at Wire Mill Prices

CATALOG FREE
KITSELMAN BROS. DEPT. 278 MUNCIE, INDIANA

Get My PRICES First

Before You Buy

See for yourself the money I save you on any fencing you need. WRITE today for my big new FREE Bargain Fence Book. Shows 150 styles. Low Factory Prices—Freight Prepaid. Also Gates, Lawn Fence, Barb Wire at bargain prices. Sample to test and book free, postpaid. THE BROWN FENCE & WIRE CO., Dept. 349 Cleveland, Ohio

BOOK ON DOG DISEASES And How to Feed

Mailed free to any address by the Author
H. CLAY GLOVER CO., Inc.
118 West 31st Street, New York

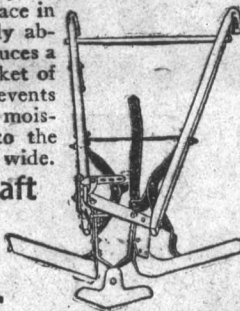
Use your spare time profitably by representing the Michigan Farmer in your neighborhood. You can work up a pleasant and profitable business taking care of new and renewal subscriptions for us. You will be interested in our special literature and attractive subscription rates. Address,
THE MICHIGAN FARMER.

Works Like a Hoe

Covers 8 Acres a Day

It does as good work as you can do with a hoe—It cuts every weed—None can dodge it—Keeps the surface in condition to readily absorb rain and produces a mulch or dirt blanket of fine soil which prevents the escape of soil moisture. One trip to the row—narrow or wide.

The Light Draft Fowler Cultivator



With one mule The Fowler does as much work as you can do with a two-horse cultivator—and better work—because it cultivates shallow—has no prongs or teeth to destroy or disturb the crop roots. By removing plow foot you can cultivate astride the row. Can also be adjusted to cultivate crops planted either above or below the level without destroying the sloping sides of the ridges.

It's the cultivator for corn, cotton, tobacco, peanuts, beets and beans and truck crops planted in rows.

Write today for catalog which fully explains The Fowler—IT'S FREE!

Harriman Mfg. Co., Box 514 Harriman, Tenn.

FREE LAMP OR LANTERN

Akron Gas Lamps and Lanterns make best, cheapest light. Use gas, oil, kerosene, alcohol, or kerosene. Simple, dependable, durable. Permitted by Insurance Companies.

GIVES 400-CANDLE POWER
Abundance of bright, clear, soft, steady light—restful to eyes. Fully guaranteed. AGENTS WANTED. All of spare time. Outfit free. Exclusive territory. Write for prices and FREE catalog. Sold at wholesale in open territory.

AKRON GAS LAMP CO. 384 GAS BLDG. AKRON, OHIO



Advertising That Pays

ADVERTISING of the products of the farm is being found profitable by practical farmers. Live stock advertising has been proven of the greatest importance in selling stock at a profit. A farmer with pure-bred cockerels weighed them up and estimated how much they would bring on his local market. Then he thought that they were pure-bred and of a breed which was popular in his community. He placed a small advertisement in the paper and sold them at a price twice as large as their value for meat and they were worth the increased price as breeding stock because other farmers needed new blood of that breed and the birds were vigorous and of good type. Without the assistance of advertising the birds only had their meat value. The advertisement reached a class of customers who could put such stock to even more profitable use and thus could pay more money for them.

A farmer with a pair of pedigreed watch-dogs of a popular breed had eight pups for sale. He advertised in a farm journal and sold them within a week and had to refuse several orders. Several farmers came a long distance to see the pups and in every case made a purchase and the breeder did not even have the trouble of crating them for express. In other cases the pups were crated in small boxes and shipped by express and reached the buyers in good condition. Many farmers fear to ship animals by express and never do, when it can be avoided. Possibly the losses in express shipments are emphasized so frequently that we forget the large number of satisfactory shipments that are made. The use of proper packages that are carefully marked is one of the necessary factors in making advertising pay.

In advertising poultry it pays to study the stock for sale and then describe it as briefly and accurately as possible. Some buyers like to know the strain of fowls for sale and whether the birds are bred-to-lay or exhibition stock and they like to pick up those points from the first advertisement. If the buyer is after hatching eggs he will wish to know something about the breeding stock. Many advertisers sell only hatching eggs from mature hens and not from pullets and this is a point worth mentioning in the advertising.

When a farm is for sale, advertising is necessary to place that fact before a large number of prospective buyers. Often a farmer places a sign before his house when the farm is for sale. The neighbors read the sign and the farmers and motorists see it, but often the man who is looking for such a farm, is living in a nearby city or on a farm in another township and he will not see any roadside sign and not know that the place is for sale if it is not advertised. The writer has no grudge against the real estate men but believes that many farmers could find more satisfactory buyers for their farms if they would handle the transaction themselves and do their own advertising and not turn the deal over to any agent. Of course, the real estate men that advertise to sell farms and demand a fee in advance should not be patronized by farmers with land for sale. When a farmer wishes to sell his land, he should first make it as presentable as possible, then advertise in papers that reach both farmers and city buyers and then deal with honest buyers who appreciate good farms and do not waste the farmer's time trying to trade questionable securities or poor

city property for the land. Advertising often locates a bona fide farm buyer in the most unexpected place. It is the cheapest method of placing honest facts before a large number of people. It is not only the cheapest but the quickest and the best method.

When cows and calves are for sale, many farmers keep them longer than is necessary when they only advertise on the farm sign board. Often they try to sell to friends or neighbors who are really not in the market for such stock. Then they try the advertisement which places their stock before many buyers and some of them immediately prove to be in the market for the cattle. The foundation of the pure-bred live stock business rests on faith in honest advertising and the farmer who attempts to make the most profit from pure-bred animals without the use of paid publicity is making a mistake that costs much money.

Even grade cattle can often be sold at good prices by advertising, as many farmers need another good grade cow for their herd. At the present time there is a fine demand for dairy cattle having even a fair producing ability and such cows do not need to be sold for beef as there is always some buyer who will pay more for them than beef prices if they still have any value as milk producers. A short advertisement will usually locate buyers for such stock that will pay more for them than the stock buyer.

The farmer with the pure-bred bull calf for sale might wish that a hundred thousand people would march down his road and read his sign saying that the bull was for sale. He might be willing to pay several dollars to obtain an audience of that size. It is certainly lucky that he can buy a little advertising space for a few dollars that will tell his story to all those people. The farmer on the back road and the farmer near the large city have about an equal chance to sell their live stock through the medium of advertising. The price is the same to each.

R. G. KIRBY.

WORK FOR DISABLED SOLDIERS.

THERE are fully sixty thousand men who have been injured or disabled as a result of their services in the armed branches of the United States forces who will require aid in obtaining employment suited to their disabilities, according to the latest estimate of the Federal Board of Vocational Education, which has this matter in charge. This is quite aside from the number who must be trained anew in order that they may be able to earn anything at all, and these total up to more than ten thousand. Any man who has been injured, and yet who is able to do effective work notwithstanding his injuries, should communicate at once with the Federal Board for Vocational Education at Washington, giving all particulars. The placement division of the board will take up his case and see what can be done for him. It may be that with a short course of special training he can be made into a very effective wage earner. If this training is necessary, he is paid \$65 a month support fund while taking it, with such allotment for his dependents as is necessary, and the training is absolutely free. When he has finished the course of a few months a job will have been found for him. The federal board is anxious to learn of all such cases, and will at once take up the question of proper training with the disabled men.



BIG FOOD CONTRACTS BRING PROSPERITY TO FARMERS.

BUT few American farmers seem to realize the tremendous demand for food products that is developing from abroad. While there is every evidence that America will be able to tide the starving people of these countries over their present period of hunger, it is going to require a further speeding up of our agricultural resources.

On the agreement covering the four months, April to July inclusive, 370,000 tons a month of food is to be furnished and we are to have the German ships for that purpose. This means, on the meat side, 2,000,000 hogs a month, and on the bread side 6,000,000 bushels of wheat.

This is on an annual basis extraordinarily above the highest figures for normal times for food exports and Germany is only one of many countries that are drawing on us. We shall, therefore, have exportations of those classes of food probably quite up to the recent estimates of Mr. Hoover and far beyond those of other authorities. One may conclude that the supply need not be nearly so excessive as has been indicated by previous figures.

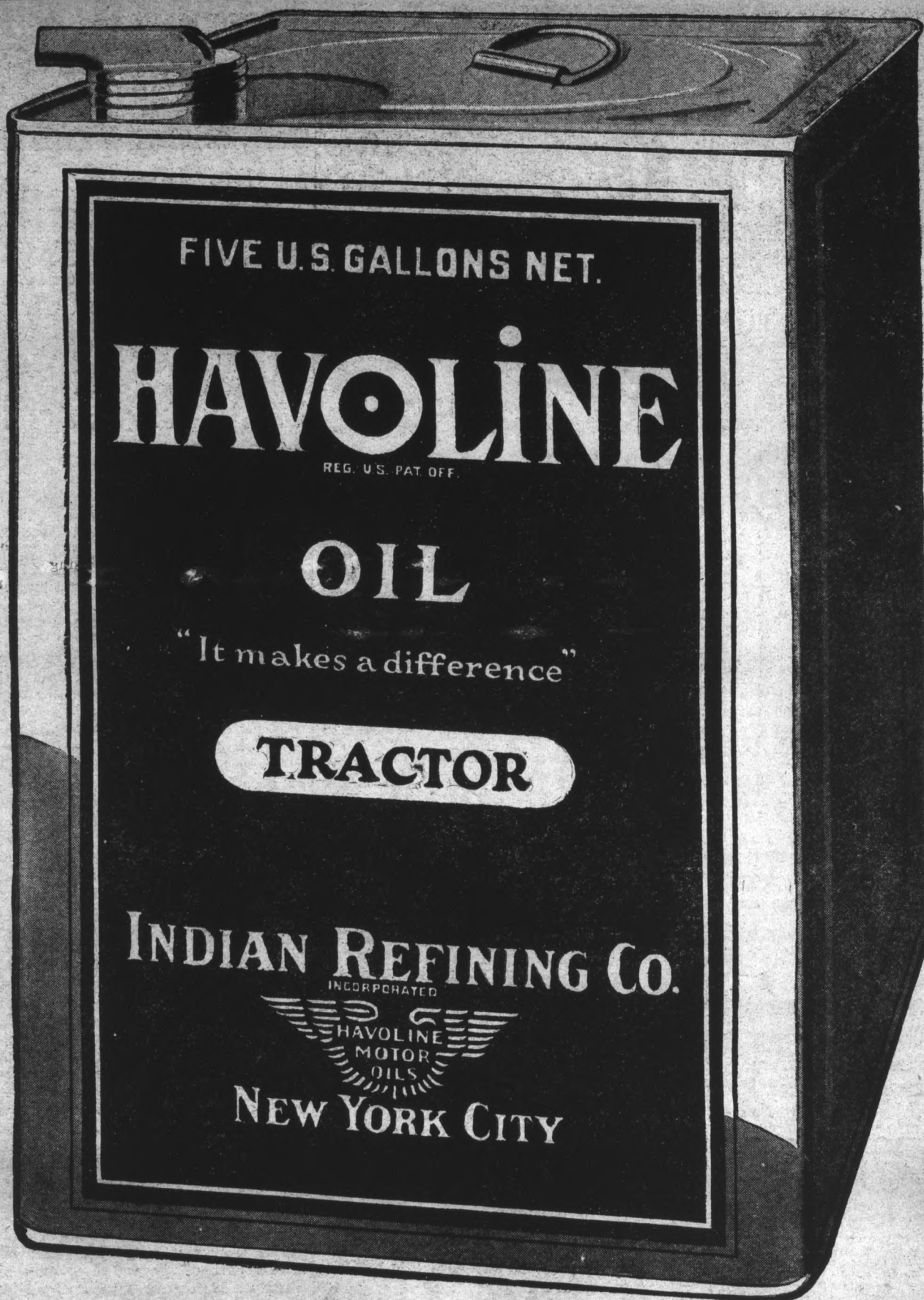
Heavy Pork Supply in Sight.

It has long been known that the world's hunger was vastly beyond any immediate capacity for satisfying it, the great trouble being lack of ships, but the arrangement now made meets the requirements fairly well. The supply of wheat from the United States, however, seems likely to be as great as heretofore estimated. Winter wheat fields have been soaked with a heavy rain. A cold wave is reported on the way, but the weatherwise, figuring on the reports from the far north and judging from recent experience, say that the cold will not be sufficient to injure the plant seriously.

As for the supply of pork for the Germans and everybody else, there need be no concern. A recent report disclosed something like 80,000,000 hogs in this country. The price has of late been well above the minimum prescribed by the government for several months, but rather because of the great demand than of a pressure of the goods on the market. An effort has been made to hold the quotations down, not altogether by the packers, but by others having the good of the trade at heart.

CROPS SAVED IN RODENT FIGHT.

LAST year 100,861 pounds of poison bait were used in 1,703 cooperative farmers in Utah to stop the enormous losses that have been sustained annually from rodents in that state. This poison was applied on 86,104 acres of infested land, and the farmers reported 892,179 rodents destroyed, with an estimated saving in crops of \$702,368. Estimates of the saving accomplished were made by specialists of the Bureau of Biological Survey, United States Department of Agriculture, who aided state and local workers in the enterprise. Farm bureaus already have ordered quantities of strychnine to carry on similar work in the immediate future and have prepared to mix the poison bait at central places and supply it to farmers who agree to use it according to directions and make reports of results. The bureaus say that if the work could be properly financed they could use five times the amount of poison they now have.



Heat does not break up Havoline Oil

You know motors get hot, hot enough to worry you sometimes.

Those plunging pistons can't score the cylinders in your tractor when properly oiled.

HAVOLINE TRACTOR OIL

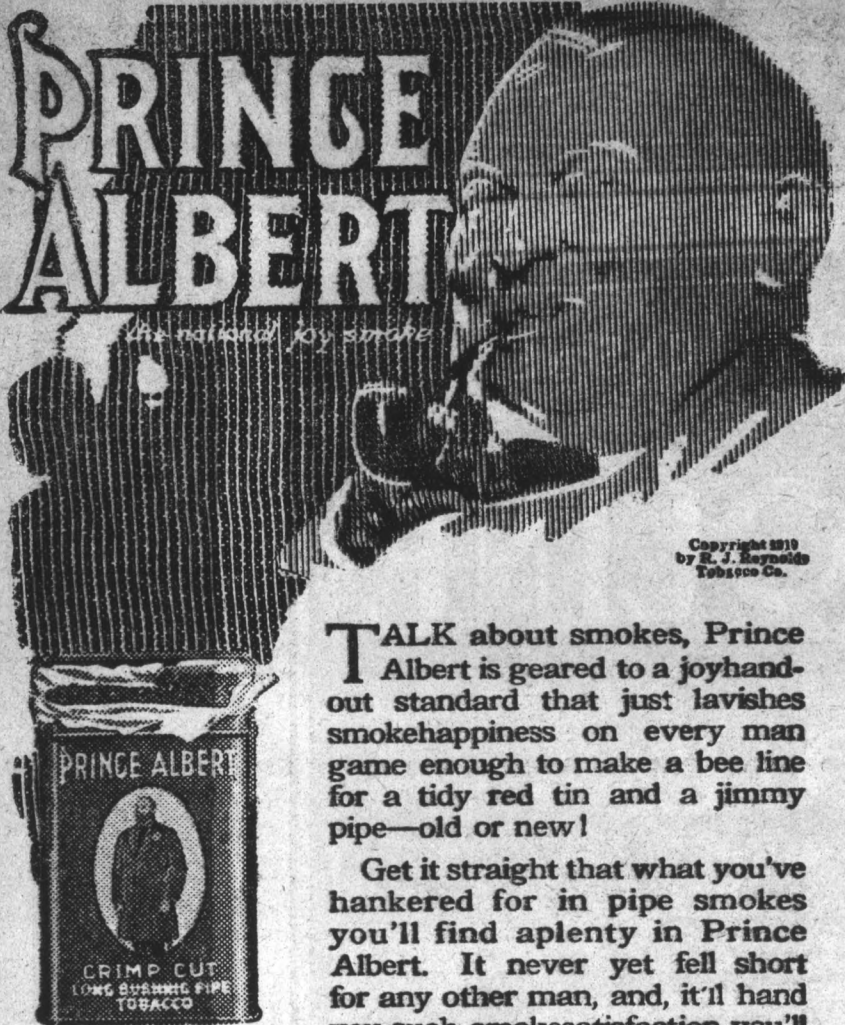
"It makes a difference"

COPYRIGHT

Havoline Oil is sure protection and is carefully graded for tractors, trucks and passenger cars. Your dealer will tell you the grade your motors require. Ask him.

Havoline greases are compounded of Havoline Oil and pure, sweet tallow. Clean to handle and correct in body.

INDIAN REFINING COMPANY, Producers and Refiners of Petroleum, NEW YORK
Incorporated



TALK about smokes, Prince Albert is geared to a joyhand-out standard that just lavishes smokehappiness on every man game enough to make a bee line for a tidy red tin and a jimmy pipe—old or new!

Get it straight that what you've hankered for in pipe smokes you'll find aplenty in Prince Albert. It never yet fell short for any other man, and, it'll hand you such smokesatisfaction you'll

think it's your birthday every time you fire up! *That's because P. A. has the quality!*

You can't any more make Prince Albert bite your tongue or parch your throat than you can make a horse drink when he's off the water! Bite and parch are cut out by our exclusive patented process!

You just lay back like a regular fellow and puff to beat the cards and wonder why in samhill you didn't nail a section in the P. A. smokepasture longer than you care to remember back!

Buy Prince Albert everywhere tobacco is sold. Toppo red bags, tidy red tins, handsome pound and half pound tin humidors—and—that clever, practical pound crystal glass humidor with sponge moistener top that keeps the tobacco in such perfect condition.

R. J. Reynolds Tobacco Company, Winston-Salem, N. C.

THE SELF-OILING WINDMILL

has become so popular in its first four years that thousands have been called for to replace, on their old towers, other makes of mills, and to replace, at small cost, the gearing of the earlier Aermotors, making them self-oiling. Its enclosed motor keeps in the oil and keeps out dust and rain. The Splash Oiling System constantly floods every bearing with oil, preventing wear and enabling the mill to pump in the lightest breeze. The oil supply is renewed once a year.

Double Gears are used, each carrying half the load. We make Gasoline Engines, Pumps, Tanks, Water Supply Goods and Steel Frame Saws. Write AERMOTOR CO., 2500 Twelfth St., Chicago

Bone Spavin

Now matter how old the case, how lame the horse, or what other treatment failed, try

Fleming's Spavin and Ringbone Paste, \$2 a Bottle

One application usually enough. Intended only for established cases of Bone Spavin, Ringbone and Sidebone. Money back if it fails. Write for FLEMING'S VETERINARY ADVICE. It is FREE.

FLEMING BROS., 252 Union Stock Yards, Chicago, Ill.

A "B-V-T" Silo

Will last forever. You will never have to rebuild it! Neither will your grandchildren. Built from the famous BRAZIL VITRIFIED FIRE CLAY. The "B-V-T" has been on the market eight years without a failure.

Send for Catalog D. Brazil Hollow Brick and Tile Company, BRAZIL, INDIANA

ATTEN-SHUN FARMERS Ship your own cream and get the profit yourself. We pay top prices and mail check promptly. Write for our proposition. FREEMAN DAIRY CO., Butter Dept., Flint, Mich.

50 Belgian Hares, all ages, good, utility stock. Some selected breeders cheap. W. E. LECKY, Holmesville, Ohio.

When writing to advertisers please mention the Michigan Farmer.

TOP DRESS All Crops with Nitrate of Soda, no matter what other fertilizers you may have used—100 pounds per acre for seeded crops and 200 pounds per acre for the cultivated ones. The increase will yield large profits over cost.

Write on post card for our money making books

WILLIAM S. MYERS
25 Madison Avenue, New York

95 American CREAM SEPARATOR
\$19.00
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Fattening Hogs

THE person who feeds swine for the purpose of producing pork should know the indications of an animal that will gain weight rapidly and thereby pay a profit to its owner. If the hog raiser is feeding the lard type of hog he should seek in animals for fattening, those which possess the characteristics of the fat hog type which are a short and broad face, wide head, ears well apart, full jowl, short legs, wide and deep body with good full spring of rib. If the farmer is feeding bacon hogs he should look for a little less width about the head and face and for good length and depth of body at the same time avoiding coarseness.

Whether a hog raiser should feed lard or bacon hogs will depend largely on the location of his farm. Whenever possible home grown feedstuffs should be used, because feeding purchased feeds is not always conducive to profit. If the farm is in the corn belt and grows an abundance of corn and clover or alfalfa it will be more profitable to grow the lard type, while on the other hand, if the main feeds grown are barley, peas, oats, etc., having a narrower nutritive value, bacon hogs can often be raised to a better advantage.

In the corn belt area where corn forms the chief part of the ration the hogs are allowed to follow fattening steers, getting from their droppings many undigested nutriment that would otherwise be wasted. The hogs are given the same run as the cattle and usually the same amount of shelter. The manner of feeding these hogs is determined by the form in which the corn is fed the steers and by the quantity and nature of the supplements used. Corn is usually fed as ear corn, ground, corn and cob meal, or soaked shelled corn. Shelled corn insures the most available food for hogs, because the steers eat it greedily and it is not well masticated or digested. In soaking or grinding the corn is more thoroughly digested and the hog cannot procure much of the nutrients. Supplements that are added reduce the nutrients in the excreta on account of their having a marked utilization of carbonaceous part of the ration when they contain a high percentage of digestible nutrients. With shelled corn alone in the ration an equal number of six month old hogs can be placed after the steers. They should be fed in addition from one-quarter to one-third of a pound of tankage per day or as good a protein equivalent. During the first few months no other concentrate is necessary and for the last four or five weeks they should have as much corn as they will eat and younger pigs placed after the steers.

By far the greatest number of hogs are fitted for market during the summer and early fall months. During the summer the requirements for shelter, maintenance and labor are least, while gains are cheapest and greatest. Of these the greater number is fattened on pasture. It is found that pigs fed corn alone on bluegrass pasture make equally as great gains as pigs fed in dry lot on a balanced ration. Clover or alfalfa give better returns than bluegrass or timothy when corn is fed in conjunction. Corn alone on abundant clover pasture forms an ideal ration, excelling a balanced ration of corn and tankage or middlings in rapidity of gains and excelling all other rations on pasture when rate and economy of gains are considered.

A satisfactory system of pasture feeding for pigs farrowed in April and are ready for pasture in May is: The

previous fall a field is sown to rye or winter vetch, furnishing a good crop for pigs when they are turned out; one acre of this supplies 100 pigs and their mothers for about a month; also a ration of corn meal tankage or skim-milk is fed them. About the first of June the pigs are weaned and placed on clover or alfalfa, which furnishes green feed for the next five or six weeks. About the 15th of July they are turned in a pasture of field peas and oats, thus supplying part of the grain ration; the acreage is larger because the pigs are larger. Green sweet corn is also fed at this time but not before it reaches the roasting ear stage, sparingly at first, being gradually increased. With this there is little or no need of corn meal ration, until shortly after the green sweet corn is ready to be fed. This is also fed in the roasting ear stage and when bottom of the stalks become woody only the top portion is used. The pigs are kept on pasture, and corn which becomes more mature is fed until fall or early winter, when they are ready for market. When possible it is a very profitable plan to hog the corn down, thus saving a great deal of labor. In this case a self feeder with tankage should be before the hogs.

The feeding of hogs for market will be found to be one of the most profitable departments of the farm.

Barry Co.

A. WINDES.

PIG CLUBS LAY GOOD FOUNDATION.

DISTRIBUTION of pure-bred pigs among the club members in Utah has laid a foundation for much improvement in the quality of the pigs raised throughout the state, reports the Utah State Club Leader. Early last spring it was thought that four or five carloads of pure-bred sows would be sufficient to supply the club members, and arrangements were made through the Ogden and Salt Lake City stockyards for this number—bankers to furnish loans to club members. It was soon found that more animals could be handled to advantage, and six carloads were purchased. A month later the number of cars ordered had increased to ten, and none of the shipments contained anything but pure-bred sows bred to farrow in April. The demand for pigs was so great that following this distribution eight hundred eight-week-old pigs were distributed by July 1. Many of the pure-bred pigs secured were purchased from a father and son in Nebraska who were in the hog business as a result of a prize pig won by the boy in his corn club work four years previous.

HOG EXPORTS TREBLED.

Considering the fact that the United States had a record supply of hogs on farms at the opening of this year, and that marketings this winter have been on an unprecedented scale, the present extremely high level of prices seems astonishing. But the demand actually exceeds the great supply. Europe is the principal bullish factor, buying unprecedented quantities of pork products from this country.

Since January 1 exports of hog products from the United States total nearly 700,000,000 pounds, or almost three times the quantity shipped to Europe in the corresponding period a year ago. Exports the last three and a half months are equal to the product of about 4,000,000 live hogs, while the outgo of pork products a year ago required the slaughter of only about 1,250,000 live hogs.

Potato Motors

MORE power to Murphy—the potato. What potentialities the statistician has discovered in it.

Automobiling a visitor out along the adamant surface of the Pelham road, a New York motor man said: "Some of these days we will have potato elevators all along here, fitted with conveyors or boots. Instead of buying ten gallons of gasoline it will be ten bushels of potatoes, shot into a suitable compartment, converted into ten gallons of alcohol by the very power which it imparts to the wheels."

"Nonsense," said the other.

"Fact," was the reply. "An economist estimates potato production is now 6,000,000,000 bushels. That equals 6,000,000,000 gallons of good alcohol. There is not much prospect of a permanent fall in potato prices. We can produce two hundred bushels to the acre. Our last year's crop was 450,000,000 bushels. We can use them for both internal engine combustion and to futilize our own vitality. Everybody can carry his own little roadhouse in front of him. No wonder the French call them 'earth apples.' Just think of the hard cider in one quart of Long Island potatoes."

RUBBER FROM THISTLES.

GETTING figs from thistles is frequently used to define the impossible. However, if not figs, perhaps rubber may be manufactured from them. This should interest a world that in 1916 produced 443,000,000 pounds of crude rubber, of which 268,000,000, or sixty-one per cent, went to the United States. In the last fiscal year we used still more—390,000,000 pounds. Central and southern Europe is the native home of a thistle bearing the elegant name of "saw thistle." It has migrated to the United States, and flourishes anywhere in the Temperate Zone. Years ago, when rubber was not so much used, chemists declared this pest was worthy of serious consideration, for it contained rubber, green and yellow dyes, a wool useful for paper manufacturing, and a vegetable wax. Why despise the prickly thistle because it does not bear figs or prunes?

IMPROVE PERMANENT PASTURES.

THE next few months is the desirable time of the year for the improvement of pastures. Large areas of permanent pasture would respond to proper methods of improvement which might include the following:

Keep the pastures clean by cutting off brush, briars, and weeds. Large stumps, stones, and dead trees should also be removed.

Those areas used for pasture that would permit harrowing and disking at the time of reseeding, applying lime, fertilizers, and manure, etc., may be greatly benefited. In some sections terracing may be practiced with satisfactory results.

The application of lime, acid phosphate, and manure can always be relied upon in most sections as a means of adding the necessary increased fertility.

Reseeding, particularly in the bare spots, is to be recommended. White and Japan clover, Bermuda, herds grass, carpet grass, and blue grass in favored sections are commonly used.

As a rule reseeded pastures should be lightly grazed the first year. At all times it is advisable to keep the cattle off the grass in the spring until well started. Closer grazing during the rest of the season may be practiced where this has been done. It is also advisable to turn cattle off the pasture earlier in the fall than is commonly practiced.

There's an Oliver Dealer Near You

Think what that means in service to every farm owner! The knowledge that you can drive to town today—any day—and get an Oliver Plow or an Oliver part, and how important such a service is this Spring when the ownership of a tractor and of a plow, even at the last moment, will insure the planting and harvesting of a crop from acres that otherwise would be unproductive.

From the very beginning the Oliver effort has been to make the Oliver Institution something more than a distant and impersonal factory. The Oliver conception of its purpose is frankly this: First—To build a product that will stand up under the hardest usage, rendering honest service; and that will fit the seed bed best. Second—To place within immediate reach of every farm, a competent dealer. The duty of that dealer is not simply to sell Oliver tools. He must co-operate with the farm owner to the fullest extent.

Oliver dealers help to bring to the farm owners in their territory a more complete knowledge of the tillage required by the different soil conditions, of plow designs, of the proper plow hitches, of tractor construction and operation—information that the Oliver Chilled Plow Works has gained from over sixty years' experience in the manufacture and study of farm implements.

For Oliver is selling, not just plows, but results—not just farm implements, but more bushels.

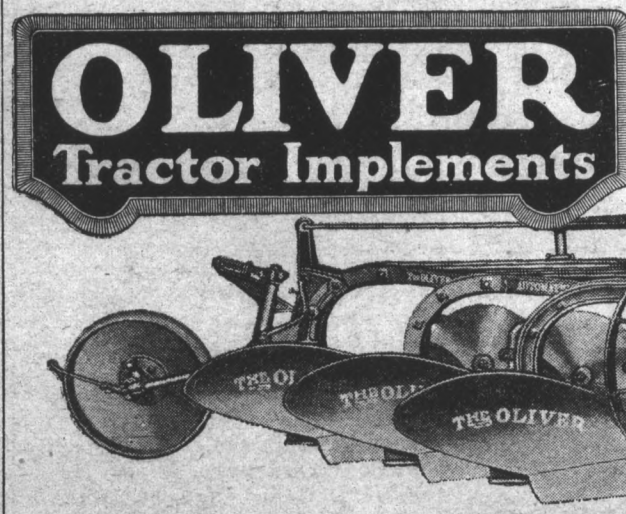
The Oliver dealer wants you to be satisfied. He realizes that it is just as much to his interest as it is to yours that you receive the fullest service of which Oliver Implements are capable, and he is ready to co-operate with you to the limit in making sure that you receive that service.

This Spring, therefore, when you are buying a tractor, choose your plow and tractor tools carefully.

Remember—that plow service and dealer service in all their phases mean more bushels.

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Successful Price Fixing

How the Michigan Milk Producers' Association Has Stabilized the Milk Industry and Brought Wealth and Prosperity to Michigan Dairy Farmers.

By W. O. Hedrick, Prof. of Economics, M. A. C.

FOR a long time past farmers have been dissatisfied with the prices they have received for their products. The middleman has been grasping and gets most of the blame from farmers for these low price levels. Middlemen are organized and often buy as a single man instead of bidding against each other as they are expected to do. Farmers are unorganized when it comes to marketing, and, indeed, usually let their stuff be bought from them instead of selling it as other producers do.

Middlemen generally have little or no investment in a community, so can wait until the farmers come to their terms. Farmers, on the other hand, have large fixed expenses, and their products must be sold even if sold at a loss. Taxes, hired men and interest on loans cannot be put off forever and must be paid. These cause forced sales of the farmer's crops, and thus low prices.

Again, the farmer wishes to stabilize his business by cutting out chance. Many of these he groans under without hope of relief. Chances of storms, floods, drouths, accidents and disease he may never find cured, but bad prices may have a proper remedy if sought for and found.

We have seen that during war times government has stabilized farm production by its fixed prices on wheat, meat, sugar, milk, etc., and many farmers would like this principle continued. They would like some of the certainty of getting "their cost plus a reasonable profit."

This is the story of a group of eight thousand Michigan farmers who have been successful in turning this trick of fixing prices. The farmers in question are dairymen scattered through some ten or twelve counties adjacent to Detroit who supply the metropolis with milk. These farmers have a city market which demands one hundred thousand gallons of milk per day, and, owing to the rapid spread of Detroit, this demand is steadily growing.

Everyone knows how unsettled the dairyman's business has been for the past two or three years. War costs for feed for dairy materials and for labor have reached dizzy heights. On the other hand, the retail price of milk in Detroit stayed fixed upon a simple beverage basis, ignoring the high food value of this great necessity. It was a price, which had come down from the country milkman days, when a jangling bell called housewife or maid to the street curb where she got her dipper of milk from the open can at the driver's knee. It disregarded the costs of processing and bottling on the part of the city dealer, or the country dairyman's costs, which Board of Health rules had put upon him.

Murmurings of discontent on the part of the dairyman had not been lacking for some years prior to our going into the war. Mostly these were directed against the city dealer whose right to a fifty-fifty division of the city retail price was often doubted by the farmer. The farmer's wrath at the dealer led him into several plans for thwarting

this enemy, some of which were fairly successful. In a dozen cities of the state, for example, cooperative associations of milk producers were set up which distributed milk at cost for their farmer members. In other places cooperative creameries, as rival markets for milk, were started, and in a few places milk strikes were more or less organized by the farmers. In the meantime Mr. and Mrs. Public were careless, or else amused, at this wordy row between the country dairyman and the city dealer.

Ever increasing war costs forced a crisis upon the dairymen, however, and at a state conference in the summer of 1916, called to seek relief, it was decided to organize a Michigan Milk Producers' Association. Man-kind's usual shift was thus made use of, that when you can't do a thing by yourself, cooperate with others.

But this association was not of the usual type, and since the golden path to price fixing is found in associations like that of the milk producers, a rather full description is required. To begin with, the dairymen who made up this association were already in substance an association, since all were under the supervision of the Detroit Board of Health. This licensed them to sell to the city trade, and at the same time set them off from the competition of dairymen who were unlicensed. Secondly, since the commodity they produced is so perishable that little is shipped out of a neighborhood, or none shipped in, they already monopolized the city market without knowing it. Indeed, the dairymen in any city area need fear no competition from dairymen in distant regions, since milk is naturally hard to ship—and in fact impossible to ship under Board of Health rules. Thirdly, the needs of the city dealer requires a daily supply of milk from the farmer the year round. The dealer's equipment is so vast and expensive, and his customers so urgent, that he can hardly leave it to the chances of an open market to secure his supply of milk. He, therefore, makes contracts with the farmer each year for a twelve-month supply of milk, and these contracts tend to confer a market privilege upon the farmer which the outsider cannot get. In the fourth place, new dairymen acting as competitors within the Detroit milk shed itself, need not be feared by the regular country dairyman, since the beginning investment in a herd is considerable, and two or three years is required to develop the business.

Summing up now the pillars on which the Milk Producers' Association rests, and we find them to be (a) identified members; (b) furnishing a local product; (c) under contract; (d) on a long-time basis. Each one of these taken separately opposes harmful competition. All of them taken together makes an association a monopoly. It was the discovery of the fact by the Milk Producers' Association that it could monopolize the supply of milk that went into Detroit, which enabled it to successfully fix prices. Hence—

(Continued on page 563).



FEDERAL ROAD SYSTEM.

I HOPE before another congress expires we shall have before us a general scheme for building roads which will favorably appeal to a majority of congress."

This statement by Senator Charles E. Townsend, of Michigan, the probable next chairman of the senate committee on post office and post roads, makes clear that the Sixty-sixth Congress will give serious consideration to a comprehensive plan which may result in the adoption of a federal system and the creation of a federal commission.

In the course of his argument on the amendment to the federal aid road act, which carried with it an appropriation of \$200,000,000, distributed among the several states, and \$9,000,000 for roads in the federal forest reserves, the senator from Michigan thus sets forth the situation.

"I think now, of all times, the present is the worst to curtail, or to attempt to curtail, in any way the activities of the government in public improvements. I do believe that, inasmuch as we have, as Senator Jones from Washington has stated, a going machine, an organization for building roads, and inasmuch, further, as it is conceded that the general welfare demands that the government must encourage those enterprises of a public nature which offer legitimate employment to labor and at the same time supply a public service, it seems wise to me to increase road building. This class of improvement was checked by the war, and now in this period of reconstruction, the work should be renewed on a larger scale.

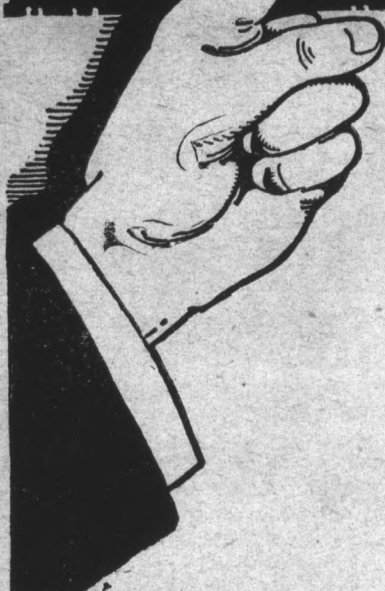
"I believed, and still believe, that we ought to have a nationalized system of roads. I hope before another congress expires we shall have before us a general scheme for building roads which will favorably appeal to a majority of congress. But it is too late to enact new legislation in this congress. I suggested a more comprehensive and scientific plan to the committee, but it could not be considered. But this appropriation is as wise an investment as we can make now in these disturbed conditions, however difficult our financial situation may be. I hope the various state highway commissions will see to it that it is so expended that it will contribute to a national system, which I am sure this country must adopt sooner or later. Let the states build the laterals but let us have a system of national highways extending through every state, east and west, north and south.

"I have not been pleased with the administration of this law in the Department of Agriculture. I think the money has not been as wisely expended as it should have been; but we are learning in the matter of road building. The states themselves are cooperating now, and every year makes them wiser in the matter of road construction, and I cannot believe that very much of this money will be wasted. Therefore, while I am not heartily in favor of this system, because I believe there is a better one, nevertheless it being inaugurated, and this being the present opportunity to render aid in this emergency of reconstruction, I feel it is wise to pass the bill."

If purchasing an incubator get the best. A cheap machine is usually the most expensive. The difference between a good and poor hatch will often make up for the difference in initial cost. Follow the manufacturer's directions. They should know the best way to operate that particular type of machine. Hatch early and secure winter eggs.

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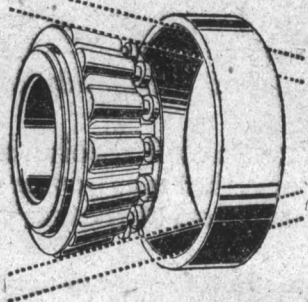
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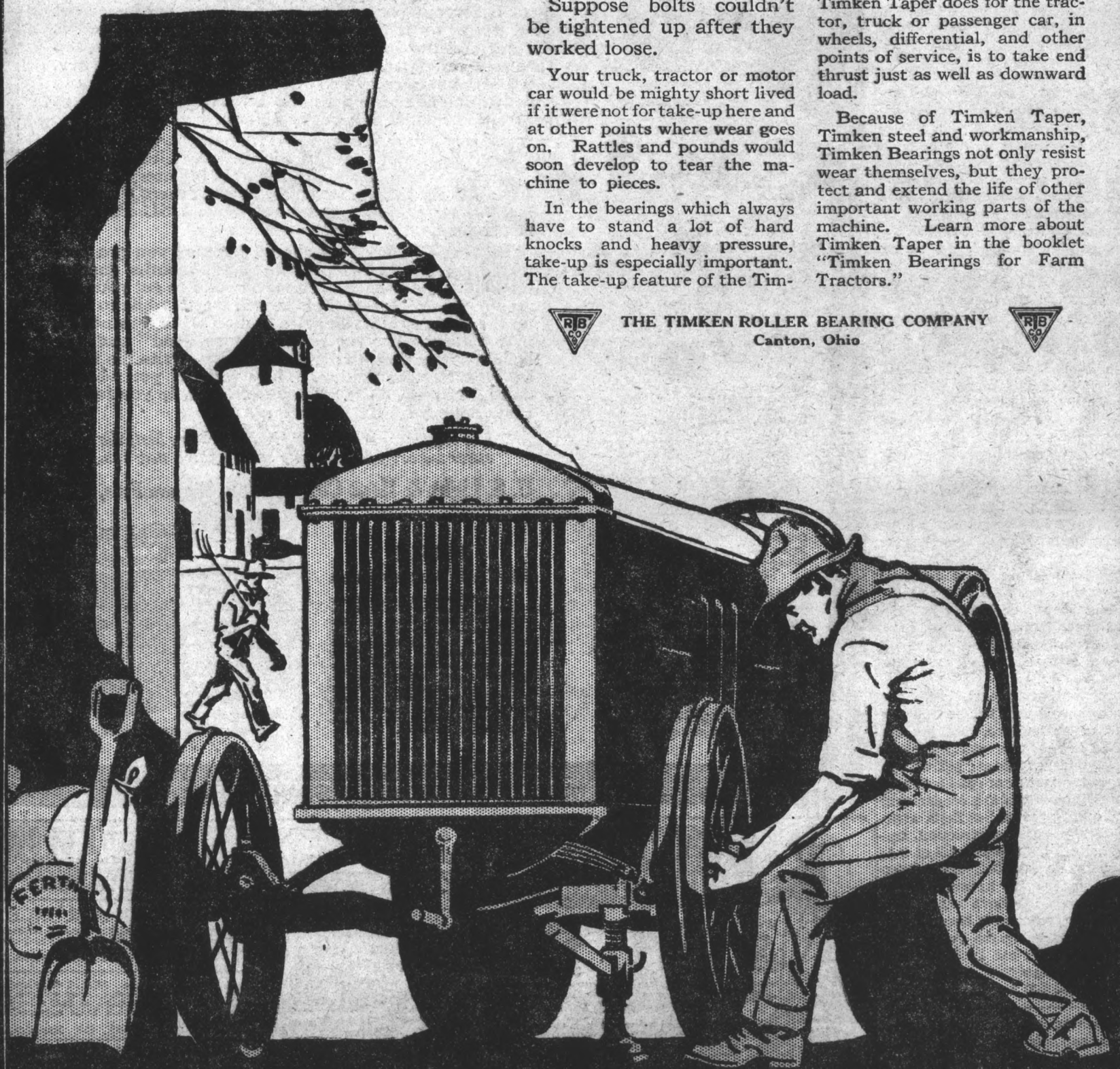
ken Roller Bearing enables you to make a new bearing of it at the end of every season. All that's needed is a part turn of the adjusting nut or removal of a shim.

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WORLD EVENTS IN PICTURES



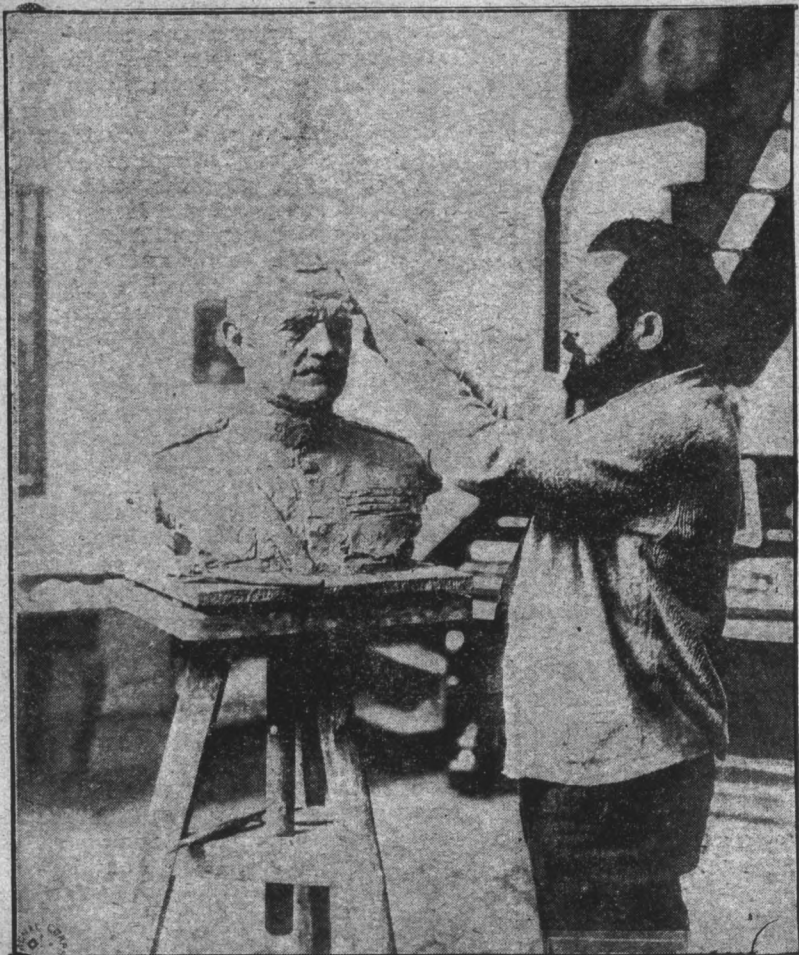
Doughboy Presents His Sweetheart with Remarkable Belt Containing Twenty Insignias of War.



Miss Anderson, Trade Union Leader, Attends Peace Conference.



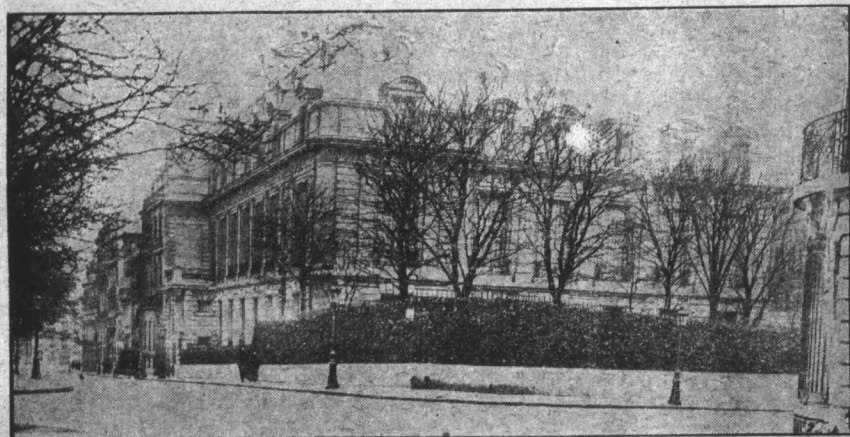
French Girls Employed by United States Are Proud to "Look Like the Yanks."



Jo. Davidson, the Noted Sculptor, Completing Bust of General Pershing.



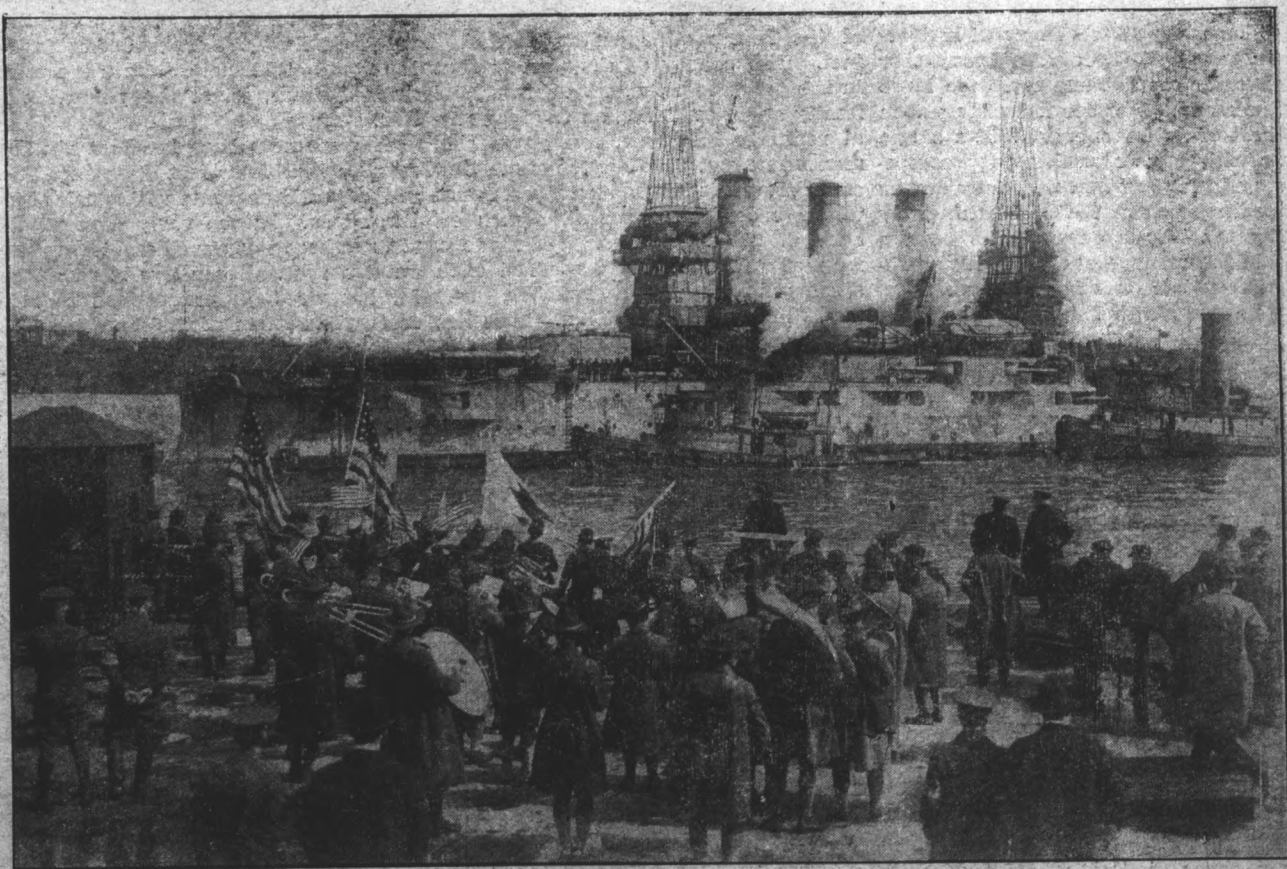
Secretary Daniels and Party of Naval Men, Sail for France.



Home of President Wilson During His Stay in Paris.



Lieut. Bellanger will Pilot the First Seaplane Across the Atlantic.



"Hail, Hail, the Gang's All Here," Plays the Regimental Band, while the U. S. Steamship Missouri Steams into the Harbor at Hoboken, with the Last of the Twenty-seventh Division.

How We Got the R. F. D.

(Part Two)

By J. H. Brown

LEWIS CLARK and Willis Lawrence, the pioneer rural free delivery carriers of Michigan, had stuck to their job through hot and cold, wet and dry weather, and had navigated fairly good and miserably poor roads for about nineteen years without any let-up or much of a vacation. They showed symptoms of sticking like a bull dog for quite a spell yet, and had proved themselves good soldiers in fighting poor roads and weather and punching mail into the farmers' mail boxes along their routes.

So we thought over a plan of erecting some kind of a marker or memorial in the village of Climax to commemorate the starting of rural free delivery in Michigan, and also provide a permanent recognition of these carrier boys and their long service on the original routes out of Climax post office. Then we submitted the plan to the farmers on the routes and to the Climax "Men's Fellowship Club," at one of their meetings, illustrating the plan by means of sketches. The idea took unanimously.

Our next move was to take up the plan with our Chamber of Commerce in Battle Creek, as the writer was the chairman of the agricultural committee. The Chamber of Commerce voted to send the writer to Charlevoix to attend the annual meeting of the Michigan Rural Letter Carriers and extend an invitation to them to meet at Battle Creek the next year. We did so, and explained that we wished the carriers to meet in our city, and that we wanted to erect an "R. F. D. Memorial Monument" in Climax in time for the state association to help dedicate it. The plan was enthusiastically and unanimously endorsed, and the date was set for Thursday, July 26, 1917.

During the months of June and July the memorial was constructed. At our suggestion a local building committee was appointed to work under our direction. It was a rather slow job to collect and sort out the stones, place them in position, make sketches and number each stone and assign to its proper owner. The writer, as general chairman, and designer of the monument, had to spend a portion of twenty-seven days driving to the village to work and direct all details.

The plan we made was to use one stone from each of the farms along the original routes traversed by Clark and Lawrence. In spite of careful instructions, many of the stones brought or sent in by the farmers were too large or too small. In order to build up such a shaft of field stone, without a single bit of chipping or breaking, it was necessary to lay out and try many stones in position before the final setting. By using the larger ones at the bottom and in the corners, and gradually working in smaller ones in the upper tiers, it was possible to harmonize the great

variety of shapes and colors and make a beautiful shaft of rough field stone. But it took some time and trying out. We found that it would be better to take in all three rural routes and secure more stones.

There are exactly 239 stones sticking out of the shaft—nine from old, historical sites in the village, and one each from about 230 farms on the Climax rural routes. It was a decided novelty, and this is, so far as we know, the first memorial so constructed. It is officially known that this is the

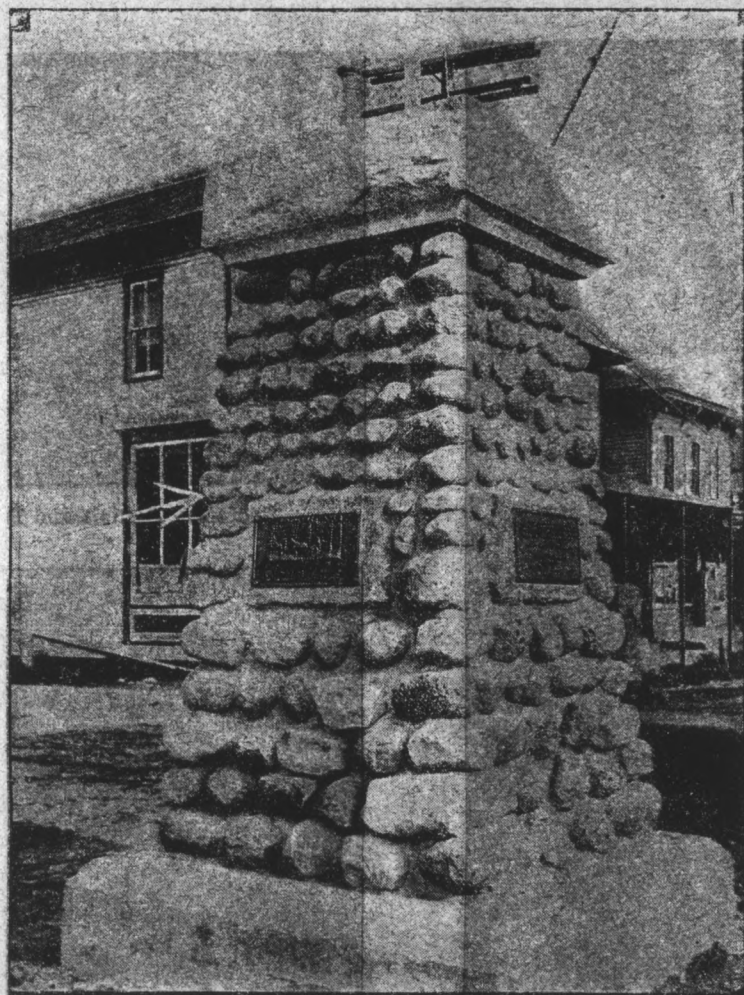
and the maps will, with some pictures we took during and after construction, be framed and hung up in the post office.

Previous to commencing construction of the monument, we applied to the village council for legal authority to erect the shaft in the exact intersection of the two main streets, thus making it a practical and permanent semaphore, with road signs above the cap stone, to direct and divert local and through traffic. This was officially conferred and then we asked the coun-

The stone shaft is about ten feet high to the bottom of the Barre granite cap stone, which is fifteen inches thick and four feet square. This cap stone is massive, handsome, weighs one and one-half tons, and was cut out by the prisoners of Jackson prison. The four bronze tablet blocks are also of Barre granite and project into the stone shaft from twelve to fifteen inches. The shaft is solid stone and concrete, with a vertical three-inch black-iron sewer pipe in the exact center extending from top to bottom. From the bottom angle it runs in a trench to and up an electric light pole at the southwest corner sidewalk. Thus we laid an insulated and waterproofed double-line light wire under ground and up through the monument to the four large electric lights above the cap stone. The sewer pipe extends down the monument, through the trench and up the pole and thoroughly protects the light wire. We give particular description of this construction because a score or more historical, college and other organizations have visited this memorial and have asked for constructive details for a somewhat similar design memorial. One is a college alumni association in eastern Ohio, that praises the idea of a field stone shaft with one stone contributed from each member, and the secretary writes they wish to build one this coming summer.

The one close-up picture shows the construction of all four side walls of field stone, also two of the bronze tablets. After laying two or three tiers of stones it was necessary to carefully scrape out the fresh cement-concrete mortar, after it had partially set, from between the stones for a depth of two inches. This was a slow and particular job to secure evenness and make each stone stick right out like life, as the picture shows. Not a single stone was broken or chipped, but left just as it came from its farm yard, wall foundation or field, and no stone has any identification mark. Each stone was tagged until it was laid in the wall, when we recorded it on our chart and alphabetical list. We answer numerous questions that have come to us, in the above description, as it seems others are desirous of erecting some kind of a marker or memorial of field stone made up of individual contributions.

The stone shaft is about five feet square at the base and three feet square at the top. It stands perfectly plumb and level, and tapers harmoniously to present a fine appearance to the eye, from any point of view. Before commencing to lay a single stone we erected a staging and guide for construction work. The electric light wire pipe is plumb in the center of the foundation and the outer point of projection of each stone was measured and set by using the pipe as a guide. It

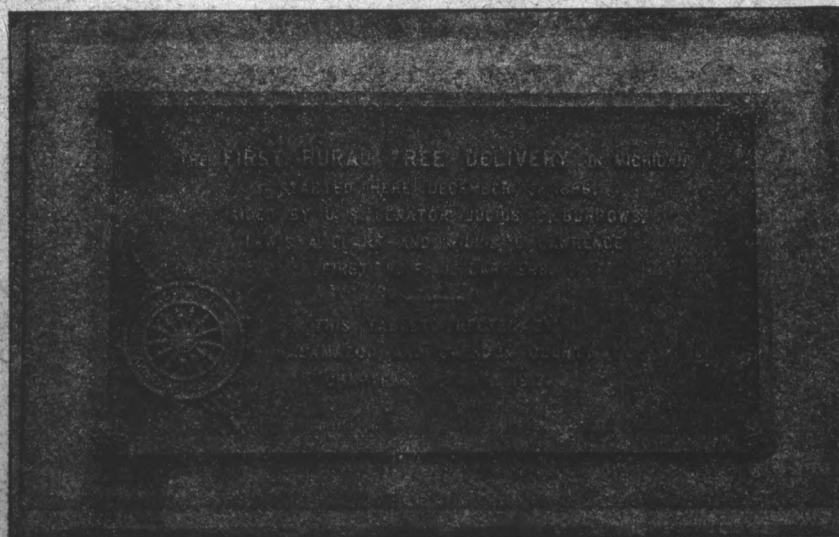


Stones Are from Farms on First Michigan R. F. D. Routes.

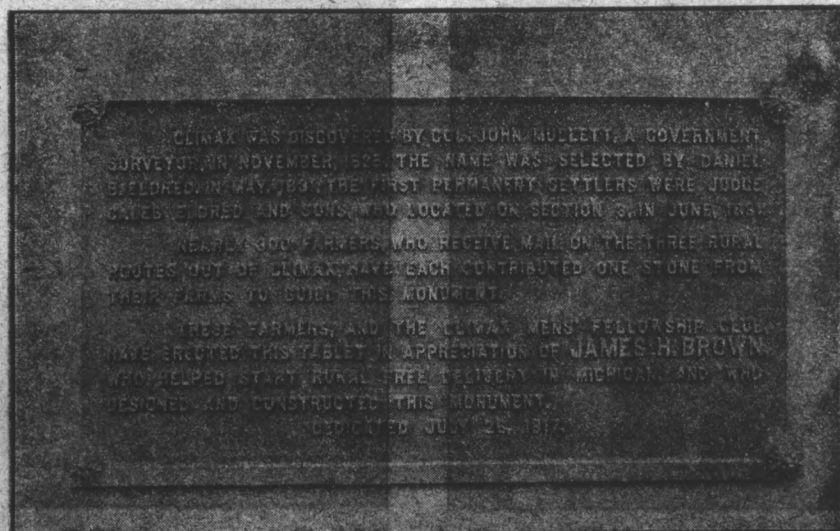
"First R. F. D. Memorial in the United States," and the reverse side of each of the four road signs declares this fact. The beauty of the plan is that in the years to come, each farmer, his family or descendants, on the first rural route in Michigan, can go to this monument and pick out the stone that came from his or an ancestor's farm. There are fifteen tiers of stones on each of the four sides. We made a map of each side wall, marked each stone with its official number, and printed an alphabetical list. This list

ty road commission to establish the street level and grade, in order that we might have the concrete foundation top about eight inches above the pavement surface, when the pavement is laid.

The concrete base is about six feet square, laid four feet deep in the ground, solid concrete with small stone thrown in. In the early days of the village there was a well and town pump on this spot. Years ago it was filled in, but we took precautions to reinforce the bottom of the foundation.



Tablet Erected by Local Chapters of D. A. R.



Tablet Bearing Historical Information.

was a slow and particular work, and the mason, Fred Beals, a boyhood schoolmate of ours, did a fine job in laying the stone.

The beauty of the stone shaft is enhanced by the projecting massive Barre granite blocks that support the heavy bronze tablets. There are four of these tablets, and the information they bear on their face, along with the inscriptions on the four porcelain-enamel road signs above the capstone, give condensed and full information as to what the monument stands for. Thousands of tourists have stopped to look at the memorial, as it attracts instant attention, even a block away. "There is nothing like it in the whole wide world," a noted traveler exclaimed when he saw it for the first time. "It is massive, handsome, harmonious in contour and design, and stands for one of the greatest benefits that ever happened to the farm homes of the United States; the tablets give full information, and the completed monument is an everlasting credit to the designer."

The bronze tablet on the north side we designed to bear the picture of the two carriers, Clark and Lawrence, starting out from the Climax post office, each with his horse and road cart. This picture was made from the one shown in recent issue of the Michigan Farmer. Below the picture is the following inscription: "First Rural Free Delivery Carriers Starting Out from Climax Post Office. (From Photo Taken by Frank Hodgman). This Tablet Erected by Michigan Rural Letter Carriers' Association."

On the west side is the bronze tablet donated by Michigan State Grange. It reads: "The First Congressional Appropriation to Try the Experiment of Delivering Mail to Farmers' Homes was Secured through the Strenuous Efforts of the National and State Granges in 1896. The Amount was \$40,000. This Tablet Erected by Michigan State Grange, 1917." The lower section of the tablet has the additional inscription: "Monument Construction Committee, Frank L. Willison, William H. Sheldon, Simeon E. Ewing."

Pictures of the other two tablets appear herewith. One was donated by the D. A. R. chapters of Calhoun and Kalamazoo counties, and is erected on the south side of the shaft. On the east side is the tablet erected by the Climax people and includes local historical information.

On the northeast corner of the stone shaft, in the ninth tier, is the famous "Pork Barrel Stone" (marked by an arrow), that came from the family of Benjamin Harrison, one of the signers of the Declaration of Independence. This stone was used in Virginia and Maryland by the Harrison family, and was brought to Michigan by William Harrison, son of Judge Bazel Harrison, who was the first white settler in Kalamazoo county, in 1830. From that time, when "Uncle Billy" and his bride, America, settled on the farm and built the first cabin on Climax prairie, for over eighty-seven years, that stone was used in the family pork barrel to hold down the layers of pork in brine. While we were erecting the R. F. D. stone shaft the youngest son of Uncle Billy told us about this pork barrel stone, and expressed a desire to have it go in the monument to represent the Harrison Farm, which was on the original R. F. D. route out of Climax. It was kept under lock and key until ready to set in the corner on the ninth tier where it points directly toward the old pioneer farm of the Harrison family. Until the concrete set the stone was carefully guarded. It is the most famous stone in the monument, and thousands have looked for and asked its location.



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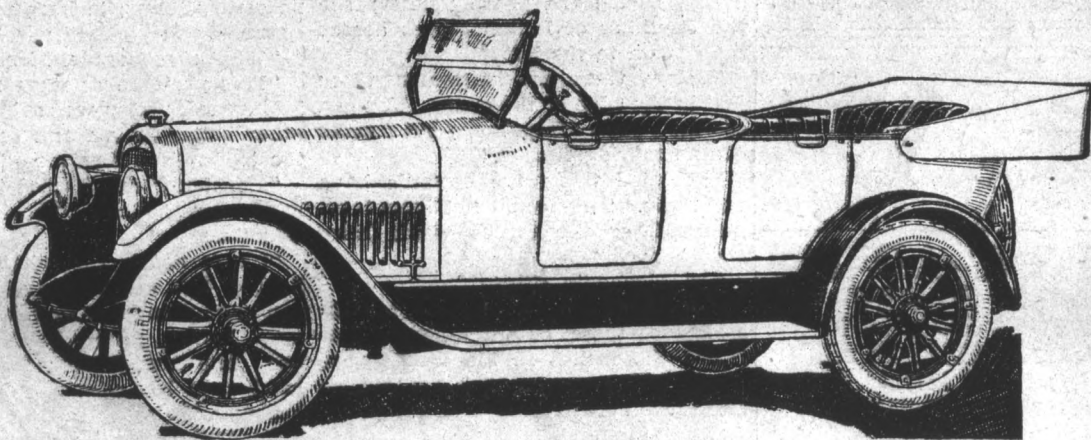
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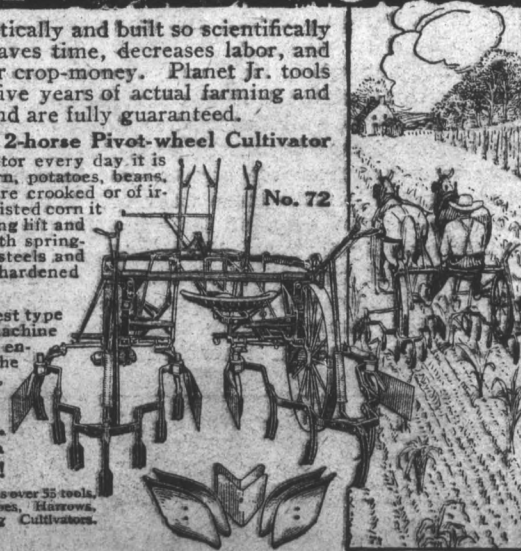
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"Beyond the Frontier"

By RANDALL PARRISH

I could look down the aisles of the trees for long distances, and no longer experienced any difficulty in keeping within sight of my leader. All sense of fear had passed away, we seemed so alone in the silent forest, although once I thought I heard the report of a distant gun, which brought back to mind a vision of that camp of death we had left behind. It was a wearisome tramp over rough ground, for while De Artigny found passage through the hollows wherever possible, yet we were obliged to climb many hills and once to pick our way cautiously through a sickly swamp, springing from hummock to hummock to keep from sinking deep in slimy ooze.

De Artigny came back and aided me here, speaking words of encouragement, and assuring me that the trail we sought was only a short distance beyond. I laughed at his solicitude, claiming to be good for many a mile yet, and he left me, never realizing that I already staggered from weariness.

However, we must have made excellent progress, for the sun had not entirely disappeared when we emerged from the dark wood shadows into a narrow, grassy valley, through which flowed a silvery stream, not broad, but deep. Assured that this must be the water we sought, I sank to the ground, eager for a moment's rest, but De Artigny, tireless still, moved back and forward along the edge of the forest to assure himself of the safety of our surroundings. Barbeau joined him, and questioned.

"We have reached the trail?"

"Ay, beside the shore yonder; see you anything of Indian tepees across the stream to the left?"

"Below, there are wigwams there just in the edge of the grove. You can see the outlines from here; but I make out no moving figures."

"Deserted then; the cowards have run away. They could not have been attacked, or the tepees would have been burned."

"An Algonquin village?"

"Miami. I had hoped we might gain assistance there, but they have either joined the whites in the fort, or are hiding in the woods. 'Tis evident we must save ourselves."

"And how far is it?"

"To the fort? A league or two, and a rough climb at the farther end through the dark. We will wait here until after dusk, eat such food as we have without fire, and rest up for a bit of venture. The next trip will test us all, and Madame is weary enough already."

"An hour will put me right," I said, smiling at him, yet making no attempt to rise. "I have been in a boat so long I have lost all strength in my limbs."

"We feel that, all of us," cheerily, "but come, Barbeau, unpack, and let us have what cheer we can."

I know not when food was ever more welcome, although it was simple enough to be sure—a bit of hard cracker, and some jerked deer meat, washed down by water from the stream—yet hunger served to make these welcome. We were at the edge of the wood, already growing dark and dreary with the shadows of approaching night. The wind, what there was, was from the south, and, if there was any firing at the fort, no sound of it reached us.

Once we imagined we saw a skulking figure on the opposite bank—an Indian Barbeau insisted—but it disappeared so suddenly as to make us doubt our own eyes.

The loneliness and peril of our situation had tendency to keep us silent, although De Artigny endeavored to cheer me with kindly speech, and gave Barbeau careful description of the trail leading to the fort gate. If aught happened to him, we were to press on until we attained shelter. The way in which the words were said brought a lump into my throat, and before I knew the significance of the action, my hand clasped his. I felt the grip of his fingers, and saw his face turn toward me in the dusk. Barbeau got to his feet, gun in hand, and stood shading his eyes.

"I would like a closer view of that village yonder," he said, "and will go down the bank a hundred yards or so."

"'Twill do no harm," returned De Artigny, still clasping my hand. "There is time yet before we make our venture."

He disappeared in the shadows, leaving us alone, and I glanced aside at De Artigny's face, my heart beating fiercely.

"You did not like to hear me speak as I did?" he questioned quietly.

"No," I answered honestly, "the thought startled me. If—if anything happened to you, I—I should be all alone."

He bent lower, still grasping my fingers, and seeking to compel my eyes to meet his.

"Adele," he whispered, "why is it necessary for us to keep up this masquerade?"

"What masquerade, Monsieur?"

"This pretense at mere friendship," he insisted, "when we could serve each other better by a frank confession of the truth. You love me—"

"Monsieur," and I tried to draw my hand away. "I am the wife of Francois Cassion."

"I care nothing for that unholy alliance. You are his only by form. Do you know what that marriage has cost me? Insults, ever since we left Quebec. The coward knew I dare not lay hand upon him, because he was your husband. We would have crossed steel a hundred times, but for my memory of you. I could not kill the cur, for to do so would separate us forever. So I bore his taunts, his reviling, his curses, his orders that were insults. You think it was easy? I am a woodsman, a lieutenant of La Salle's, and it has never before been my way to receive insult without a blow. We are not of that breed. Yet I bore it for your sake—why? Because I loved you."

"Oh, Monsieur!"

"'Tis naught to the shame of either of us," he continued, now speaking with a calmness which held me silent. "And I wish you to know the truth, so far as I can make it clear. This has been in my mind for weeks, and I say it to you now as solemnly as though I knelt before a father confessor. You have been to me a memory of inspiration ever since we first met years ago at that convent in Quebec. I dreamed of you in the wilderness, in the canoe on the great river, and here at St. Louis. Never did voyageur go eastward but I asked him to bring me word from you, and each one, bore from me a mes-

sage of greeting."

"I received none, Monsieur."

"I know that; even Sieur de la Salle failed to learn your dwelling place. Yet when he finally chose me as his comrade on this last journey, while I would have followed him gladly even to death, the one hope which held me to the hardships of the trail, was the chance thus given of seeking you myself."

"It was I you sought then at the home of Hugo Chevet, not service under Francois Cassion? Yet, when we met you knew me not."

"Nay; I had no thought that you were there. 'Twas told me in Quebec—for what cause I cannot decide—that you had returned to France. I had given up all hope, and that very fact made me blind to your identity. Indeed, I scarce comprehended that you were really Adele la Chesayne, until we were alone together in the palace of the Intendant. After I left you there, left you facing La Barre; left you knowing of your forced engagement to his commissaire, I reached a decision—I meant to accompany his party to Montreal, find some excuse on the way for quarrel, and return to Quebec—and you."

He paused, but I uttered no word, conscious that my cheeks were burning hotly, and afraid to lift my eyes to his face.

"You know the rest. I have made the whole journey; I have borne insult, the charge of crime, merely that I might remain, and serve you. Why do I say this? Because tonight—if we succeed in getting through the Indian lines—I shall be again among my old comrades, and shall be no longer a servant to Francois Cassion. I shall stand before him a man, an equal, ready to prove myself with the steel—"

"No, Monsieur," I burst forth, "that must not be; for my sake you will not quarrel!"

"For your sake? You would have me spare him?"

"Oh, why do you put it thus, Monsieur! It is so hard for me to explain. You say you love me, and—and the words bring me joy. Ay, I confess that. But do you not see that a blow from your hand struck at Francois Cassion would separate us forever? Surely that is not the end you seek. I would not have you bear affront longer, yet no open quarrel will serve to better our affairs. Certainly no clash of swords. Perhaps it cannot be avoided, for Cassion may so insult you when he sees us together, as to let his insolence go beyond restraint. But I beg of you, Monsieur, to hold your hand, to restrain your temper—for my sake."

"You make it a trial, a test?"

"Yes—it is a test. But, Monsieur, there is more involved here than mere happiness. You must be cleared of the charge of crime, and I must learn the truth of what caused my marriage. Without these facts the future can hold out no hope for either of us. And there is only one way in which this end can be accomplished—a confession by Cassion. He alone knows the entire story of the conspiracy, and there is but one way in which he can be induced to talk."

"You mean the same method you proposed to me back on the Ottawa?"

I faced him frankly, my eyes meet-



ing his, no shade of hesitation in my voice.

"Yes, Monsieur, I mean that. You refused me before, but I see no harm, no wrong in the suggestion. If the men we fought were honorable I might hesitate—but they have shown no sense of honor. They have made me their victim, and I am fully justified in turning their own weapons against them. I have never hesitated in my purpose, and I shall not now. I shall use the weapons which God has put into my hands to wring from him the truth—the weapons of a woman, love, and jealousy. Monsieur, am I to fight this fight alone?"

At first I thought he would not answer me, although his hand grip tightened, and his eyes looked down into mine, as though he would read the very secret of my heart.

"Perhaps I did not understand before," he said at last, "all that was involved in your decision. I must know now the truth from your own lips before I pledge myself."

"Ask me what you please; I am not too proud to answer."

"I think there must be back of this choice of yours something more vital than hate, more impelling than revenge."

"There is, Monsieur."

"May I ask you what?"

"Yes, Monsieur, and I feel no shame in answering; I love you! Is that enough?"

"Enough! my sweetheart—"

"Hush!" I interrupted; "not now—Barbeau returns yonder."

CHAPTER XXIV.

We Attack the Savages.

IT was already so dark that the soldier was almost upon us before I perceived his shadow, but it was evident enough from his first words that he had overheard none of our conversation.

"There are no Indians in the village," he said gruffly, leaning on his gun, and staring at us. "I got across to a small island, along the trunk of a dead tree, and had good view of the whole bank yonder. The tepees stand, but not a squaw, nor a dog is left."

"Were there any canoes in sight along the shore?"

"Only one, broken beyond repair."

"Then, as I read the story, the tribe fled down the stream, either to join the others on the Illinois, or the whites at the fort. They were evidently not attacked, but had news of the coming of the Iroquois, and escaped without waiting to give battle. 'Tis not likely the wolves will overlook this village long. Are we ready to go forward?"

"Ay, the venture must be made, and it is dark enough now."

De Artigny's hand pressed my shoulder gently.

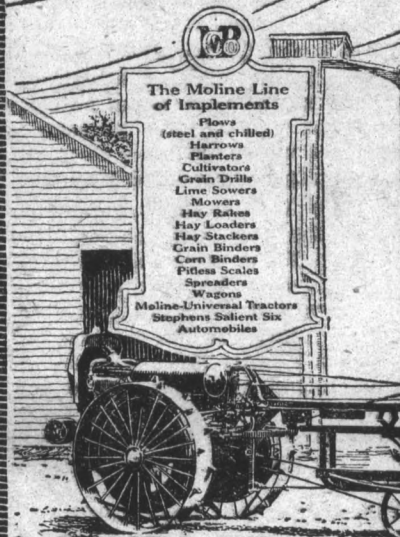
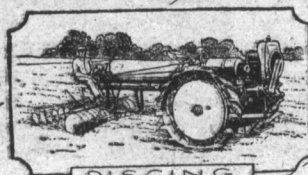
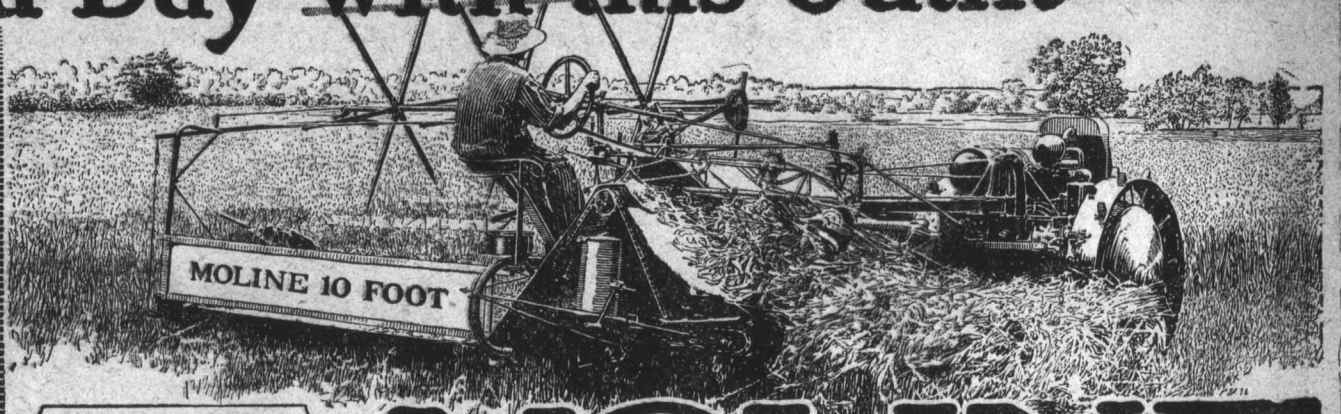
"I would that I could remain with you, Madame," he said, "but as I know the way my place is in advance. Barbeau must be your protector."

"Nor could I ask for braver. Do not permit any thought of me to make you less vigilant, Monsieur. You expect to gain the fort unseen?"

"'Tis merely a chance we take—the only one," he explained briefly. "I cannot even be certain the fort is in state of siege, yet, without doubt those warriors who went down the river would be in position to prevent our approaching the rock by canoe. There is a secret path here, known only to La Salle's officers, which, however, should give us entrance, unless some wandering Iroquois has discovered it by accident. We must approach with the utmost caution, yet I do not anticipate great peril. Barbeau, do not become separated from Madame, but let me precede you by a hundred paces—you will have no trouble following the trail."

He disappeared in the darkness, vanishing silently, and we stood motionless waiting our turn to advance. Neither spoke, Barbeau leaning forward, his gun extended, alert and ready. The intense darkness, the quiet night, the

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This new Moline 10-ft. tractor binder attached to a Moline-Universal Tractor running 3 1/2 miles per hour, with one man in control of both tractor and binder, will cut 40 acres of grain in a ten-hour day. This is more than 2 men and 8 horses with two 8-ft. binders can do; and more than 3 men with any other tractor pulling two 8-ft. binders can do.

Considering the amount of work it will do, and the saving in expense, the Moline 10-ft. binder is the lowest priced binder ever made, and it will last twice as long as any other. But of greater importance is the fact that you can now harvest your grain when it is ready in half the time you ever did before—this may save you the price of the entire outfit any rainy season.

The Moline 10-ft. Binder is made to work with the Moline-Universal Tractor. One man controls both tractor and binder from the seat of the binder. The entire outfit is easily and quickly backed to turn square corners so that a full width of cut can always be maintained. The new Moline Binder is constructed heavier throughout and has much greater capacity than any horse drawn binder.

Equipped With Hyatt Roller Bearings

Important bearings, 32 in all, are equipped with Hyatt roller bearings. These bearings double the life of the binder, allow it to run at much faster speeds, make lighter draft and require only one oiling a season. This feature alone saves one hour or more a day. Elevator gears are enclosed and packed in grease. There are many other features about this binder which enable you to harvest faster, cheaper and better than you ever did before.

A header attachment is provided so that the Moline Binder can be easily, and at small expense, converted into a header.

If you have only 20 acres of grain to cut, it will pay to own this outfit. You will pay for binder cutting your own and neighbor's grain.

Moline Tractor Works Year 'Round

After harvesting you can use your Moline-Universal Tractor to run a small separator and do all the threshing in your neighborhood. There is no end of uses for the Moline-Universal Tractor. You can plow, disc, seed, cultivate, mow, harvest, etc., and do all your belt work with it.

The Moline-Universal Tractor does all farm work including cultivating, and one man controls both tractor and implement from the seat of the implement.

Thousands of farmers in all parts of the country are proving every day that the Moline-Universal is the most practical, economical and efficient tractor made, that it practically doubles a man's results and reduces expense.

It will pay you to use the Moline-Universal Tractor and Moline Grain Binder this year. See your Moline Tractor Dealer now or write us for full information.

Moline Plow Company, Moline, Illinois
Manufacturers of Quality Farm Implements Since 1865

WOLVERINE OATS

The Michigan Agricultural College's New Oat
Out-Yielding the Worthy—120 Bushels to 100

Plant Some This Year

There was about 320 acres planted to this new oat last year and there will be a big demand next year for good seed. Have it to sell next spring.

Inspected Seed

Our supply is small and has been inspected, true to name and absolutely the best seed of this new variety on the market.

PRICES: Carefully re-cleaned, bagged in heavy grain bags and delivered to your station, 1-2 bu. \$2.50; 1 bu. \$3.25; 2 1-2 bu. \$7.00.

In 10 bu. lots (4 bags) F. O. B. here, bags extra at 50c, \$2.00 per bushel.

Ask for Saier's Seed Catalog

It is full of information about Michigan-Grown Seeds for Michigan Growers.

HARRY E. SAIER, Seedsman
LANSING, MICHIGAN BOX 23



Bee Supplies

Bee Hives, Sections, Comb Foundation, Smokers, etc. Send for catalog. Can supply beginner's outfit either with or without bees. Circular on request. Beeswax wanted.

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Standard quart, wood berry baskets, and wax-lined paper baskets. 16 quart crates in flat. Send for price sheet.



M. H. HUNT & SON
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From ground planted secured by use of The KEYSTONE POTATO PLANTER than by any other method of planting. Work perfectly accurate. A simple, strong, durable machine. Write for CATALOG, price, etc. **A. J. PLATT, MFR.** BOX J STERLING, ILL.

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for sale by members of Michigan Crop Improvement Ass'n.

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EAST LANSING, MICHIGAN

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Western Canada for years has helped to feed the world—the same responsibility of production still rests upon her. While high prices for Grain, Cattle and Sheep are sure to remain, price of land is much below its value.

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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.

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F. S. Burch & Co. 145 W. Huron St. Chicago

mystery lurking amid those shadows although once we were startled by beyond, all combined to arouse within some wild thing scurrying across our me a sense of danger. I could feel the path, the sudden noise it made causing swift pounding of my heart, and I clinged the soldier's jacket merely to assure myself of his actual presence. The pressure of my fingers caused him to glance about.

"Do not be frightened, Madame," he whispered. "There would be firing yonder if the Iroquois blocked our path."

"Fear not for me," I answered, surprised at the steadiness of my voice. "It is the lonely silence which makes me shrink; as soon as we advance I shall have my nerve again. Have we not waited long enough?"

"Ay, come; but be careful where you place your feet."

He led the way, walking with such slow caution, that, although I followed step by step, not a sound reached my ears. Dark as the night was, our eyes, accustomed to the gloom, were able to distinguish the marks of the trail, and follow its windings without much difficulty. Many a moccasined foot had passed that way before us, beating down a hard path through the sod, and pressing aside the low bushes which helped to conceal the passage. At first we followed along rather closely the bank of the stream; then the narrow trail swerved to the right, entering a gap between two hills, ever tending to a higher altitude. We circled about large rocks, and up a ravine, through which we found barely room for passage, the walls rising steep and high on either side. It was intensely dark down there, yet impossible for us to escape the trail, and at the end of that passage we emerged into an open space, enclosed with woods, and having a grit of sand under foot. Here the trail seemed to disappear, but Barbeau struck straight across, and in the forest shade beyond we found De Artigny waiting.

"Do not shoot," he whispered. "I was afraid you might misjudge the way here, as the sand leaves no clear trace. The rest of the passage is through the woods, and up a steep hill. You are not greatly wearied Madame?"

"Oh, no; I have made some false steps in the dark, but the pace has been slow. Do we approach the fort?"

"A half league beyond; a hundred yards more, and we begin the climb. There we will be in the zone of danger, although thus far I perceive no sign of Indian presence. Have you, Barbeau?"

"None except this feather of a war bonnet I picked up at the big rock below."

"A feather! Is it Iroquois?"

"It is cut square, and no Algonquin ever does that?"

"Ay, let me see! You are right, Barbeau; 'twas dropped from a Tuscarora war bonnet. Then the wolves have been this way."

"Could it not be possible," I asked, "that the feather was spoil of war dropped by some Miami in flight?"

He shook his head.

"Possible perhaps, but not probable; some white man may have passed this way with trophy, but no Illinois Indian would dare such venture. I have seen them before in Iroquois foray. I like not the sign, Barbeau, yet there is naught for us to do now, but go on. We dare not be found without the fort at daybreak. Keep within thirty paces of me, and guard the lady well."

It was a dense woods we entered, and how Barbeau kept to the trail will ever be to me a mystery. No doubt the instinct of a woodsman guided him somewhat, and then, with his moccasined feet, he could feel the slight depression in the earth, and thus cling to the narrow path. I would have been lost in a moment, had I not clung to him, and we moved forward like two snails, scarcely venturing to breathe, our motions as silent as a wild panther stalking its prey.

Except for a faint rustling of leaves overhead no sound was distinguishable

to the utmost.

We crossed the wood, and began to climb among loose stones, finally finding solid rock beneath our feet, the path skirting the edge of what seemed to be a deep gash in the earth, and winding about wherever it could find passage. The way grew steeper and steeper, and more difficult to traverse, although, as we thus rose above the tree limit, the shadows became less dense, and we were able to dimly perceive objects a yard or two in advance. I strained my eyes over Barbeau's shoulder, but could gain no glimpse of De Artigny. Then we rounded a sharp edge of rock, and met him blocking the narrow way.

"The red devils are there," he said, his voice barely audible. "Beyond the curve in the bank. 'Twas God's mercy I had glimpse in time, or I would have walked straight into their midst. A stone dropping into the ravine warned me, and I crept on all fours to where I could see."

"You counted them?"

"Hardly that in this darkness; yet 'tis no small party. 'Twould be my judgment there are twenty warriors there."

"And the fort?"

"Short rifle shot away. Once past this party, and the way is easy. Here is my thought Barbeau. There is no firing, and this party of wolves are evidently hidden in ambush. They have found the trail, and expect some party from the fort to pass this way."

"Or else," said the other thoughtfully, "they lie in wait for an assault at daylight—that would be Indian warfare."

"True, such might be their purpose, but in either case one thing remains true—they anticipate no attack from below. All their vigilance is in the other direction. A swift attack, a surprise will drive them into panic. 'Tis a grave risk I know, but there is no other passage to the fort."

"If we had arms, it might be done."

"We'll give them no time to discover what we have—a shot, a yell, a rush forward. 'Twill all be over with before a devil among them gets his second breath. Then 'tis not likely the garrison is asleep. If we once get by there will be help in plenty to hold back pursuit. 'Tis a desperate chance I admit, but have you better to propose?"

The soldier stood silent, fingering his gun, until De Artigny asked impatiently:

"You have none?"

"I know not the passage; is there no way around?"

"No; this trail leads alone to the fort gate. I anticipated this, and thought it all out as I came along. In the surprise at the first attack, the savages will never know whether we be two or a dozen. They will have no guard in this direction, and we can creep almost upon them before attempting a rush. The two in advance should be safely past before they recover sufficiently to make any fight. It will all be done in the dark, you know."

"You will go first, with the lady?"

"No; that is to be your task, I will cover the rear."

I heard these words, yet it was not my privilege to protest. Indeed, I felt that he was right, and my courage made response to his decision.

"If this be the best way possible," I said quietly, for both men glanced questioningly at me, "then do not think of me as helpless, or a burden. I will do all I can to aid you."

"Never have I doubted that," exclaimed De Artigny heartily. "So then the affair is settled. Barbeau, creep

forward about the bank; be a savage now, and make no noise until I give the word. You next, Madame, and keep close enough to touch your leader. The instant I yell, and Barbeau fires, the two of you leap up, and rush forward. Pay no heed to me."

(Continued next week).

"By the Way"

DISCRETION.

Teacher—"Willie, do you love your enemies?"

Willie—"Yes'm—when I meet 'em all at once."

A HOT PACE.

A Georgian from up in the mountains came to town on his annual trip with a load of corn, sweet potatoes and other produce to exchange for groceries. As he neared the city he saw a sign: "Speed Limit Fifteen Miles an Hour." Prodding his oxen frantically with a stick he muttered: "By golly! I don't believe we can make it."

IT WAS A GOAT.

"Little boy," asked the well-meaning reformer, "is that your mamma over yonder with the beautiful set of furs?"

"Yes, sir," answered the bright lad.

"Well, do you know what poor animal it is that has to suffer in order that your mamma might have the furs with which she adorns herself?"

"Yes, sir. My papa."

ALL BOOKS ARE NOT SO DRY.

Card from a local station agent to a studious citizen:

"Sir—Please send, without delay, for the case of books directed to you, which is lying at this station and is leaking badly."

AND THANK YOU.

Pat went to a druggist to get an empty bottle. Selecting one that answered his purpose, he asked: "How much?"

"Well," said the clerk, "if you want the empty bottle it'll be five cents, but if you want something put in it we won't charge anything for the bottle."

"Sure, that's fair enough," observed Pa. "Put in a cork."

NOT NECESSARY.

"They say old Bucks died of consumption," said Mrs. Flynn to a neighbor.

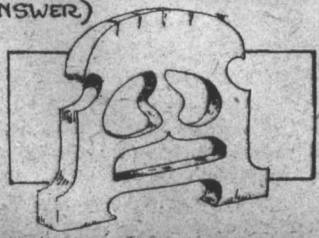
"Oh, I never knew they had consumption in the family."

"That doesn't matter," said Mrs. Flynn. "My sister's husband died of gastric fever and there was no gas in the house—they always used kerosene."

TODAY'S RIDDLE

WHAT BRIDGE IS WARRANTED TO SUPPORT ANY STRAIN?

(ANSWER)



Maud Muller Up To Date

"**R**AKING the meadow sweet with hay" loses none of its romance while it gains in its dollars-and-cents aspects by the use of up-to-date haying tools.

Haying time waits for no man. To guard against possible loss be prepared to mow, rake, ted and load your crop from hayfield or meadow at the proper moment.

For years you have been cheerfully complying with Government request to save materials by repairing your old machines rather than making replacements. Now that the need for this has passed, would it not be the part of real economy to buy a new machine and be assured of uninterrupted and maximum service at a time when a break-down would mean serious embarrassment and loss.

Deering, McCormick and Milwaukee Mowers, Rakes and Tedders and International and Keystone Side Delivery Rakes and Loaders

are doing satisfactory work on thousands of farms, needing little attention, and successfully meeting all hayfield emergencies. The combined side-delivery rake and tedder is a winner.

International and Keystone loaders lift the hay 10 feet without injury to blossom and leaves. Sweep rakes, stackers and combined sweep rakes and stackers clean up big fields in a hurry.

The use of these thorough-going, swift, dependable tools is making haying time paying time.

And hand in hand with every haying tool goes service. The I H C dealer is equipped to handle quickly your repair and adjustment needs. He is always in close touch with one of our 89 branch houses, whose resources and facilities are at your service.

Our organization, being an essential industry, has been speeded to top-notch efficiency. By anticipating your needs and ordering early, you make it easier for us to take back our soldier boys without disturbing our present organization.

Write us for catalogues and buy your haying equipment from the I H C dealer.

International Harvester Company of America

CHICAGO

(Incorporated)

U S A

Kalamazoo

Ensilage Cutters

"The World's Standard"

NEVER have the farmers of America so quickly recognized superior cutter merit as in the Kalamazoo. They are built to give satisfaction—and they do, absolutely.

The center-shear cut means better ensilage, smoother running, less power, no clogging of blower. Big capacity; perfectly balanced. Malleable, unbreakable cutter-wheel and blower makes fast cutting practical. Kalamazoo Ensilage Cutters are

Simple in Construction, Durable, Satisfactory

One lever starts, stops, reverses and insures easy control of the machine. Frame is constructed of channel steel and the entire cutter is built of best material throughout. Sizes for every farmer's need. Investigate now.

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Dept. 123 Kalamazoo, Mich.

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It illustrates and describes our complete line of cutters and contains just the kind of advance information you need before investing your money in any cutter.

Locks 50 Cows Instead Of One

2 to 50 West Bend Automatic Swinging Stanchions. The entire row of cows can be locked up or released instantly by one throw of the lever. Cow stops are operated at same time, and when set guide cow into the stanchion. Every user says it's the greatest idea ever brought out in modern barn equipment. You certainly want it in your barn. Write today for catalog showing complete line of West Bend Barn Equipment.

WEST BEND BARN EQUIPMENT CO., 280 So. Water St., West Bend, Wis.

West Bend

BARN EQUIPMENT

West Bend Automatic Stanchions equipped with our wonderful locking-releasing lever save you time and labor—and insure safety in locking up or releasing the cows, yet you pay no more for West Bend equipment than for ordinary stanchions that must be opened and closed singly by hand. The West Bend lever controls from the entire row of cows can be locked up or released instantly by one throw of the lever. Cow stops are operated at same time, and when set guide cow into the stanchion. Every user says it's the greatest idea ever brought out in modern barn equipment. You certainly want it in your barn. Write today for catalog showing complete line of West Bend Barn Equipment.

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Sweep Rakes Stackers
Comb. Sweep Rakes & Stackers
Bunchers

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Cream Separators

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Planters Motor Cultivators
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Other Farm Equipment

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On rural routes only at prices specified below in "Our Price" column.

	Regular Price.	Our Price.
Free Press, Detroit.....	\$5.00	\$4.50
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Press, Grand Rapids.....	5.00	4.50
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News-Courier, Saginaw...	5.00	4.50
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The above combinations give you an average saving of Fifty Cents.

The Michigan Farmer, Detroit



"I Want You to Thresh for Me Again Next Year"

That's always the parting call as the Red River Special Thresherman leaves his customer's farm. "I want you to come back next year. Your threshing is clean. I can't find grain in the straw stack. I know that I got a good job of threshing."

When you buy a

Red River Special

you insure your future business. You are sure of pleasing your customers—you are sure of having a threshing outfit that will stand the service of long, busy runs. It beats out the grain with the "Man Behind the Gun"—it has the construction that keeps the repair man out of a job.

Clarence Baker of Sheldon, Ind., writes: "The farmers say my 32x52 Red River Special beats anything they ever saw. They want me to come back and thresh for them next season."

The ideal threshing outfit is the Red River Special Thresher and the famous Nichols-Shepard Steam Engine.

Write for Circulars

Nichols & Shepard Co.,
In Continuous Business Since 1848.
Builders exclusively of Red River Special Threshers, Wind Stackers, Feeders, Steam and Oil-Gas Traction Engines.
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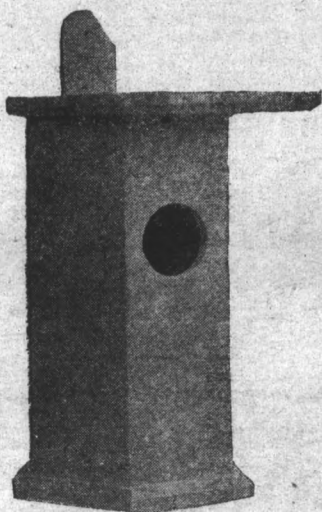


A House for Jennie Wren.

BIRDS that may be induced to nest in artificial houses are always interesting neighbors to have round, but it should be borne in mind that their architectural requirements and desires differ quite as much as with the human race. A house that would please a wren or tomtit would no more please a martin or nuthatch than an Eskimo igloo would be adapted to the needs of the cliff dwellers.

Woodpeckers, titmice and nuthatches are almost invariably their own architects and builders. After one year's occupancy they turn the domicile over to the less capable birds, and build a new one. However, by closely following the plans of these master builders the maker of artificial houses, can often induce even woodpeckers to occupy an artificial bird house. By following the designs of the woodpecker with some slight changes, houses may be made that will find ready tenants in the chickadee, nuthatch, wren, crested flycatcher and sparrow hawks.

Some birds are satisfied with almost anything. Bluebirds and wrens are content with old tomato cans or even a bushel basket hung up in the roof of the barn. Houses for those which excavate their own homes, as the woodpecker, should have the entrance of



"Telephone" Pattern Bird House.

the proper size, so that the inside will be dark and cozy. On the other hand, some other birds, like the robin or brown thrasher might be induced to build in a house if it were entirely open on at least one side.

Wood is the best material for any bird house, though cans may be economically utilized in some instances. The house will be more attractive to some birds if no metal is shown, so that nail and screw heads could be sunk and puttied over. Neutral shades of grey or green are most suitable for houses that are to be put in trees, though a large box on a pole is more presentable if painted white. Even the narrowest of perches at the entrance are undesirable, although it has been the practice to make a kind of porch for the birds to alight upon. A small drainage hole should be made in the bottom where it will be covered by the nest, and if ventilation is considered necessary, a few small holes can be made near the eaves.

No matter what the plan of the

Our Boys' and Girls' Page

Birds and Bird Houses

By H. F. Grinstead

house, the following dimensions will be found about right for the different occupants: For bluebirds, titmouse, wren, chickadee the floor space of each room should be about four by five, with the entrance one and a quarter inches in diameter, except for bluebirds, which should be a little larger, and for wrens smaller. The distance above the ground should be six to twelve feet, and the same sized house placed fifteen or twenty feet from the ground may be occupied by a nuthatch. Birds requiring as much as six by six floor space are the martin, woodpecker, crested flycatcher, phoebe, finch and barn swallow. The entrance should be two inches in diameter, except for the woodpecker, which should be one and a half inches. All should be twelve to twenty feet from the ground except phoebe and finch, which should be about half that distance. An important requirement is the depth of cavity from roof to nesting floor. The small birds should have the nest cavity eight to ten inches deep mostly below entrance, though wrens prefer it nearer by two inches, and all such entrances should be four to six inches above the floor. Robins require the entire side of the house open. Of the larger birds, martins, finch, phoebe and flycatcher like a cavity six inches deep with the entrance about the same distance above the floor. Woodpeckers like the cavity twelve or fifteen inches deep.

Martins usually come several pairs together, and like their house twenty feet or more from other buildings. Most of the other birds do not get along well with their own relatives, but have little trouble with other species, so that a wren and a bluebird or nuthatch may be on sociable terms, while two families of wrens will quarrel among themselves. Bluebirds like to be near the orchard, wrens, thrashers and catbirds like to have shrubbery nearby, while the titmouse, nuthatch and woodpecker is not likely to be lured far from timber.

Pretty rustic houses may be made for most birds by sawing a small hollow log into lengths of twelve to eighteen inches, nailing a short board over the top, which is sawed sloping, and making a hole for the entrance on one side. Such a log eight or ten inches in diameter should have a cavity of half that size. Such houses are best adapted for woodpeckers, nuthatch and birds desiring a dark interior.

By varying the size and depth, the "telephone" pattern of bird house will be found suitable for nearly all birds except those desiring an open nest like

the robin, and the martins, which live in communities of several families. The form of house referred to, and which is illustrated herewith, somewhat resembles a wall telephone. The back board is attached to a tree, house or pole by two nails or screws at top and bottom. The remaining three sides of the box as well as top and bottom are nailed securely together. A pair of screw-hooks and eyes, such as are used to fasten screen doors, hold the box against the back during the nesting season. In winter it can be taken down and cleaned, and also stored



A Tin Can Home.

away out of the weather and safe from occupancy by English sparrows.

The elaborately finished martin boxes are not so much appreciated by the birds as a simpler house conforming to their ideal of a home. A modified form of the box described above with a double house secured to each side of a central board would meet the requirement and satisfy the social nature of the martin. The most common defect in martin houses is having the entrance too near the floor, when the birds would prefer it several inches above.

Gourds with a small hole cut in them are tied to poles and trees in some sections of the country, and are rarely vacant. Small tin cans from which the small center only has been cut or melted will be appropriated by bluebirds and wrens, if placed in the shade. All houses should be cleaned in winter and kept closed against English sparrows until their tenants are due to arrive from the south.

The Albion Pig Club

By Paul C. Jamieson

THE Albion Pig Club is noted throughout the state of Michigan. It was the first pig club organized in the state. One of the boys won the state championship medal for the best sow and litter in 1917.

The pig club was organized by D. A. Garfield, president of the Albion State Bank, in the spring of 1916. Mr. Garfield purchased five of the best pure-bred Duroc Jersey sow pigs in Calhoun county. Each boy who took one of the pigs signed a contract agreeing to keep her until she had produced two litters. He further agreed to have one sow pig from each of the two litters registered and to give it to another boy who was approved by the club. Another provision of the contract was

that all the pigs had to be kept pure. As many of them as possible were to be sold for breeding purposes to improve the stock of the community.

The pig club had regular meetings under the supervision of Mr. Garfield and the Albion High School Agricultural Instructor, Mr. C. O. T. Scheetz. By the fall of 1918 the pig club had thirteen members. The writer, who succeeded Mr. Scheetz, enlarged the club so that it included other high school boys who are working out agricultural projects. It is now called "The Albion High School Agricultural Association" and includes forty boys.

The following story of "How I Raised My Pig," was written by Rae White, the member of the pig club who won

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The young poultryman in the above picture, is William Roy Sargent, who has been particularly successful with his flock of a dozen hens.

the Michigan State Championship—1917.

How I Raised My Pig.

I became a member of the Albion Pig Club on April 15 in 1916. My reason for joining the club was that I saw what a great interest the other Albion boys were taking in it. At first I did not take up any project but in the fall of 1916 I signed up for a pig that was given to me by the Albion State Bank. I received the pig on January 13, 1917. It was a pure-bred Duroc Jersey, dark red in color, and it weighed twenty-two pounds when it was sixty-eight days old.

The first two months I kept my pig with another one of the same size in the basement of my father's barn. I fed them twice each day on the following feeds: Middlings, two parts; ground oats and corn, six parts; two quarts of skim-milk. The ration by actual weight was one pound of meal and one pound of skim-milk for each pig. By the last of February I was feeding two pounds of skim-milk and one and one-half pounds of meal.

On March 17, 1917, the sow pig weighed seventy-nine pounds. In April I put her in a portable hog house and gradually increased her ration.



Her First Litter.

She had made a daily gain of one and one-seventh pounds a day since I got her.

On June 1, I had my sow bred to White Michigan Chief, a pure-bred Duroc Jersey boar. By the thirteenth of June she weighed two hundred pounds. I did not keep track of the feed and weights during the months of July and August but by the first of September she weighed two hundred and fifty pounds. On September 23 she had eight pigs. One of the little pigs died on the first day but I raised the other seven. I fed my sows a ration of one pound of middlings and one pound of ground oats and rye, with two gallons of skim-milk. She was not sick at any time and by October 25 my seven pigs would drink from the trough. The largest one weighed twenty-two pounds at the age of fifty-three days and the sow weighed two hundred and eighty-five pounds at the age of three hundred and seven days. I gave one of the little sow pigs to another boy. I sold the others to the neighbors for breeding purposes.

RAE WHITE.

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Pruning Red Raspberries

By R. G. Kirby

RED raspberry patches which were not pruned last fall should receive care before growth starts. The old wood should be removed and burned and the new canes thinned so that only the most vigorous remain. Fall pruning has an advantage as the old canes may contain insect pests and fungous diseases which should be burned immediately and not allowed to live through the winter.

Sometimes a variety like the Cuthbert is grown by the linear system and the canes are allowed to remain about six feet in height. Wires are stretched at a height of four feet to support the canes. If wires are not used and the canes are not headed back, many of them will be broken over by wind and snow and the patch will be severely injured. Allowing the canes to remain at a height of six feet insures a large crop of berries if the season is good. In small patches, the length of the berry season can be increased by pruning the canes back to a height of twelve or fifteen inches. Then the plants will grow a long shoot before fruiting and while the crop will not be so large, enough berries will be produced for the home table for about three weeks longer than under other systems of pruning. In commercial berry patches the grower desires a large amount of fruit during the marketing season as it keeps down the harvesting costs and so he will prefer not to cut the canes lower than four or five feet.

In the hedge system of growing raspberries the canes are left about eight inches apart. In the hill system about four of the best canes are left to each hill. The pruner must of course, use his own judgment as to the canes left. In some hills four or five healthy canes might be left. In others only three canes might show the vigor necessary to produce an abundance of fruit. When the hedge system is used, the grower cannot always leave the canes at exactly the same distance apart as raspberries show a tendency to select their own spot for producing healthy canes that are worth keeping and the grower cannot waste time in measuring distances. It is best to prune heavily and leave the healthy canes that do not crowd each other. If weak and diseased canes are found, they should all be taken out even if it leaves several feet of the row vacant. One of the main points in growing raspberries is to keep the patch from becoming diseased and many growers have given up their berry patches because of the rapidity of the spread of anthracnose, cane blight and cane borers.

A small and sharp V-shaped blade on a handle about three feet long, makes a desirable pruning tool for berries. The worker is able to cut out the old canes and surplus growth with less bending of the back and less scratching than when ordinary pruning tools are used. In small patches the long-handled orchard pruning shears can be used to remove the canes and the small clippers can be used to back-head the canes that are left. In pruning berries always use sharp tools as it prevents pulling and tearing of the canes and saves energy for the grower.

Berry growers should keep records of the time spent in pruning and charge it to the crop. Often only the cost of harvesting is deducted from the berry returns in determining the profit, but it pays to charge all work to the berry business and know for sure just what the business is worth and whether it is worthy of expansion.

R. G. K.

PREPARATION FOR THE BUG CAMPAIGN.

WE know that the potato bug will be with us next summer and that the vines will have to be sprayed with some poison in order to prevent their destroying the growing tops. That the young of the codling moth will enter the apples on unsprayed trees is a foregone conclusion. Flea-beetles, cutworms, cabbage worms and numerous other chewing insects will be with us in our gardens and on our farms. They must be poisoned and this poison must be administered early. The bug killed early in the season will, if killed soon enough, prevent its progeny from doing any damage. The sucking insects cannot, as a rule, be killed by the same sprays that will devastate the ranks of the chewing insects. In order to carry on a successful campaign against these insects we must begin right now to prepare for the battle. The artillery that will sprinkle death on our insect foes is composed of spraying machines both large and small. The ammunition is composed of the arsenicals, nicotine, lime, pyrethrum, hellebore and other bug-destroying materials. The artillery should be overhauled as early as possible to see that it is in proper working order. Plenty of ammunition should be on hand to be ready for the first bug that shows itself. Order early your arsenate of lead and be sure to have some nicotine sulphate on hand for the plant lice. Many a crop has been ruined over night or in a few days' time simply because the proper insecticides were not on hand. Prepare now to wage next summer's battle against the bugs. Get posted on what to spray and when to spray, also on how to spray, and then when the time comes go after them.

DON B. WHELAN.

SPRAYS FOR TOMATOES.

What kind of a spray for tomatoes? I had 2,000 vines last year and they rotted on the vines, green ones and all.

F. E. C.

Experienced tomato growers recommend the use of Bordeaux mixture in about the same manner as used for the potato crop, that is, the first application when the plants are a few inches high and continued at frequent intervals during the growing season.

This treatment is not always successful in controlling point rot, especially when weather conditions are dry and unfavorable for maturing the crop. Bordeaux applied after the development of the disease would be of doubtful efficiency and would prove objectional on account of the sediment left on the ripe fruit.

W. M. K.

"Never Saw A Bug"

"The potatoes that I sprayed with Pyrox kept green until the frost killed them, without a sign of blight. I never saw a bug on them after using Pyrox. It is easier to apply than any mixture I have ever used, and will not wash off in the heaviest showers."—L. A. LITTLEFIELD, winner of the first prize of \$200 in a Maine potato growing contest.

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kills the bugs as fast as they appear, and prevents blight and rot. Use it on the young plants before bugs or blights get their start.

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Woman's Interests

Vitamines

WHAT are vitamins? No one knows exactly, though we are hearing a great deal about them lately, and how necessary they are to perfect health and development. Seems queer, that an unidentified, chemical substance of which the lay woman never heard until a few months ago should work such havoc to her system if she doesn't get it, does it not? Yet we are told that if we do not get vitamin A, which is a fat soluble, in sufficient amounts we will have serious eye trouble, and that the absence of vitamin B, water soluble, will give us beri-beri. The cold chills caused by this dire threat are somewhat mitigated, however, when we are at once assured that Americans as a whole are pretty safe because of their wide and varied diets.

Vitamins, however, we are assured are absolutely essential to the child's proper development. The fat solubles are found in butter-fat, whole milk, cheese made of whole milk, cream, of course, egg yolks, leafy vegetables, and beef suet. The water solubles are to be found in all whole cereals. Note the word just before cereal "whole."

This means in breakfast foods and flours which give you the whole grain.

The greatest danger comes from the proneness in these days of high prices to omit the fat solubles. How many people are eating butter substitutes and going without milk at all, or at best giving skim-milk? The cream contains most of the vitamins and whole milk should be given each growing child. If butter substitutes are fed to children those made of beef fat should be used. Vegetable fats and pork fats do not contain vitamins. Too, children should be fed daily some sort of leafy vegetable—lettuce, spinach, celery, endive, any of the salad vegetables.

Economize all we must. But do not economize on the children's food for their whole future depends upon their being fed correctly now. You are deciding today whether your child shall be strong, vigorous and healthy when mature, or a physical weakling. Do with fewer clothes, sell the auto, and get along without the drapes you want for the "parlor." But don't cut out the cream, fresh fruit and vegetables from the kiddies' bill-of-fare.



Milk-Fed Kiddies

By Margaret A. Bartlett

WHY don't you keep a cow?" asked Aunt Anne the morning after her arrival at her niece's house, as she heard the rattle of milk bottles—five of them—on the piazza.

"I would," gaily answered her niece, "if only we were back in the country, instead of temporarily housed on a fifty-foot city lot."

"But who in the world ever drinks it all?" persisted the aunt.

As if in answer to her question, into the room bounced the two roly-poly youngsters, Teddy, the four-year-old, and two-year-old Belle, bright and smiling and ready for breakfast.

"My, don't these children look well?" exclaimed Aunt Anne, greeting them with a hug and a kiss. "I don't see whom they take after, Ruth," turning to their mother. "Neither you nor their father has any health to boast of. What's your secret?"

"I want my milk," shouted Teddy. "Milk! Milk!" echoed Belle. Their mother smiled.

"That's the answer," she said. "It's no secret."

"But do you mean," asked the Aunt, "that they drink milk in any quantity? I should think they were old enough to eat solid food."

"Oh, of course they eat solid food, Aunt, but their diet is based chiefly on milk. Here, kiddies," placing their

chairs at the table, "your breakfast is ready."

With a merry scramble, the children were in their chairs, and the next moment, two little noses were concealed in the cups of creamy milk. Not till every drop was drained did they turn to the waiting cereal, toast and fruit. Before they finished each had demanded and received another cup of milk.

"Well, I never!" exclaimed Aunt Anne. "Why don't you give them part water instead? They'd drink it just as easily."

"Truth is, Aunt," her niece laughed, "water is refreshing, but it hasn't very much food value. They drink plenty of water between meals. At present, they are having breakfast."

"But how can you afford to let them drink so much water, milk costing what it does here in the city?"

"Because I know how necessary it is for the children's well-being. I know that nothing so well provides all the necessary elements of growth for the young child as milk. Therefore, I make it their mainstay. The cost per quart is high, I know, but when breakfast and supper consist almost entirely of milk—I usually make cream soup, creamed toast or some other such dish not only for their supper but for our own—so few other foods are used that

(Continued on page 555).

How much is 1^c

Suppose that for one cent you could absolutely insure the quality of your cake—wouldn't that be real economy?

One cent is about the difference in the cost of a whole cake or a pan of biscuits made with ROYAL BAKING POWDER as compared with cheaper baking powders made from alum or phosphate—a trifle, indeed, to insure the quality and wholesomeness of your baking.

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No. 2186—Infants' Set, consisting of a Cap, a Sack, a Night Gown and a Dress. Cut in one size; For the dress of flouncing it will require 1 1/4 yards of 36-inch material with 1 1/4 yards of plain material for yoke and sleeves. Of nainsook or lawn 36 inches wide it will require 2 1/4 yards. The gown will require 2 1/2 yards of 24 or 27-inch material. The cap a half yard of 18-inch material. The sack requires 1/2 yard of 27-inch material. Price 10 cents.



No. 2743-2742—Ladies' Costume. The waist 2743 cut in seven sizes, 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 will require 2 1/2 yards of 40-inch material. Skirt 2742 cut in seven sizes, 22, 24, 26, 28, 30, 32 and 34 inches waist measure. Size 24 will require three yards of 44-inch material. With plaits extended the skirt measures about 2 1/2 yards at the foot. Two separate patterns 10 cents for each pattern.

No. 2754—A Stylish Frock. Cut in four sizes, 14, 16, 18 and 20 years. Size 18 requires 4 1/2 yards of 36-inch material. Width of skirt at lower edge is about 1 1/2 yards. Price 10 cents.

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WOMEN'S SECTION



A Period of Reconstruction---In Hats

SAVE Everything" was the motto in our household long before we ever heard the word "conservation." Now, the "transformation shop" turns out new hats from old quite as frequently as suits and dresses, and each new season brings fresh enthusiasm and inspiration to the home milliner.



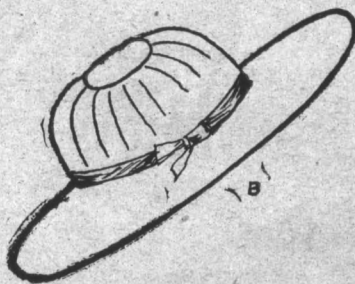
A—Ready for a Second Season.

Hats and trimmings are saved and brought out for inspection at the beginning of each new season. The display may look discouraging, but wait—there is a bright idea "somewhere in the shops" and the home milliner goes forth to capture it.

On her tour of inspection she found many possibilities for the home milliner. To begin with, the hats are made of softer materials than they have been for several years. Straw brims, both wide and narrow, are crowned with soft satin or georgette crepe made over buckram frames; this makes them very light. There are entire hats of satin or silk. Some are made of rows of narrow ribbon or bias bands caught together at intervals with French knots. A rose-colored silk hat was seen, which was quilted all over in diagonal squares with the same color

thread. The crown was very soft and droopy, rather resembling a Chinese lantern, with its rows of wire round about. Many of the soft hats are simply trimmed with a small bow of narrow ribbon or a tiny bunch of flowers sewed to one side of the crown.

The spring suit of gray cloth described in a previous article called for a new hat. The model which furnished the desired inspiration was a broad-brimmed shape of dark brown straw braid. A bias band of dark green silk, gathered into a wire circle just over the edge of the crown, came within an inch of reaching the brim. From the lower edge of this band came delicate sprays of maiden-hair fern, arranged at intervals around the crown and extending an inch or two out onto the brim. On the right side of the front of the crown was a flat bunch of small



B—Original Hat of Navy Satin.

flowers in delicate colors. The same green silk faced the brim.

This hat—a very expensive one for all its simplicity—supplied the idea. A fine straw braid hat with broad brim and low crown was brought out. Its color was faded, but since the straw was as good as new, the hat was treated with two coats of hat dye, from which it emerged a navy blue. The crown was cut off an inch from the base, and put on again over a higher crown of buckram from another old hat. This raised it to the desired height, and the buckram insert was covered with the trimming. French crepe, which looks like crepe-de-chene, but is cotton and cheaper, in a soft shade of gray, faced the brim and bound the crown. Two small bunches of flowers, one gray and one pink, surrounded with foliage trimmed it. These were purchased in the ten-cent store. Where the model had maiden-hair fern, this hat had vari-colored foliage and tiny moss-rose buds found in the box of old trimmings. (See A). The cost of reconstructing this hat was as follows:

Half yard of crepe.....	\$0.50
Two bunches flowers.....	0.20
One bottle hat dye.....	0.23
Total	\$0.93

Three Hats from One.

Another hat, (B), was originally of navy-blue satin, the brim being faced with a fine straw braid.

It was purchased early in the spring. The next autumn a blue silk facing covered the braid, making it wearable far into the winter. When spring came again the hat was ripped apart. The frame was found to be a firm buckram, well wired. The low crown was replaced by a higher one purchased at the dime-store. The blue silk facing was sewed on again and the original braid facing used for the top of the brim. When gone over with a brush dipped in writing ink, it looked like

new. The crown was covered first with pink silk muslin (found in the piece bag) and then with blue silk voile (originally a dress sleeve). An inch-wide ribbon of rose and gold went round the crown and was tied in a small bow in the back. Around the top of the crown, to cover the seam, was placed a row of green rose-leaves. Sprays of the same leaves were sewn flat at the base of the crown overlapping the ribbon. (Diagram C). The only expense for the completed hat was:

Buckram frame	\$0.10
Ribbon	0.40

Total **\$0.50**

The shape of this hat being very becoming it was decided to use the frame again. This time the straw braid was replaced in its original position beneath the brim, and the entire top covered with red crepe-de-chene. A wreath of cherries and green leaves around the crown completes a very striking and pretty hat, the cost of which was:

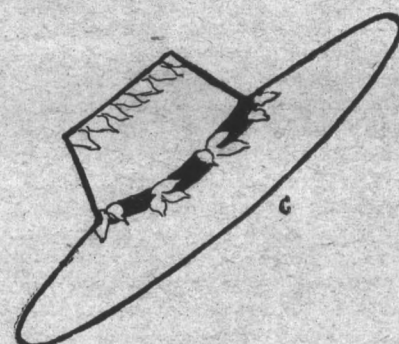
Half yard of crepe-de-chene.....	\$0.75
Cherry wreath	0.10

Total **\$0.85**

By an investment of \$5.85 (the original hat costing \$4.50), the owner was the proud possessor of three hats which all of her friends thought were new.

Soft Crowns in High Favor this Spring.

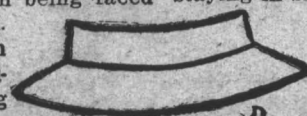
This year's style of a silk crown on a straw brim is inspiring to further efforts. Last year's hat of blue straw was no longer fit to wear, the high crown being picked out from much pinning. One coat of blue dye (left



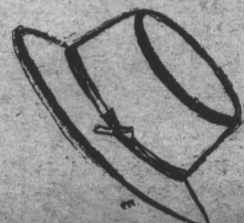
C—New Crown on Hat B.

from dyeing the hat first described), made the narrow brim fresh again. The crown was cut off two inches from the base. (Diagram D). Bias strips, six inches wide, were cut from the fronts of an old blue crepe-de-chene waist, to make the new crown. By lining it with crinoline it needed no other foundation and had the desired "soft" look when finished. A silk-covered wire sewn in the seam which joins the oval top the sides of the crown insures its staying in shape. A narrow gros-grain ribbon around the crown completes this pretty little street hat, (Diagram E), which cost nothing but the labor, as the materials were already in the house.

You never know what you have in the house until you look. As in the case of dresses, do not be afraid to use



D—Worn Crown Cut Away.



E—With New Silk Crown.

There's a rich, satisfying, old-time flavor to The Original POSTUM CEREAL

that no substitute can ever equal.

A healthful drink that leaves no trace of harm, a beverage grateful to the stomach, that never upsets nerves, heart or digestion as does sometimes coffee.

Boil just like coffee

Boil thoroughly (15 minutes after boiling begins) make it rich and dark and you have something that makes your meal doubly enjoyable.

"There's a Reason"

At Grocers—two sizes 15c & 25c.

Please Mention this Paper When Writing to Our Advertisers

materials originally intended for other purposes.

Don't be afraid to use cheap materials in hats. Close examination of high-priced hats often reveals cheap materials. It is the art of putting them together and getting the "effect" which makes the selling price so high. Any woman who is handy with her needle can learn to make her own hats. With patience and practice, close observation of details and a knowledge of the prevailing style, she can turn out stylish and becoming hats.

MILK-FED KIDDIES.

(Continued from page 553).

the cost is greatly reduced. Practically all cakes, crackers and cookies, which altogether too many children make a practice of filling up on, are excluded entirely. If a lunch is required between meals a slice of bread and a glass of milk suits them admirably, while milk desserts take the place of pie at dinner and a glass of milk reduces the quantity of meat consumed."

"But I fail to understand," continued Aunt Anne, "how you get them to take it so well. Most of the children I've seen detest milk after they are a year or so old, even children living on dairy farms."

"Yes, I know," replied her niece, "but it's the mother, not the children, who is to blame. Weaning time to most women means jumping from babyhood to manhood, skipping by childhood altogether, so far as diet is concerned. As soon as baby begins to take solid food, the mother decreases the milk supply. She lets him have tastes of all the victuals the grown-ups have, and his stomach gets too full for milk. Yet all he has eaten is not half so beneficial as a much smaller quantity, supplemented by a glass or so of milk."

"Of course, if a child really dislikes milk it may be necessary to do a little coaxing, but a little ingenuity and patience will usually have the desired effect. Let the mother make cocoa or cereal coffee entirely of milk, using only sufficient boiling water to dissolve the powder, and offer it to the child in winter. In summer, a bit of sugar or syrup with a few drops of flavoring, added to the milk and the concoction termed 'liquid ice-cream' may go down when milk alone wouldn't."

"One mother I knew used to paste a pretty picture on the bottom of a tumbler, then fill the glass with milk. Her little girl gladly drank the milk in order to see the new picture. Another mother induced her children to drink milk by using pretty, odd-shaped tumblers and cups, while still another kept on hand a supply of small hard candies one of which she dropped into each glass. You can readily believe the children never refused to drink the milk when the last swallow meant a piece of candy."

"After all, it rests with the mother entirely whether or not the children drink milk and grow strong, rosy and healthy," with a look of pride toward pink-cheeked, chubby Teddy and Belle. "If she understands how vitally important milk is to her children's health, and realizes that a dollar spent on milk for them could be invested in no better way, she will teach them to drink milk and they'll never acquire a distaste for it and think it just for babies."

"You are right about our children not having especially healthy parents to take after, but we are bringing them up right, and, Aunt Anne, do you know any healthier children than these?"

"Indeed I don't. I always said how lucky you were to have such healthy children. Now I know it wasn't luck, but good care and milk."

At twenty, our photographers never "do us justice." At forty, we're mighty glad if they don't.

Good Things To Eat

After a strenuous day's work it is with delight we sit down to a bountiful meal. And we start right in to satisfy the inner man.

The good wife has not overlooked anything in her endeavor to appease the appetite.

She has learned long since that the most direct route to her husband's heart is through his stomach. The men are all alike in this respect.

And why shouldn't we have good things to eat? We only live in this old world once and the best way to get the most out of life is to enjoy it every day as we go along.

Don't wait until tomorrow to begin using

Lily White

"The flour the best cooks use"

For every day you are without it you are missing something.

Your bread will be more delicious, lighter and whiter if baked from LILY WHITE.

Your bakings will be more uniformly excellent.

LILY WHITE is more than just flour. It is the best part of the choicest wheat carefully and scientifically milled into the very best flour it is possible to produce.

The way to have better bread, biscuits and pastry is to use better flour, and the way to have better flour is to buy LILY WHITE "The flour the best cooks use."

Your money will be cheerfully refunded if you do not like LILY WHITE FLOUR as well or BETTER than any flour you have ever used.

VALLEY CITY MILLING COMPANY
GRAND RAPIDS, MICHIGAN



No. 2613—Here is a popular suit for your small boy. Cut in four sizes, 2, 3, 4 and 5 years. Size 4 requires 3½ yards of 27-inch material. Price 10 cents.



No. 2744—Child's Dress. Cut in four sizes, 2, 4, 6 and 8 years. Size four will require 2½ yards of 40-inch material. Price 10 cents.



No. 2755—Child's Dress. Cut in four sizes, 2, 3, 4 and 5 years. Size four will require 3¼ yards of 27-inch material. Price 10 cents.



No. 2769—Child's Romper. Cut in four sizes, 1, 2, 3 and 4 years. Size four requires three yards of 36-inch material. Price 10 cents.

No. 2790—Dress for Misses' and Small Women. Cut in three sizes, 16, 18, and 20 years. Size 18 requires five yards of 44-inch material. Width of skirt at lower edge is about 1½ yards.

No. 2781—Ladies' Dress. Cut in seven sizes, 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 will require 4¾ yards of 36-inch material for the dress and 1¾ yards for the jumper. The skirt measures about 1¾ yards at the foot. Price 10 cents.



No. 2791—Girls' Dress. Cut in four sizes, 6, 8, 10 and 12 years. Size 12 requires 3¾ yards of 36-inch material. Price 10 cents.



No. 2771—Girls' Dress. Cut in four sizes, 6, 8, 10 and 12 years. Size 10 requires 3¾ yards of 36-inch material for the dress, and 1½ yards for the bolero. Price 10 cents.



No. 2747—Girl's Dress. Cut in four sizes, 6, 8, 10 and 12 years. Size 10 will require 3¼ yards of 44-inch material. Price 10 cents.



No. 2741—Girls' Dress. Cut in four sizes, 6, 8, 10 and 12 years. Size 10 will require 4¾ yards of 36-inch material. Price 10 cents.



No. 2776—Child's Dress. Cut in four sizes, 2, 4, 6 and 8 years. Size six requires 2¾ yards of 27-inch material. Price 10 cents.



No. 2789—Child's Set of Short Clothes. Cut in five sizes: Six months, 1, 2, 3 and 4 years. Size two will require for drawers, one yard, for petticoat 1½ yards, for dress 2¼ yards, of 36-inch material. Price 10 cents.

\$200 Land

One of the country's ablest land experts recently said to a group of bankers: "My judgment is that every acre of land east of the Mississippi, that is arable, will command \$200 an acre within ten years." As the price of land goes up, bigger crops are necessary if the land is to yield the same or larger profits. This is why you should use

A·A·C· Fertilizers

for they contain the essential available plant foods properly proportioned, scientifically compounded, and ready for immediate application when needed. The name of The American Agricultural Chemical Co. is a synonym for service as well as quality. Our Agricultural Service Bureau, 92 State Street, Boston, Mass., will gladly aid you and any one of our many sales departments, located in different parts of the country, will give you genuine A. A. C. service. Write today. A postal card will do.



How to Make Money with Fertilizers is the title of a 56 page book containing information every farmer needs in relation to the proper use of fertilizers; it shows where profit is to be found, and how to get it. It is different from other fertilizer books and is not a catalogue. Any one of our offices named below will send it to you free. Simply mention this paper and ask for the book.

The American Agricultural Chemical Co.

ATLANTA BOSTON BALTIMORE BUFFALO CINCINNATI CLEVELAND CHARLESTON COLUMBIA DETROIT JACKSONVILLE LOS ANGELES MONTGOMERY NEW YORK PHILADELPHIA ST. LOUIS SAVANNAH, ETC.

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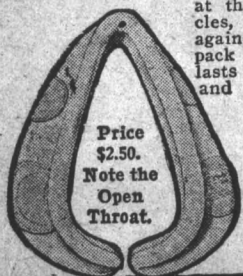


Do You Have Galled Horses in the Stable when Needed in the Field

A heavy leather collar rubbing against tender, sweaty shoulders is very apt to cause galls. Do away with sore shoulders by using Lankford Collars. They not only prevent but actually heal galls while the horse works. More than a million a year now used in place of leather.

Lankford
HUMANE HORSE COLLAR

Made of soft, oily, springy cotton fiber. Does not hold heat. Absorbs sweat and impurities—keeps shoulders dry and cool. The closely woven army duck covering is like a surgical bandage. Open at the throat—moves with shoulder muscles, instead of chafing and rasping against them. Easy to put on. Will not pack or harden. Cannot sweeney. Often lasts three or more seasons. A collar and pad combined.



Price \$2.50. Note the Open Throat.

Every Collar Guaranteed
Every collar is sold upon the guarantee that galled horses get well while working in Lankfords. If your dealer cannot supply you, send us \$2.50 (state size wanted), and we will send you a collar, charges prepaid. (8-2c)
THE POWERS MFG. CO.,
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A few counties open for resident farmers, as exclusive selling representatives for high-grade line of Star-O-line Building Products. Liberal arrangements for men who are well known in their locality and enjoy the confidence of their neighbors. No capital investment required. Write for full particulars. Address Building Supply Department M-100 White Star Refining Co. Detroit, Mich. Manufacturers Extra-Quality Motor Oil and Star-O-line Products

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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 M. Jones, Pres.

Mention The Michigan Farmer When Writing Advertisers

YOU CAN'T CUT OUT A BOG SPAVIN OR THOROUGHPIN but you can clean them off promptly with



ABSORBINE
TRADE MARK REG. U.S. PAT. OFF.

and you work the horse same time. Does not blister or remove the hair. \$2.50 per bottle, delivered. Will tell you more if you write. Book 4 R free. ABSORBINE, JR., the antiseptic liniment for mankind, reduces Varicose Veins, Ruptured Muscles or Ligaments, Enlarged Glands, Wens, Cysts. Allays pain quickly. Price \$1.25 a bottle at druggists or delivered. Made in the U. S. A. by W. F. YOUNG, P. D. F., 268 Temple St., Springfield, Mass.

Shall Land Pay all Taxes

(Continued from page 530).

ciety? If not what moral right has the township, county or state, to send an increased tax bill, having rendered no service for the farmer? The building of the barn was a service rendered to the farmer by himself; he gets nothing more from the county or the state than before he built it, and any tax collected thereon is plain stealing by due process of law." This is a hard accusation to make against our fair state. Let us see. When Mr. Brown built his large barn, he did it so that he could raise more crops and care for them, and to enable him to keep more stock, and as soon as his barn was built it became a liability to the town, county and state, as it demanded, and received if needed, additional protection from every official and court, from the justice courts in the township, to the circuit court of the county, and on to the Supreme Court of the state, and not only protection for the building itself, but for the crops and stock, he needs better roads, safer bridges, better drainage, better schools and state, county and township institutions, that his children and his neighbor's children should become good intelligent, law-abiding citizens, so that his barns and stock may be safe and that he can easily and safely market his stock and produce and he should be willing to pay his share for this additional protection, and it is additional protection. And this is just what he does when he pays the additional tax assessed him because of the new barn, as the tax is divided proportionately between the different divisions shown on the tax receipt, and should never be thought of, or referred to as a "steal by due process of law."

He next refers to his neighbor who built a henhouse large enough to house five hundred laying hens. He intimates that his neighbor built it simply to help feed the nation eggs and meat. I imagine he built it thinking that the chicken and egg business would be a profitable addition to his farm. Well, his assessment was raised so that he was obliged to pay a tax on the building and hens of \$10 for protection; he evidently needed protection, for a thief broke in and stole some chickens. He received protection, for the thief was caught and the catching and fining of the thief will probably protect his chickens and eggs for the balance of the year. I think the neighbor would be glad to pay the \$10, and the thief now appreciates the fact that the courts and officials do protect the hen house, and probably he is the only man, besides Mr. G., who is kicking on the \$10 raise in taxation.

Again, Mr. Gage tells us that "all social service, such as water, sewers, light, police and fire protection, sidewalks, street paving, cleaning, etc., are reflected in the value of the land, but not in the value of the buildings, or in any of the improvements of the premises. Of course, in above statements, he must refer to land in the city, as his line of reasoning here again is exactly opposite to his reasoning for land values in the country. Now let us see if he is correct in his reasoning for city values. A few years ago in the north end of Detroit, a subdivision was put on the market without restrictions: that is, a man could buy a lot and build on it, a house that would cost \$500 only, or he could build a house that would cost \$20,000; he could build a store, a flat, or barn on it. This subdivision lies on the east side and directly abutting on a certain street with car line. This subdivision now has sewers, paved streets, walks, city water, electric lights, gas, police and fire protection, etc., and lots are worth from \$500 to \$1,000. About the time this subdivision was opened, another subdivision was placed on the market ly-

ing on the west side of, and directly abutting on this same street and lying directly opposite the first mentioned subdivision; but this last subdivision was placed upon the market restricted as to dwelling places only, all homes to be put a certain number of feet from the street, must be at least two stories in height and to cost not less than from \$5,000 to \$15,000 according to location in the subdivision. This, of course, eliminated all stores, flats, and any and all undesirable buildings, and lots in this subdivision are now worth from \$2,500 to \$9,000. Both subdivision receive exactly the same "social service," so-called by Mr. G. Now we ask him to tell us, which subdivision he will use as a standard of values, when assessing land values for taxation. Lots in the first subdivision have all the social service possible. If he used their value, he would materially reduce land values in Detroit from amounts at which they are now assessed. Should he decide to use values in the second mentioned subdivision, he would practically paralyze conditions in many parts of the city, as the owners could not pay their taxes and live.

Now I want to differ from Mr. Gage, for I claim that it is not "social service" that is reflected in land values, but rather that it is "man values or labor values," as Mr. G. calls it, that is reflected in land values; and I think that is true, both in the country and in the city. A lot on an unrestricted street has all the "social service" that a lot in the most highly restricted street has, but no one would for a moment contend that its value was as great as the restricted lot. So far I have been speaking of residence lots only, as the reverse is true for what is termed business lots.

No vacant lot has any use for social service. While many homes use social service to a very small degree; and an apartment or an institution in the same block may use social service to a very large degree. Is it fair to ask the owner of the vacant lot, or small home, to pay the same tax as the owner who uses often ten thousand times the amount of social service they do. No, and it can never be done; so in the city we ask a man to pay for the social service he gets, so that electric lights, water, gas, etc., are metered and you pay for what you use, and in addition to the general taxes. You also pay for your own sidewalks, paving and sewers. If a man wants to burn a lamp instead of electricity, he does so and pays nothing for electricity; if he wants to drive a well on his lot he can do so, and get better water and cut out the expense of the water tax, and often he could do this more cheaply. If he wants to build a toilet on the alley instead of bringing in the sewer on his lot, he may do so; likewise on the farm, a farmer may have his own lighting plant, sewer to cesspool, gravel road, etc., by paying for them, and in my judgment they reflect in land values in the country the same as in the city.

Mr. Gage says: "You cannot tax the wealthy person by taxing wealth." I ask, why? Then he follows with, "again, we should not tax men simply because they are wealthy. Again I ask, why?" The wealthy man has more to protect, as a rule uses much more social service than the poor man, why should he not pay a larger tax, regardless of whether his wealth is in land values or in labor or man values, or in cold cash. I say he should. Mr. G. says: "A man should pay for what he gets, not for what he has." This statement is subject to several interpretations.

A little further on Mr. Gage refers to a Mr. Wendell, who recently died, and proceeds to make several statements about him and also about our

present system of taxation; and if I understand his reasoning, he considers both Mr. Wendell and the state of Michigan as thieves and renegades, having lived and living on ill-gotten gains and robbing Peter to pay Paul. We will not stop to discuss his statements. From all his arguments I draw but this one conclusion, that is this: that while he does not intend or ask that the sum total of all the taxes in the state, counties and townships be reduced, he does ask by a change of tax system, to take a large part of the tax now paid by rural districts and add it to the taxes now paid by cities and incorporated villages.

Please remember that my heaviest interests are farm interests, that I pay my largest taxes on farm property, and if the single tax will lower my taxes, I will certainly be interested, but I have not gotten to where I want someone else to pay my taxes for me. Study your tax receipts—they are interesting. Mine were. I find that the state and county taxes are the only taxes that are spread alike on both cities and incorporated towns and rural communities. That all other taxes are local, and depend upon local conditions; to illustrate: in Detroit we pay taxes twice each year. In July of each year we pay our city tax, which is a local tax and paid entirely by those living within the city limits, none being paid by those living in rural communities, and remember, this city tax does not pay for sewers, paving or sidewalks, as these are all paid in a special tax assessment against property directly benefited; neither does it pay for electric lights, water or gas, but the city tax does pay for other things that we call social service. We receive them and we pay for them. Then in December of each year we pay our state and county taxes, the same as do those in the country, because the benefits for which the state and county taxes pay are received by both. I am sure that Mr. Gage will agree that this is correct. Now in the country we pay taxes once a year—in December, at which time we pay our state and county tax and our local tax, such as town, road repair, school and one mill, highway improvement, county road, bridge, weed and ditch tax, which all will agree are local taxes assessed for the benefit of that particular town or community and constitute "social service" for us in that community. And we would have no more right to ask the city to pay them for us than the city would have the right to ask us to pay their city tax for them. Is this correct reasoning?

In going carefully over the five receipts submitted above, I find the average rate for the combined state and county tax in the five localities is .00445; while the average rate for the combined local taxes in the same five localities is .01611. Then the proportion of state and county tax to local tax is as .00445 is to .01611, reduced to dollars and cents means as \$.445 is to \$1.611, which means that in every \$2.056, that we pay in taxes, only \$.445 is paid for state and county tax, and as the state and county taxes are the only taxes that are spread alike on both city and rural communities, that is the only part of our taxes that would be affected in a change to the single tax system, or considerably less than one-fourth. A glance at your own tax receipts will prove this statement; in fact, in some cases the state and county taxes are less than one-fifth of the total tax. I think that Mr. Gage will agree that so far as city and local taxes are concerned they will always have to be left in the hands of the different cities and communities for regulation as the wants and needs of same would seem to require.

(Concluded next week.)

Plenty of water and salt are of great assistance in stimulating the action of the organs of digestion, and carrying off the impurities of the animal's system.

Empire Red Tubes Last as Long as the Average Car Itself

30x3	\$4.00
30x3 1/2	4.45
32x3 1/2	4.75
33x4	6.50
34x4	6.65



How do you choose Tubes?

Tire users know that the friction of the road inevitably wears out any casing after it has gone a certain number of miles. Hence the expression "Tire Mileage."

Many users, therefore, fall into the habit of assuming that mileage is also the measure of the service of their inner tubes.

This is an expensive mistake.

To be sure, inner tubes have to be replaced every so often. But the mileage, except in cases of abuse, has little to do with their wearing out.

Those who care to take the trouble can easily prove this. The next time you put a new tube on your car, put another new tube of the same make in a box where it will get no wear whatever. You will find that both of these tubes will stay in good condition about the same length of time.

In other words, what usually wears out a tube is not the friction of the road or the expansion and contraction, but the deteriorating effects of time.

Practically all well-known tubes now on the market are made of good enough rubber and have sufficient tensile strength to stand all the strain they are likely to get.

What you want to look for in choosing a tube are those qualities which will make it resist, as long as possible, the deterioration that comes with time.

For twelve years the Empire Rubber & Tire Company of Trenton, New Jersey, have controlled an exclusive process for making Empire Red Tubes, by means of which longer life is imparted to the tubes than rubber itself ordinarily possesses.

Every now and then we hear of one of the first Empire Red Tubes, made ten or twelve years ago, still in use.

In all these years no change has been made in the Empire process, because no improvement has been necessary. In all these years Empire Red Tubes have been proving that they last as long as the average car itself.

If you want to cut your tube replacements to a minimum, start your next car with a complete equipment of Empire Red Tubes.

The Empire Tire Dealer

Empire Red Tubes



You get full value

from fertilizer on tiled land. The soil is more porous and not surface-washed, and the fertilizer works into the soil.

American Vitrefied Salt-Glazed Tile

is best for your land because it is frost and acid proof, and will not crumble in the soil.

Write for Folder

American Sewer Pipe Co.

MICHIGAN BRANCH

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Immediate or future shipments any quantity highest quality. Prices will not come down, so get in your order now and save money. Quotations made immediately on request. Address

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Horse Sickness

When unclipped horses get overheated on warm spring days their long, sweaty coats of hair clog the pores and prevent them from throwing off perspiration. This often causes colds, pneumonia and similar troubles. They dry off quickly, keep well and do better work when clipped with a Stewart No. 1 Machine—\$9.75. Send \$2—pay balance on arrival. Write for catalog.

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DICKEY GLAZED TILE SILOS

"The Fruit Jar of the Field"

SPECIAL OFFER to those who write now.

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

SHEEP

MORE to the Kids of Mich: I have sold all the ewes that I care to sell, but judging from the many inquiries I have received there are many of you kids who still want to get started in registered ewes. Now then, here is a new proposition: I have selected one beautiful Shropshire ewe, she will lamb in the course of the next month; she is worth at least \$50.00. I will give this ewe, absolutely free, to the boy or girl who gives me, in my opinion, the best reasons why they should be the one to get her. I may give away more than one.

S. L. WING, at Kope-Kon Farms, Coldwater, Mich.

SHROPSHIRE SHEEP

We have about 50 ewes in lamb for sale, of best breeding. Registered.

HARRY E. SAUER, Seedman.
108-111 E. Ottawa St., Lansing, Mich.

BUY A SHEEP

Wait a minute, buy Hampshires. The American Hampshire Sheep Association wants to send you a dandy little booklet with list of breeders. Some near you. Write COMFORT A. TYLER, Secretary, 212 Woodland Ave., Detroit, Mich.

80 Breeding Ewes 2 years old in good condition will lamb in April must be sold this month.

ALMOND B. CHAPMAN, So. Rockwood, Mich.

For Sale Bred Reg. Shrop. Ewes at a reasonable price also ewe lambs.

H. F. MOUSER, R. 6, Ithaca, Mich.

Shropshire Sheep Nothing to offer before June 1-1919.

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Good morning! How are you? I am mighty glad to say "Hello." Isn't it great that the war is over and the boys are coming back? Over a hundred of them from my factories answered the call. Our factories too helped the cause by making tractors for England. With all this handicap of labor shortage and materials hard to get, we never closed our great factories at Waterloo for a single day. Now that the boys are back (I take off my hat to every one of them) and with plenty of good materials easy to get, the great Galloway factories are speeding up—working over-time—to take care of the approaching wave of prosperity.

With better facilities and our years of experience we are now in a position to turn out more and greater Galloway implements than ever before. Get on a train and come to Waterloo, now or some time this Spring. Be my guest while in the city. Go through our four great factories. See how we make the high quality Galloway Engines, Separators, Spreaders and Tractors at such low prices. Let me show you and convince you that this year Galloway will divide the largest and juiciest melon he ever did.

(Signed) Wm. Galloway.

SOLVED!

We have solved the hard problem of high cost of labor and materials. How? Just the other day I called in my three factory superintendents and put the problem squarely up to them. Without exception they said, "Galloway, the only way to cut the cost and reduce the price is to make a long, steady factory run on one single size Separator, Engine, and Manure Spreader." I then took the size best suited to the average farmer and now I am going to make a special big-quantity, factory-run, low-price offer.

Special Sale 15,000—750 lb. Size SEPARATORS

This special factory-run, low-price is the same for one or if you bought the whole 15,000. The low price is based on a 15,000 run. The 750 lb. size is the best all around size—our biggest seller. Has all our latest 1919 improvements. Skims close. Easy to run and clean. Every drop of milk gets full skimming force of the bowl. Sold on 180 milking tests too.

SPECIAL SALE 12,000—Masterpiece 7 ENGINES

Remember, the low price on this Masterpiece 7 is a quantity price. You could come here and offer to buy the whole 12,000, yet I couldn't shade the price one bit, because the price of one is based on the big wholesale quantity of 10,000. Our new Masterpiece 7 gives 7 actual horsepower for the price of 6. Portable or stationary. Big bore, long stroke, heavy weight. Every part standardized and interchangeable.

SPECIAL SALE 10,000—No. 8 Spreaders Low Down 60-70 bu.

10,000 spreaders represent a train load. But you do not have to buy a whole train load to get this price because the low cost on this special size is the same for one as for a train load. Galloway's spreader will haul more manure with less resistance on man, team and pocketbook. It is easy to load. Has roller feed—all steel V rate—strong beater teeth and uniform clean-out push-board.

Sent Free and Big 1919 Book

Write Galloway tonight. Find out the special big-quantity, factory-run, low-price on the one size Separator, Engine, and Spreader. Over 300,000 satisfied Galloway customers—some near you testify to high quality of Galloway goods. Near-to-you shipping points save you freight. Write today sure and mention implement interested in.

WM. GALLOWAY CO.
187 Galloway Station
WATERLOO, IOWA

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map, price and typewritten description of exceptionally well located tracts of clover land in Marinette County. In writing be sure to state what acreage you might want and whether you have any property that would have to be sold before you could purchase land. These special bargain tracts are going fast. Write today. SKIDMORE LAND CO., 381 Marinette, Wisconsin.



Agriculture and the Rural School

By E. V. Root

SOME days ago I heard a farmer make a remark relative to the attempt of the teacher in his school district to give instruction in agriculture as is required by the State Course of Study. What he said was something like this: "What does that eighteen-year-old girl know about farming? Here I have lived on this farm for thirty years and always made a good living, and now this slip of a girl sets my boy against me by talking about crop rotation and acid soil and a lot of other things she don't know anything about; nonsense, what's the school coming to anyway?" By the way, it might be well to add that this same farmer has two boys in Kalamazoo working in a paper mill and that he finds it hard to take care of this two-hundred-acre farm with hired help. Now this attitude towards agricultural instruction is characteristic of a goodly number of my farmer friends; in fact, one school board met last year and had it spread upon the minutes of that meeting that agriculture was dropped from that school for all time. This feeling, of course, results from the impression that the teacher is not well enough informed to do anything with the subject, that the boys and girls will get agricultural instruction at home and that they send their children to school to learn something else.

Of course, there is no use in denying the fact that the average teacher is not well informed on this subject, she really knows too little about it, but we still believe that something really valuable is being accomplished. One reason in the past that the farm has not held the boy is that the occupation of farming has not been dignified; we have not recognized it as a profession. It has been regarded as a sort of left-over occupation that the individual unable to fit himself into any other vocation might fall back upon as a last resort. The very fact that agriculture is given a place in our course of study is encouraging for it is a recognition of its importance as a profession, and this very thing will cause some boys to decide for the farm who otherwise might feel the call of the city. And then some things are really accomplished in the way of instruction. A short time ago I called upon a farmer one evening and found him reading an elementary book in agriculture used by his boy in the eighth grade of the rural school. This man was interested in a chapter on soils and he said to me, "do you suppose that my soil needs lime? It is high and well drained by nature and I have never thought it was sour, but I have lost my seeding for the past two years. By jingo, I am going to try a little lime with my next seeding."

The rural school will never be able to do as much with agriculture as some of the most enthusiastic of us would desire for we will never have specially prepared teachers until we can consolidate into larger school units, but with the system as it is we believe that the instruction, as elementary as it has been, is justifying its place; and if this eighteen-year-old girl in addition to going over the subject matter of the book and emphasizing the work on soil fertility can interest the boys and girls in

some form of "Club" activity; if she can promote during the summer vacation some real problems in the laboratory of nature, where the pupil may work for himself and receive a reward in proportion to the effort both physical and mental put forth—if she can do this, she is not only doing the boys and girls of the community a great favor but she is accomplishing more in the way of agricultural stimulation than any other agency in the community. Real successful farming is largely a matter of interest in one's chosen calling; an absorbing interest which leads to experimentation and study, and club work is the natural school for the successful farmer of the future.

Agriculture in the rural school recognizes the fact that the tilling of the

soil is a real profession and we believe that some valuable information is being furnished through the schools. We recognize in club work which is a natural part of the School Course in Agriculture, a great school for better farming methods.

Now, of course, we do not think it is the sole function of the rural school to make farmers, but we do think that it should cease to "unmake" them, and to this end we believe that in every rural school we should have a teacher, preferably country born, but at least one who likes country life and loves country boys and country girls and sees in them the hope of our democracy; one who is a thorough student of rural problems, and who believes that she has the biggest job on earth.

The Oat Crop

(Continued from page 529)

The high price of clover and timothy seed and the practice of seeding these crops with oats has resulted in questioning the common practice of sowing three bushels per acre, due primarily to the grass and clover being killed out when the oats are harvested or else the failure to retain a satisfactory stand. The complaint that is often heard is: "I had a good stand of clover and timothy in my oats during the early part of the season, but as soon as they began to head it seemed to die out and by fall there was not half a stand left." This condition has induced many farmers to try a lighter rate of seeding, varying from six pecks to two bushels per acre, and contrary to their expectations in many cases the result has been a heavier yield of oats and a decided advantage in the stand of clover and timothy.

Amount of Seed Per Acre.

Although the general tendency is toward a lighter seeding it does not follow that farmers are content to sow the same quantity of seeds as they formerly did. On the contrary, where the rate of seeding has been diminished the quality of the grain used for seed has been improved in even greater proportions than the rate has been lessened. Where formerly seed just as it came from the bin was used, now the oats are cleaned and graded, only the largest and plumpest being used for seed, these also being treated for smut to prevent any possible loss in this direction. The use of improved grain drills as a means of seeding has been instrumental in diminishing the number of bushels of seed per acre, for when a farmer is certain of his seed and when he knows that it is all being placed at a uniform depth in the ground and will grow, it is folly to suppose that an excessive amount of seed will be sown, as was common when broadcasting was the only means of distributing the seed.

When broadcasted and then disked and harrowed, no matter how the work is done, there is always some seed near the surface that will not grow and still more with so light a covering that, although it may start it cannot develop into a healthy plant. Not only has the grain drill demonstrated that all the

grains may be depended on to grow, but the uniformity of ripening is better, the yield increased, and the stand of clover and grass where this is an item almost certainly insured, especially when the drill rows run north and south, thus allowing the tender clover and grass plants to become hardened to the heat of the sun before the oats are cut and also allowing them more room to develop.

Closely related to the question of good seed is that of healthy seed. No farmer can afford to take chances with diseased oats for this year's crop. The formaldehyde treatment is an important factor in insuring big yields. It has been demonstrated that this treatment almost completely controls loose smut of oats. The method commonly used for many years consists of sprinkling seed oats thoroughly previous to seeding with a solution of the proportion of one pound of forty per cent formaldehyde to forty gallons of water. Oats are spread out on the floor or in tight wagon box, sprinkled with solution, being shoveled over until thoroughly moistened. About one gallon of solution is needed for one bushel of oats. The oats are then piled up and covered with wet sacks for from three to six hours. They are then spread out to dry.

The new concentrated formaldehyde treatment advised by the Department of Botany of the Michigan Agricultural College, and fully explained in the March 29 issue of the Michigan Farmer is much more convenient and equally effective.

Secure the Best Varieties.

The improved varieties developed by the Michigan Agricultural College plant breeder are proving their dependability. The Worthy are available in large quantities, and are best adapted to heavier loams and clay loams. The Alexander, though not greatly different, have given excellent results on lighter soils as well.

College Success and Wolverine, newly developed oats, obtainable only in small quantities, are high-yielding varieties. Other widely grown varieties that have given success are Swedish Select, Big Four, Great Dane, and New Victor. In choosing your variety care

should be taken to find the strain that has given good results under similar conditions and in the same locality where it is to be grown. Judge the variety by its performance and weed out the low-yielding strains.

Fertilizer for Oats.

The fact that the oat crop makes its most rapid growth early in the spring before the plant food in the soil becomes available is sufficient reason for recommending the use of fertilizer containing a fair percentage of nitrogen to hasten an early growth. The main element, however, in a fertilizer to insure a maximum crop of well-filled oats is phosphorus in the form of phosphoric acid. Phosphorus hastens maturity and develops the kernels of grains. Agricultural chemists have determined by careful investigation that our Michigan soils are deficient in available phosphorus; not only that, but the practical test of actual farming in the growing crops indicates the same thing. Our experiment station has done some very careful work along this line and in every instance acid phosphate or available phosphoric acid has given excellent results.

LOCUST DUE THIS YEAR.

(Continued from page 529). and Virginia, and most of Delaware and Maryland; (2) a southern region, covering the lower Alleghenies in northern Georgia, Tennessee, and North Carolina, and (3) a middle western region, covering western Ohio, southern Michigan, all of Indiana, and the eastern part of Illinois.

In Michigan the counties that reported one or more dense swarms of cicadas, when they were here in 1902, were Branch, Calhoun, Cass, Genesee, Kalamazoo, Oakland, St. Joseph, and Washtenaw. Other counties that have reported the presence of cicadas at some time ago: Barry, Eaton, Gratiot, Hillsdale, Ionia, Jackson, Lake, Lenawee, Livingston, Missaukee, Monroe, Muskegon, Saginaw, St. Clair, Van Buren and Wayne.

If anyone is interested in insect life they should endeavor to see and hear, these insects next spring as it will not be until 1936 that this brood will again appear. They generally come out on low ground near or among a number of trees.

FIXING UP EARTH ROADS.

It can be truthfully said that drainage is the chief essential in putting earth roads into proper condition. An old Scotchman, an expert road builder, aptly said that the three requirements of good earth roads are drainage, more drainage, and still more drainage. The roads must not only have good surface drainage but must also have good under-drainage. Surface drainage is secured by proper grading, adequate side ditches, and by keeping the crown of the road properly dragged. Stretches of road that do not dry out quickly must be under-drained by tile.

The drag must be used after each rain, if the best results are to be secured. Don't go on the road while too muddy, let it dry out slightly; it should be wet enough, however, so it will not crumble, but smear. When properly used, the drag brings a thin layer of earth toward the center of the road which is rolled and packed between the wet periods. If too much crown is secured by dragging, the angle of the drag should be reversed.

Getting the earth roads graded, ditches open, well-drained, and properly crowned by dragging is about all that can be done until the people are ready to surface the road with gravel, broken stone or some other surfacing material.

The early bird would go breakfastless regularly if it weren't for the earlier worm.

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Wagons, harness, long list implements, hay, straw, seed grain, potatoes, etc. 33 acres loam fields, clay sub-soil, spring, creek-watered 30-cow pasture, valuable wood, timber; great amount fruit. Large 2-story house, big basement stock barn, silo, 3 hay barns, granaries, tenant house, hog, poultry houses, all good repair, only 1 1/2 miles creamery and town. To settle now, \$4000 takes all, easy terms. Details page 33 Spring Catalog BARGAINS 19 states, copy free. STROUT FARM AGENCY, 314 E. O. Ford Bldg., Detroit, Mich.

Delaware County dairy farm fully equipped, including. International plowing outfit. 230 acres river bottom. Particulars, write sole owner, Travis Rutherford, Shinnhope, Del. Co. N. Y.

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We have some extra good Belgian Stallions for sale, coming three and four years old. They are heavy, of good conformation and sound. You can see their sires and dams. They are raised in Michigan and acclimated. We have no agents on the road for which you or we would have to pay. You cannot buy them any better nor cheaper in the world. Our studs and mares carry the best blood Belgium has produced. We prove this by their pedigrees. We invite you to see our stock before buying. You can see them any day of the week Except Sunday. Write for particulars and catalog to the OWOSSO SUGAR COMPANY, Prairie Farm, Alicia, Mich.

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Belgian and Percheron Stallions and Mares and registered Holstein Cattle, of the best breeding, for sale.

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The Farm Flock in April

THERE are some crops from which the young flocks of poultry need not be excluded. The birds will enjoy ranging in blackberry and raspberry patches and they do not injure potatoes. In fact, they will eat many of the insects which chew the berry leaves. We have had poultry eat the small potato beetles before the backs became hard, and keep a potato patch entirely free from that pest. The young chicks placed in brood coops near vegetable gardens will collect many bugs and weed seeds and do not seem to injure the vegetables after they have made a good start. The one exception is young onions which the birds especially like and they will eat them to the ground.

Sanitation in the brooders is an important factor in keeping chicks healthy. When the litter is damp it should be removed. Under the deflectors of stove brooders, the litter will be dry and dusty but it will soon contain much dirt and should be changed at least once or twice a week, depending upon the number of chicks it protects.

Never crowd young chicks in the brooder as this means an increased mortality rate and stunted chicks. Many brooders will not properly care for the number of chicks they are advertised to handle and it is best to play safe and brood less than the machine can protect rather than overcrowd.

Clean litter in the nests is very necessary in the spring when the birds walk in the mud at times and track it into the poultry house and into the nests. Dirty eggs are a serious loss. They will not hatch as well or keep as long in storage after they are washed and they are discriminated against by the retail trade even if they are perfectly fresh.

Never neglect the water supply at any season, but in the spring, always provide plenty of fresh clean water so that the birds will not be so apt to drink from puddles in the poultry yard or eat dirty snow that may still remain in shady spots. Galvanized pails of water placed in the poultry yard furnish a good source of drinking water and it is easier to keep them clean than some of the complicated drinking fountains.

It pays to keep a fifty-gallon tank of kerosene oil on hand during the incubating and brooding season and always keep the tank at least half full. Then there will be no shortage of oil when it is needed for the incubator lamps. A good grade of oil is economical as it furnishes plenty of heat and very little odor and smoke.

Custom Hatching Pays.

Often a farmer will find that it pays to have a few hundred eggs incubated by one of the large hatcheries doing custom hatching if there are any such hatcheries in the neighborhood. This furnishes a method of increasing the incubator capacity on the home farm. It saves worry and trouble for a farmer who may have much other work in the spring.

The purchase of a few day-old chicks is a safe method of obtaining a start in pure-bred poultry. When chicks arrive the brooder must be ready to receive them and feed should be immediately available so that they will not be neglected. The success with day-old chicks often depends on the first few days' care after they arrive from the express office. They can stand quite a journey in the ventilated shipping boxes but they cannot stand a bit of ill treatment after they arrive without the mortality rate increasing in proportion to the neglect.

Often there will be dark and rainy days in April when the chicks in a col-



ony house will huddle under the brooder and seem to miss the stimulation of warm sunshine. Chop up a few onions and sprinkle them around the brooder. We have never seen any kind of green food that chicks seem to like so well and they will fight and chase each other to obtain bits of onion and seem to forget the bad weather for awhile.

Watch for the pullets and cockerels that feather out quickly. They are apt to be good breeders with plenty of vigor. The chicks that feather slowly should be marked and sold for broilers. They are not profitable and not good for breeders and it is possible to develop a flock of early feathering birds by only breeding from hens that have feathered quickly.

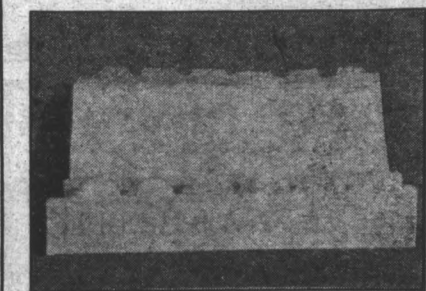
Skandia Egg Association

AS FAR as is known, Skandia has the only egg selling association in the State. Two years ago J. Allen Petrie, Extension Specialist, and the County Agent, organized an association for the purpose of handling the farmers' eggs. The farmers were not satisfied with their home market

adopted a regular constitution and by-laws. Some of the special features of the association are: (a) to secure and maintain better strains of poultry; (b) to prevent waste in handling; (c) to insure a uniform grade and quality of products; (d) to store and sell eggs and poultry; (e) and to purchase co-operatively poultry raisers' supplies.

The secretary-manager shall keep all records of meetings of the members. He shall keep in proper form all books necessary to his work. He shall take care that the eggs are properly handled, tested, packed, graded and marketed, and that only fresh and odorless packing materials are used. He shall enter in the book provided for each member the number of eggs received at each collection, and shall make a similar entry in his own books. It shall be his duty to direct the attention of members to any defects in the eggs collected.

Every member of the association shall deliver to the Association all marketable eggs from his own hens (excepting those reserved for home



Clean Eggs in Clean Packages.

at the time, as they were getting around thirty cents a dozen, while in Marquette City, fifteen miles away, eggs were selling for about fifty cents per dozen. The association was organized with about twenty members. They

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Lay 40 to 50 eggs each per year. Why raise chickens to eat when these are much more profitable and raised as easily? Weigh 3 pound at six months, and bring \$1.00 a pound in the market. Set the eggs under chickens—feed and care for the young the way you would chickens. Are economical as they only require one-half as much food. Are very hardy and not subject to disease. Best eating bird in America. Eggs guaranteed from vigorous, healthy unrelated stock.

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Bred-to-Lay White Leghorns. Leading M. A. C. average production for 150 hens last year 185 eggs each. Eggs for hatching, \$2.00 per 15, or \$10.00 per 100. ANNA R. LINDSAY, Glenburnie Farmstead, Romulus, R. R. 2, Box 54, Mich.

Baby Chicks Bred to Lay S. C. W. Leghorns \$15.00 per 100. From stock that produced the winners in the state demonstration farm work last year. Circular free. SUNNYBROOK FARM, Hillsdale, Mich.

Baby chicks from Bred-to-Lay S. C. White Leghorns \$12 per 100. Thompson Strain Barred Plymouth Rocks \$18 per 100. Safe delivery guaranteed. Send for chick folder and order early. Custom hatching 4c per egg. Russell Poultry Ranch, Petersburg, Mich.

Baby Chicks Superlative quality. 11 cts. each and up. 24 leading breeds. Satisfaction guaranteed. Catalog free. Springfield Hatcheries & Poultry Farms, Box K, Springfield, Ohio.

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

BARRED Rocks exclusively. Get your baby chicks and hatching eggs on time by ordering now. Prices and folder free. H. H. PIERCE, Jerome, Mich.

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Baby Chicks: S. C. White and Brown Leghorns. Good laying strains of large white eggs. Guaranteed to reach you in first class condition by parcel. Catalogue with price list free. WOLVERINE HATCHERY, R. 2, Zeeland, Mich.

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consumption or for incubation and those accidentally found) when and in whatever manner the members may determine. Eggs must be taken from the nest at least once each day, and twice daily in hot weather; they shall be kept in a dry, cool and well ventilated place until the time of delivery; and no eggs shall be delivered to the society which have been under a sitting hen. All poultry houses must be kept clean and sanitary.

All nest eggs shall be false eggs of china, gypsum, etc.

All eggs delivered shall be clean, but unwashed, and not more than three days old in the summer or seven days old in the winter. The penalty for violation of this rule shall be a fine of not less than fifty cents per egg so delivered. A second offense shall be punished by the expulsion of the offending member.

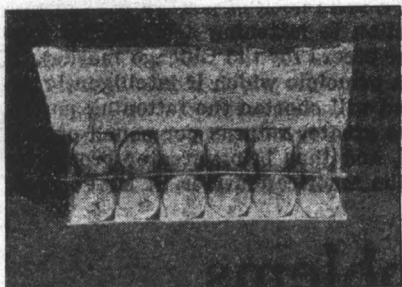
A fine of \$5.00 shall be imposed upon the member who sells eggs outside the association, or who sells to the association eggs from hens other than his own.

The eggs shall be paid for once a month by check from the treasurer, who gets the amount due each member from the secretary-manager, to be paid on the 10th of the month.

Each carton shall bear the name of the association and each egg shall be stamped with the number of the producer of the eggs contained therein. The number stamps shall be owned by the members and shall not be loaned to neighbors.

All supplies and feed may be bought at wholesale by the secretary-treasurer at the order of members.

The Association has been a success from the start. The next day or so after the organization, eggs took a rise in the home market and have been sold by the farmers outside of the Associa-



An Attractive Carton.

tion at market prices ever since. This is a case where an association helped outsiders as well as helping themselves. The Association from April, 1917, to March, 1918, handled 3,734 dozen eggs, which sold at \$1,395.37, or an average of 37.13 cents per dozen. During the last year they have sold 3,791 dozen eggs, receiving \$1,521.92 for the same, or an average of 42.8 cents per dozen.

The eggs are handled at the creamery, being packed, sold, shipped and settlements made by the superintendent of the creamery. The eggs have been sold to private customers, logging camps, eating houses, to grocery stores, to railroad men passing through Skandia, and to owners of automobiles who stop for eggs while driving through or making a special trip for them.

The demand has been greater than the supply, and many are often disappointed. The Association should have a hundred or more members, but as the price has been good outside of the Association the outsiders are content to remain on the outside, not taking into consideration that they should be members because the present good prices are maintained because of the organization.

According to a Department of Agriculture report 10,000,000 acres of land was broken in Canada for cultivation. Last year 7,700,000 acres were broken.

Fresh and cured meat shipments from Chicago for the week ended March 15 amounted to 89,461,000 pounds, as compared with 44,597,000 pounds a year ago.

Prevent White Diarrhea

From Killing Off Your Baby Chicks

Mayer's Six Weeks Baby Chick Developer is guaranteed to prevent White Diarrhea and raise 95 per cent of all your chicks or your money back—but it does still more than this—it is a tonic—a food—a builder of tissue, blood and bone. It is a scientifically prepared chick food that accomplishes the same wonderful results as the scientific foods that are used for babies the world over.

Raise All Your Chicks

White Diarrhea, the national poultry plague, kills millions of baby chicks every year. The poultry raiser's loss from this dreadful disease is tremendous. It's a crime against the poultry raiser's efforts and his labors. Stop losing from 30 to 55 per cent of your spring hatch. Prevent White Diarrhea by using Mayer's Six Weeks Baby Chick Developer.

This Big \$2 Sack Will Last Six Weeks

Mayer's Six Weeks is put up in sealed sacks only. One sack will last an ordinary flock of 140 chicks for six weeks. Don't confuse our sacks with the ordinary four to six-ounce package, because it is entirely different. It contains no filler and is made up entirely of concentrated medicine and food.

Special Half Price Offer

A Regular \$2 Sack, Prepaid, Only... **\$1.00**
Dealers' and Agents' Price: 12 \$2 Sacks, \$8.50

I am making you a special half-price offer on my regular \$2.00 sack of Mayer's Six Weeks Baby Chick Developer for only \$1.00 and I am paying the carrying charges myself. Order now direct from this ad and save exactly one-half. Prevent White Diarrhea—develop two-pound broilers in eight to ten weeks and start your pullets laying early. One big sack of this wonderful chick tonic and developer for only \$1.00. Send the coupon now.

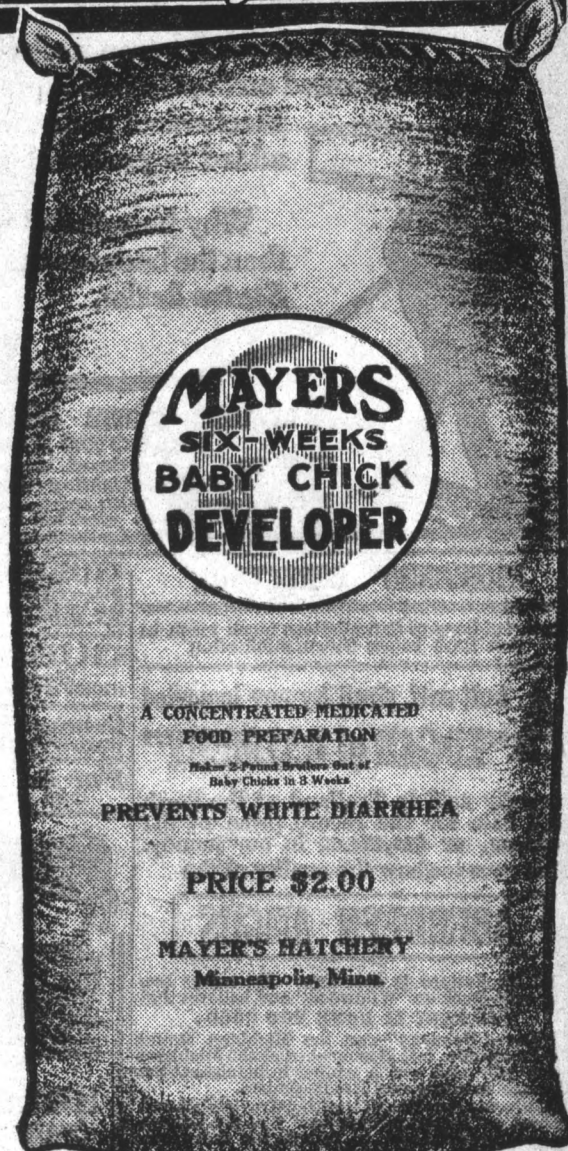
Is a Chick's Life Worth One Cent?

Think this over—what are you doing for your chicks? Are you giving them a chance to earn a big profit for you? For less than one cent you can make sure of raising 95 per cent of your hatch or your money back. The big sack that I am offering you here will last 140 chicks six weeks. Our grandfathers used to say "An ounce of prevention is worth a pound of cure." This old saying is as true today as it ever was. Raise all your chicks. Use Mayer's Six Weeks Baby Chick Developer.

Money Back Guarantee Every sack of Mayer's Six Weeks Baby Chick Developer is sold under an absolute guarantee. If you are not perfectly satisfied, you get your money back.

Order Today Thousands of successful poultry raisers are now using Mayer's Six Weeks. Every raiser should be using it. You should have a sack on hand all the time. Here is a chance to save one-half. Mail your order now. Just enclose \$1.00 with the coupon.

MAYER'S HATCHERY
557 Security Bldg.,
Minneapolis, Minn.



MAYER'S
SIX-WEEKS
BABY CHICK
DEVELOPER

A CONCENTRATED MEDICATED
FOOD PREPARATION

Makes 2 Pound Broilers out of
Baby Chicks in 6 Weeks

PREVENTS WHITE DIARRHEA

PRICE \$2.00

MAYER'S HATCHERY
Minneapolis, Minn.

MAIL THIS COUPON NOW

Mayer's Hatchery,
557 Security Bldg.,
Minneapolis, Minn.

Enclosed find \$..... for which ship me

..... sacks of Mayer's Six Weeks Chick Developer. I am to get my money back if I am not satisfied.

Name

Town

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

Save the Baby Chicks

Our book, "CARE OF BABY CHICKS," and a package of GERMOZONE are the best insurance against chick losses. Those formerly losing more than half their hatch now raise better than 90 per cent. To you who have never tried GERMOZONE, we will send postpaid, book and package as above. You pay, if satisfied, 75c; 60 days' trial. We trust you.

Druggists and seed dealers sell GERMOZONE, the best poultry remedy and preventive. For old and young—bowel trouble, colds, roup, rusty or spoiled food, hunch neck, chicken pox, sour crop, skin disease, etc. Sick chicks can't wait. Do it now.

GEO. H. LEE CO., Dept. 480 Omaha, Neb.

\$10.95 Buys 140-Egg Champion Belle City Incubator

Hot-Water, Copper Tank, Double Water-Fill, Self-Regulating, With \$4.25. No. 140-Chick Brooder—both only \$15.95. Freight Prepaid East of Rockford, Ill. Followed on express. Guaranteed. My Special Offers provide ways to earn extra money. Order Now, or write for book, "Hatching Poultry." It's Free and tells all. Jim Nolan, Pres. Belle City Incubator Co., Box 14, Racine, Wis.

Mention The Michigan Farmer When Writing Advertisers

130 Egg Incubator and Brooder

Ordered Together, Freight Paid East of Rockford. Hot water copper tanks, double walls, dead air space, double glass doors, all set up complete, or 130 Egg Incubator and Brooder \$17.25. FREE Catalogue describing them. Send for it TODAY or order direct. (2) Wisconsin Incubator Co., Box 72 Racine, Wis.

POULTRY

Baby Chix Barron Strain S. C. White Leghorns. Large healthy vigorous stock farm raised and to lay. Aim satisfaction. Bruce W. Brown, R. 3, Mayville, Mich.

Baby Chicks S. C. White Leghorns, Ferris strain. \$15 per hundred postpaid. Safe delivery guaranteed. Ralph Totten, Pittsford, Mich.

Baby Chicks—Young's Strain Heavy Laying S. C. White Leghorns \$14.00 per 100, \$7.50 per 50. By parcel post. Book orders now. WOLVERINE CHICKERY, 711 Delaware St., Grand Rapids, Mich.

Bull Leghorns and White Leghorns. Eggs and baby chicks, from great laying strains, order at once, satisfaction guaranteed. Dr. WILLIAM SMITH, Petersburg, Mich.

Chicks, We ship thousands, orders booked now for spring delivery, booklet. FREEPORT HATCHERY, Box 12, Freeport, Mich.

Chicks Barron Strain White Leghorns. Pay a little more and get a good start next season. Early hatched chicks are always the best. My cockerels come from hens with an egg record of over 250 eggs their pullet year. March \$16, April \$15, May \$14 per 100. Circular free. Folly Cove Farms, R. 1, Holland, Mich.

LOOK BABY CHICKS \$11 A 100 UP

By Special Delivery Parcel Post, postage paid 20 different thoroughbred breeds. Utility & Exhibition grades. Live delivery guaranteed. Capacity 100,000 weekly. Catalog free. Nabob Hatcheries, Gambier, Ohio.

CHICKS AND EGGS

Rose and Single Comb R. I. Reds. Barred Plymouth Rocks. Pure bred stock. Farm raised and of superior quality. Write for catalog. INTERLAKES FARM, Box 32, Lawrence, Mich.

CHIX:- S. C. W. Leghorns

\$18 per 100. Full count live chick guaranteed. Pullets of same blood averaged 70+ yield through December and January. Morse White Leghorn Farm, Belding, Mich.

Blue CUSTOM HATCHING Hens

Fifteen dozen eggs incubated and chicks boxed and shipped \$5.50. Less than full compartment 50c per dozen. Order April chicks now. Many varieties send for circulars. Crescent Egg Company, Allegan, Mich.

Barred Rocks S. L. Wyandottes and Light Brahma cockerels for sale \$5 to \$5 each. Eggs in season. G. V. BERRY, Alton, Mich.

Additional Poultry Ads. on Page 563

THE
UNITED STATES
DISC SEPARATOR

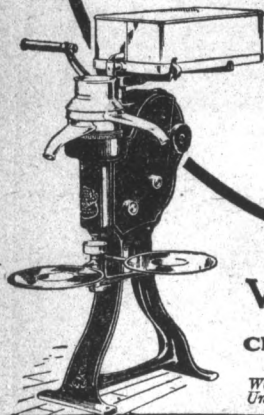
Good Enough?

The *United States* Separator was good enough several years ago to set the world's record for close skimming, but that was only a milestone in its development. Refinements of construction and operation, since added, have anticipated every need of the modern dairy.

Within two years seven exclusive patents have been granted on the *United States* Disc Separator.

Mechanical perfection has been added to perfect skimming.

Why be satisfied with less than the best; see the *United States* dealer.



Vermont Farm Machine Company
BELLOWS FALLS, VT.

Chicago Portland, Ore. Salt Lake City
U. S. Farm Lighting Plants and Engines

Watch your newspaper for this Advertisement telling where you can see the *United States* Separator. Agents and dealers wanted in some localities.

BREEDERS' DIRECTORY

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

A bull calf, sired by our imported "EDGAR of DALMENY"

recently sold in Scotland at the Perth Bull Sale for the record price of 211 guineas, or \$10,584.00 in our money. This goes to show the quality of the

ABERDEEN ANGUS

that Mr. Scripps is breeding. He enjoys seeing good stock on "Wildwood" and believes that THE BEST IS NONE TOO GOOD.

"Edgar of Dalmeny" won the Michigan Grand Championship last September at the Michigan State Fair and was a winner in his class at the Chicago International last December.

We have a few females with calves at foot and re-bred to "Edgar of Dalmeny" that Mr. Scripps has consented to sell to reduce the fast growing herd. Write To

WILDWOOD FARMS

ORION, MICHIGAN

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

WOODCOTE ANGUS

Established in 1900.

TROJAN-ERICAS and BLACKBIRDS (Blackcaps).
Breeders and feeders of many International winners.

Write For 1919 Bull Sale Catalogue

WOODCOTE STOCK FARM, Ionia, Mich.

For Sale seven young Aberdeen Angus bulls. Sired by Pride's Lad of Rosemere No. 169484. A few cows bred to my good herd bull Lapeer Black Bird No. 173530.
LONGWOOD FARM, Marshall Kelly, Prop.
R. 10, Charlotte, Mich., Eaton Co. Phone 14-3L-2S.

Registered Aberdeen Angus. Seven bulls from eight to twelve months old. Plenty of size best of breeding. Prices reasonable. Come and see them. Inquire F. J. WILBER, Ohio, Mich.

Cloverly Angus Bred cows, heifers and bull calves of good breeding.
GEO. HATHAWAY & SON, Ovid, Mich.

Two purebred Angus bulls aged thirteen and fourteen months, correspondence invited or come and see them. T. J. LYON, Homer, Mich.

For Sale Registered Guernsey Bull

Gov. Chene Golden Noble & May Rose breeding. Tubercular tested by state Halcyon Sequel born 1912. Great grand son of Gov. Chene sires and grand sires are all A. R. breeding. Price \$250 F.O.B. Avondales Hope born Mar. 25, 1917. Sire Halcyon Sequel Dam Gertrude of Halcyon. Farm price \$151 F.O.B. Luella's Duke of Avondale born Jan. 1, 1918 Sire Lord Sunrise Dam Luella's Maid. Prices \$101 F.O.B. Avondales Hero born Jan. 10, 1918. Sire Halcyon Sequel Dam Serena of Pittsfield. Price \$270 F.O.B. Avondales Joy born Feb. 8, 1918. Sire Halcyon Sequel Dam Wrinkle of Pittsfield. Price \$125 F.O.B. Avondales Mark born Apr. 9, 1918. Sire Lord Sunrise. Dam Popular Polly. Price \$100 F.O.B. Come and look our herd over. AVONDALE STOCK FARM, Wayne, Mich.

For Sale 5 Register Guernsey cows A. R. Record, cheap if taken soon; write JOHN EBELS, R. 2, Holland, Mich.

Registered Guernseys

Bulls, and Bull Calves, good enough for any breeding at prices you can pay.
J. M. WILLIAMS, North Adams, 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 REGISTERED BULL CALVES
Containing blood of world champions.
HICKS' GUERNSEY FARM, Saginaw, W. S. Mich.

Guernseys Grade Heifer Calves Registered Bull Calves; write your requirements
WALTER PHIPPS FARM, 80 Alfred St., Detroit, Mich.

For Sale Registered Guernsey Bull, one year old.
GEO. W. REEVES, R. 7, Grand Rapids, Mich.



HOLSTEIN AND THE MILK CHECK

The size of your milk check depends less upon the size of your herd than upon the size of your cows. Get big, healthy, purebred cows with the ability to convert feed into milk at a profit. Wherever dairying is on a prosperous footing, that's the home of the Holstein cattle. Besides being the leading dairy breed, they bring top prices when beefed. They breed regularly, and the calves are easily reared.

If interested in

HOLSTEIN CATTLE

Send for our booklets—they contain much valuable information.

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

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.

BULL CALVES

Sired by Mapleside Korndyke
No. 112849. The sire's dam at 2½ years, grand-dam at 3½ years, and great grand-dam have semi-official records averaging 842 lb. butter in 1 year. Dams of calves have A. R. O. records up to 19.23 lb. butter in 7 days. Write for breeding and prices.

PEACELAND STOCK FARM
Three Rivers, Mich. Chas. Peters, Herdsman
C. L. BRODY, Owner Port Huron, 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.

Registered Holstein Bull calves from A. R. O. cows up to 29.32 lbs. butter in 7 days, grandsons of the \$50,000 bull.
O. H. GIDDINGS, Gobleville, Mich.

831.43 lb. butter in 305 days 30.2 in 7 days; gddam. Johanna Heng. Lad. gdsire. 21.73 lb. dam of bull calf ½ white. 3 heifer calves 27 lb. sire not related. Terms easy.
M. L. McLAULIN, Redford, Mich.

Additional Stock Ads. on Page 564



Liberal Feeding of Live Stock

STINGY feeding of live stock is one of the most wasteful and extravagant features of American agriculture. This is especially true in case it is the feeder's purpose to have the animal grow in frame or lose flesh or produce some animal product such as milk, butter, wool, eggs, etc. For every class of live stock there is a definite quantity of the various digestible nutrients required for the maintenance of the system—for supplying heat and energy and repairing waste tissues. A ration which will just meet these requirements and maintain the animal without any change in weight is called a maintenance ration. It is apparent that supplying such a maintenance ration is a sort of necessary evil since we get no returns for the feed thus consumed.

In case it is the feeder's purpose to carry an idle horse through the winter cheaply, such a ration is probably the most desirable, but if it is his purpose to secure some animal product—such as milk, for instance—or to cause the animal to increase in size or degree of fleshing, then merely supplying a maintenance ration, or a little more, is certainly a poor business proposition.

According to the most accepted feeding standards a 1,000-pound dairy cow requires for maintenance purposes 0.7 per cent of digestible crude protein and 7.925 per cent of total digestible nutri-

ents per day. This ration, bear in mind, is all consumed in supplying her up-keep requirements and carrying on her vital processes and does not leave anything remaining for milk production. Even a dairy cow cannot make something out of nothing and so for each pound of four per cent milk produced she requires an addition of .054—.065 per cent of digestible crude protein and .346 per cent of total digestible nutrients. In the light of this fact it follows that the amount of milk produced by a dairy cow varies not as the total ration fed but as the amount of feed given in excess of the maintenance ration. This is why it often pays a dairyman to dispose of one or two of his lowest producing cows and distribute the feed which he had been feeding to them, among the rest of his herd so that each cow, after supplying the overhead expenses of carrying on her little factory, will have something left with which she can manufacture her real product—milk or butter.

This same principle holds true of all other classes of live stock—from feeding a farm flock of poultry for egg production to fattening a carload of two-year steers for the Chicago market. It is a principle which if intelligently applied will shorten the fattening period, give greater returns per pound of feed fed, and thus bring greater prosperity to the American farmer. S. M. POWELL.

Dairy Problems

SELECTING THE BREED.

As I am thinking of buying some full-blooded cattle of some kind, I would like some advice on what would be the best kind of cattle to buy for the general farmer. I have 170 acres of land, about 100 acres cleared, and we have no market for milk. We ship our cream at present to the Blue Valley. Do you think it would pay better for dairy type of cow or would you advise beef cattle? What is the Brown Swiss cow, a dairy cow or classed as a beef cow? How much milk had a cow ought to give and what would be the test of a cow that would be called a paying cow?

Leelanau Co. S. M.
So much depends upon the individual and the conveniences available that it is difficult to advise which breed of cattle to select. All of our standard breeds are good in their places and in the hands of good feeders and farmers.

If you have plenty of help for milking you would undoubtedly find greater profits selling milk, but if you lack help for milking you would make no mistake by investing in a small herd of good beef cattle.

The Brown Swiss are an excellent breed—of a dairy type with a tendency toward beef production—that should prove profitable on a farm in your county.

With any of the breeds the yield of milk will depend very largely upon the amount of feed and kind of care she gets. Some of the most profitable cows give milk that tests as low as three per cent butter-fat, while others give milk testing above five per cent. So you see it is more a matter of produc-

tion and costs than of the percentage of butter-fat in the milk. W. M. K.

VALUE OF MANGEL WURZEL BEETS.

I have a quantity of giant stock beets and I would like to find out what they are worth per ton as compared with other feeds for milch cows.

Eaton Co. D. H. M.
The food value of mangel wurzel beets, or any root crop for that matter, is not great when we compare it pound for pound with grain like corn or oats. The principal reason is because the root crops contain so much moisture. About eighty-five or ninety per cent is nothing but water, which has no food value whatever, and yet root crops of all sorts are very appetizing and are beneficial because they stimulate the digestive fluids and enable the animal to consume more of the dry foods and digest them better.

Beets are a little richer in protein and not quite so rich in carbohydrates as corn silage and their food value is usually considered about the same ton for ton. It is estimated that corn silage is worth one-third as much as timothy hay and it would be safe to say that mangel wurzels are worth fully as much, consequently, if timothy hay is worth \$27 then the mangel wurzels would be worth \$9.00 per ton, etc.

C. C. L.

Secretary of Agriculture Houston announced that over \$775,000,000 is now available for building roads throughout the country and returned soldiers will have the first call.



SUCCESSFUL PRICE FIXING.

(Continued from page 540).

forth the entire eight thousand dairy-men sold their milk as a single man through the office of the association's secretary. There was no longer any fear of rivalry among themselves for the city dealer's corrupting favor; nor fear of competition from other regions, since Detroit simply must have more milk than could be gotten from abroad.

The unity of control which the Milk Producers' Association found for itself, explains the successes which it has had. In 1917 it forced the Detroit dealers to pay forty cents per hundred more for milk than had ever been paid before. The dealers also agreed to buy from no one else than the association, thus granting the "closed shop" principle so vital to labor unions. During this year producers and dealers secured the naming of the Detroit Milk Commission, from which for 1918 a milk price was secured which was eighty cents per hundred weight over anything thus far paid, while in December of 1918 it secured roundly \$4.00 per hundred, the highest price ever paid in Michigan.

But the Producers' Association has not relied upon its natural strength as an organization. It has been well put together. A great drawback to all associations having a large membership like this is the difficulty of getting revenues. Something like inspiration seems to have guided the Milk Producers' Association here. Its revenues are in the form of an indirect tax, and come to it automatically. Each Detroit dealer deducts one cent per quart from the pay check due to his country patron, and remits it to the association strong box. Upon the sales of \$8,000,000 worth of milk made last year by the secretary of the Milk Producers' Association, one can easily make out under this rule the splendid income of this organization.

A group of farmers having the "controls" named above, are on easy street, so far as the price for their product is concerned. Producing a necessity of life which no city can forego, the members of the Milk Producers' Association need have no fear concerning prices so long as their association sticks together. Indeed, it seems hard to conceive the breaking up of an association which has so many natural elements of strength, and so many successes as has the Milk Producers' Association.

In fact, one can scarcely think how a stronger grip upon the supply of its product could be secured by an association, unless it had a patent right, franchise or natural limitation to supply, as in the cases of oil wells or hard coal. The Milk Producers' Association has shown no tendency to abuse its monopoly, either by charging prices in excess of costs of milk production, or by shutting out dairymen who wish to join. It has been able to secure a very happy stabilizing of the milk producing business through using its natural strength. There have been no ugly milk strikes with their bad feeling and wastefulness, such as other cities have seen. Milk prices are higher in Detroit than was ever before known, but no murmur of complaint has come from the consumers.

Trial shipment of three carloads of butter to New York from Saskatoon, Saskatchewan, indicates a regular business with New York, which will bring \$40,000 annually.

West Virginia peach growers have organized the Farmers' Elevator Company, at Shepherdstown, W. Va., with \$50,000 capital.

BUILT TO LAST

A Spreader That's Honest All the Way Through

"Honest is as honest does"—that applies to farm machinery as well as to men.

And if you want honesty in any implement you want it in your spreader.

It will pay you, then, to look over the new Bellevue No. 10 Spreader before you buy.

Its specially designed wheels will stand up under any load. The solidly built bed prevents the loss of the choicest part of the manure. Two pulverizing cylin-

ders insure perfect pulverizing and light draft.

The No. 10 comes regularly equipped with an all steel, and not wood, distributor. The distributor blades are hexagon shaped, with sharp corners, and are fastened to a square shaft in a way that they cannot work loose.

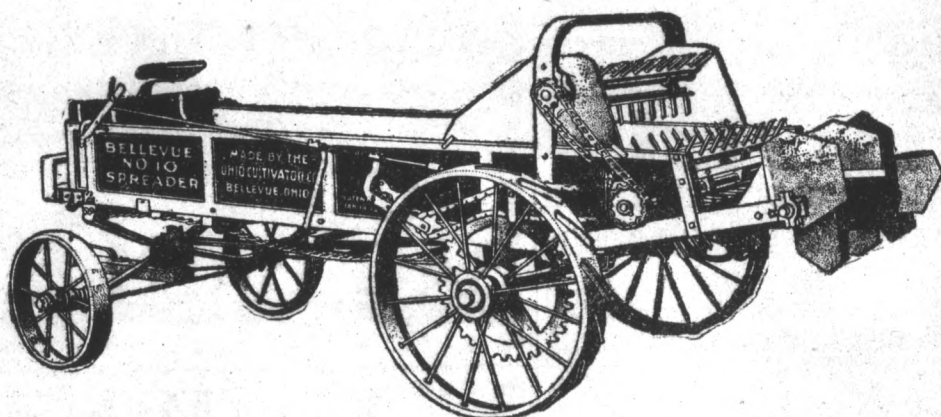
Here is a spreader that will take your eye the minute you see it.

Ask your dealer about it. If he doesn't know—write us for our free Spreader Catalog.

OHIO CULTIVATOR COMPANY, BELLEVUE, OHIO

Address Dept. 71

Bellevue Spread Means
A Good Seed Bed



The BELLEVUE No. 10 SPREADER



Stop the Theft of Power

It is not necessary to put up with loss of power and waste of oil and gas. Don't let badly fitting piston rings steal your motor's power and your gasoline. Install a full set of

McQUAY-NORRIS LEAK-PROOF PISTON RINGS

Increase Power—Decrease Carbon
Save Gas

By creating uniform pressure on the cylinder walls, McQuay-Norris Leak-Proof Piston Rings stop piston ring leakage, increase power, decrease carbon and save fuel and oil.

Wherever you are you can get them to fit any car, truck and tractor. Jobbers and supply houses in over 300 distributing points carry complete stocks of standard sizes and over-sizes, backed by a factory stock of 3,000 unusual sizes. You don't have to wait—the rings are awaiting your order.

Send for Free Booklet

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

Manufactured by
McQuay-Norris Manufacturing Co.
2877 Locust St. St. Louis, U. S. A.

McQUAY-NORRIS Superoyl RINGS

A special ring for engines that pump oil.

Used in top groove only of pistons to control excess oil, with McQuay-Norris Leak-Proof Piston Rings in lower grooves to insure maximum compression and fuel economy.

POULTRY

Purebred Barred Rocks. Eggs from vigorous stock of good laying ability. \$2 per 15; \$10 per 100. Prepaid by parcel post. E. G. KIRBY, R. 1, East Lansing, Mich.

Chicks That Live \$15 per 100 S. C. W. Leghorns MY SPECIALTY SNOWFLAKE POULTRY FARM. R. 1, Grand Rapids, Mich.

English Barron S. C. White Leghorn chicks at \$14.00 per 100; \$65 per 500 immediate special delivery. 6,000 chicks each week. Guarantee safe delivery full count of lively sturdy quality chicks that will mature into most profitable and persistent layers. Hatching eggs \$5 per 100. Write us your wants and send for valuable catalogue giving rearing & feeding methods. DEVRIES LEGHORN FARM, Zeeland, Mich.

Eggs postpaid \$12 M. B. turkey \$4.00, Giant strain, Copper Bronze, 15 Barred Rock, \$2.05 heavy bone. R. E. BLACK, Quincy, Ohio.

Eggs For Hatching Indian Runner Ducks, white egg kind, price \$1.75 for 11; 22 for \$3.00. Partridge Rock Rainbow strain, the great winter layers price \$1.75 for 15; 30 for \$3.00 postage not included. Mrs. J. S. KENNEDY, R. 3, Cassopolis, Mich.

CHICKS from Barron Strain S. C. White Leghorns, stock direct from M. A. C. with records up to 279. Chicks \$25 per 100. C. Keizer, R. 4, Hudsonville, Mich.

English Barron S. C. White Leghorns, farm raised. Eggs for hatching \$6.00 per 100. Pleasant Hill Poultry Farm, F. A. O'HARROW, Clarksville, Mich.

Fenton Chicken Hatchery, Fenton, Mich. F. M. Miliken, Proprietor. Thoroughbred Day Old Chicks, 25 for \$5.50; 50 for \$10.00; 100 for \$18.00. Single Comb W. Leghorns Tom Barron English Strain. White, Buff and Barred Plymouth Rocks, Buff Orpingtons, Anconas, W. Wyandottes, R. I. Reds, B. Leghorns.

Fowler's Buff Rocks Cockerels \$4 up. Utility eggs for hatching \$2.00 for 15. R. B. FOWLER, Hartford, Mich.

For sale "Buy the Best" eggs for hatching from 300 Egg strain Barred Plymouth Rock. \$2.00 per 15, \$5.00 for 45 eggs. H. B. PROCTOR, Grand Haven, Mich.

Hatching eggs Plymouth Rocks, all varieties, and Anconas. Illustrated catalog 3c. Sheridan Poultry Yards, R. 4, Sheridan, Mich.

John's Big Beautiful Barred Rocks are hen hatched. Quick growers, good layers 30 eggs \$3, 100 \$8. Postage paid. Circulars, photos. John Northon, Clare, Mich.

Laybilt S. C. W. Leghorn

Large, great layers, pure whites, strong day-old chicks. March 15c each; April 15c each. Parcel postpaid. Lots of 25 or over, guaranteed delivery alive and lively. Hatch every week after March 15th. No circular. Please book order direct from adv. and send orders early. V. A. MORSE, Ionia, Mich.

Pine Crest White Orpingtons. Egg that will hatch good, strong chicks 3 and 5 dollars per 15. (No baby chicks or eggs by 100). Mrs. WILLIS HUGH, Pine Crest, Royal Oak, Mich.

R. C. Br. Leghorn eggs \$1.50 per 15, \$3 per 100. Pekin duck, \$1.50 for 8. W. Chinese goose eggs 40 cents each. Mrs. CLAUDIA BETTS, Hillsdale, Mich.

S. C. Brown Leghorns, Heavy laying strain. Farm range. Eggs 15 \$1.25; 30 \$2.25; 45 \$3; 100 \$6. Postpaid. Floyd Robertson, R. 1, Lexington, Ind.

S. C. Anconas, W. Leghorns. Book orders now for Day Old Chicks and Hatching eggs. Circular free. Elmhurst Poultry Farm, Brighton, Mich.

Silver, Golden and White Wyandottes. Plenty of Good Golden and White cockerels \$4, \$5. Few Silver pullets \$3 each. C. W. Browning, Portland, Mich.

Snowy White Rocks Fishel Strain, dandy layers. Eggs \$1.50-15; \$4.50; \$7.00. All prepaid. Mrs. Earl Dehnhoff, Vanburen, Ohio.

S. C. B. Minorcas. Eggs from pen 1, \$3.00 per 15, from pen 2, \$2.00 per 15. Incubator eggs \$1.00 per hundred. R. W. MILLS, Saline, Mich.

White Wyandottes Free range flock 30 Duston's Strain hens mated to 7 Martin's Regal Strain Cockerels, 15 eggs by Parcel Post \$2.00 by ex. \$3 per 100. VERN MOORE, Hartford, Mich.

White Wyandottes choice stock; cocks, hens, cockerels, and pullets. Send for 1918 circular. David Ray, 709-Norris St., Ypsilanti, Mich.

[Poultry Ads. Continued on Page 567]

CATTLE

"Winwood Herd"

REGISTERED
Holstein - Friesian Cattle
Sire in Service
FLINT MAPLECREST BOY

His sire is Maplecrest Korndyke Hengerveld. His three nearest dams each over 30 lbs. of butter in 7 days. His dam and granddam both made over 1232 lbs. of butter in one year. It is the yearly cow we are looking for to deliver the goods. Flint Maplecrest Boy's Dam is Gluck Vassar Bell, 30.57 lbs. of butter in 7 days and 121 lbs. in 30 days. Her butter fat test is 5.27. This looks about right to the man who goes to the creamery. We have bull calves from 2 weeks to 12 months old. From A. R. O. dams and sired by Flint Maplecrest Boy, which we will sell at a dairy farmers price breeding considered. Just think 40 more cows to freshen which means more bull calves. Let us know your wants. We will make terms on approved notes.

JOHN H. WINN, Inc.

Lock Box 249, Roscommon Mich.
Reference Roscommon State Bank.

THE HOLSTEINS

At Maple Avenue Stock Farm are under Government supervision. The entire herd have just been tuberculin tested and not one reactor. A good place to buy that bull you are looking for, and I have two very fine, richly bred, and splendid individuals ready for any amount of service. I want to answer any question you may ask about them.

L. E. CONNELL, Fayette, Ohio

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

\$50.00 buys your choice of three Registered Holstein Friesian bull calves splendid individuals and bred right sired by a grandson of King of the Pontiac's buy one and raise a herd sire, bull calf for sale the same breeding ready for service, marked half white & black \$100 buys him del. Henry S. Rohlf, R.1, Akron, Mich.

BULL

OF BLUE BLOOD BREEDING

Born January 21st, 1919. While a little dark has plenty of white behind him and is certainly a splendid individual in type.

DAM: Has an A.R.O. record of 22 lbs. as a 3 yr. old. Cow of good type and a very persistent milker. Grand daughter of the Century Sire Pietertje Hengerveld Segs. with 100 A. R. O. daughters and 50 producing sons. SIRE: King Segs Pontiac Polkadot 21st, by King Segs Pontiac Polkadot son of last century Sire King Segs Pontiac. Remember this bull's sire is a brother to King Segs Pontiac Konigen. King Segs Pontiac Count; to champion 3 yr. old 7 day and champion 3 yr. old yearly. King Segs Pontiac Count has 4-1000 lb. daughters besides a 39 lb. 3 yr. old. Here is breeding which is occupying the top rung in the ladder of World's championship production.

SWIGARTDALE FARM,

Geo B. Storey, Mgr. Petersburg, Mich.

For Sale Registered Holstein bull calf, born Feb. 18, 1919, mostly white. Dam daughter of 30 lb sire. Sire Grandson of Pontiac Korndyke, write for pedigree and price delivered. E. E. STURGIS, St. Johns, Mich.

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

Bulls All Sold have two Reg. Oxford ewes at \$50.00 each. Due to lamb soon. J. ROBERT HICKS, St. Johns, Mich.

\$150 Buys one reg. heifer two months old and one bull calf one month old. Not akin. Pontiac breeding. Both light colored. B. B. Reavey, Akron, Mich.

WANTED a Reg. Holstein Bull dam better than 30 lb. PARHAM'S PEDIGREE STOCK FARM, Bronson, Mich.

Maple Lane R. of M. Jersey herd. Bull and heifer calves sired by a nephew the new World's Champion, Sophie's Agnes. Also R. O. Red eggs and chicks. IRVIN FOX, Allegan, Mich.

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

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

The Wildwood Jersey Farm.
Bulls for sale by Majesty's Oxford Fox 134214 and Emment Lady's Majesty 150934, and out of R. of M. Majesty dams. ALVIN BALDEN, Capac, Mich.

LILLIE Farmstead Jerseys. Young bulls ready for service from R. of M. cows. A few red heifers and cows. COLON C. LILLIE, Coopersville, Mich.

For Sale Registered Jersey bulls ready for service and bull calves.
SMITH & PARKER, R. 4, Howell, Mich.

Jerseys \$1200 buys our herd of ten Registered and high grade cows, ages 3 to 8 yrs. 6 milking two months, 4 will freshen within 30 to 60 days. Herd bull 2 yrs. old, sure breeder, sires 1 reg. bull, 1 reg. heifer, 4 g. heifers. ROBT. P. REAVEY & SON, Caro, Mich.

Harwood's White Faces

KEEP ON 508019

A Ton Bull Heads The Herd

The beef cattle of the day. Only 2 yearling bulls left. My 1918 crop of bulls ready for sale. Will share a few females. You can not make a better investment. I wish to thank my customers for past favors.

JAY HARWOOD, Ionia, Mich.

Lakewood Herefords Strong in the blood of Anxiety 4th the strain that breeds true to type and predominates the leading show and sale rings of the country. A few high class young bulls for sale. Come see, and compare. Farm adjoins town. Otis. Phone 29. E. J. TAYLOR, Fremont, Mich.

HEREFORDS

Both sexes and all ages for sale also horned and polled bulls in service. Governor by Prince Donald by Prime Lad 9th, Militant Farmer by Imported Farmer, Fairfax Farmer by Militant Farmer, Dam by Perfection Fairfax.

ALLEN BROS., Paw Paw, Mich.

Healthy Teats and Udder

HELP THE MILK FLOW

Have you ever noticed how the milk flow falls off if a cow is troubled with a diseased or irritated condition of the teats or udder?

You can save your cows all such annoyance and keep the milk production up to normal by keeping on hand constantly a package of Bag Balm, the great healing ointment. Its penetrating and healing properties are so prompt and positive that you need have no udder troubles in any of your cows.

Caked Bag is quickly relieved and eliminated by applying Bag Balm. Be sure to have a package on hand when cows freshen. Very valuable in treating Bunches, too.

Sold in liberal 60c packages by feed dealers and druggists.

Send for free booklet, "Dairy Wrinkles"

Dairy Association Co.,
Lyndonville, Vt.



Sell Your Milk

Don't Feed It to Your Calves!



Raise the Calves Easily, Successfully and Profitably on

Blatchford's Calf Meal

In the United States alone more than 1,000,000 calves were raised on Blatchford's Calf Meal last year. It puts calves through to a healthy, vigorous, early maturity at less than one-half the cost of milk. Write for booklet "How to Raise Finest Calves on Little or No Milk." We'll send it free, also name of your nearest dealer.

Blatchford Calf Meal Co. - Dept. 4814
In Business Over 116 Years Waukegan, Ill.

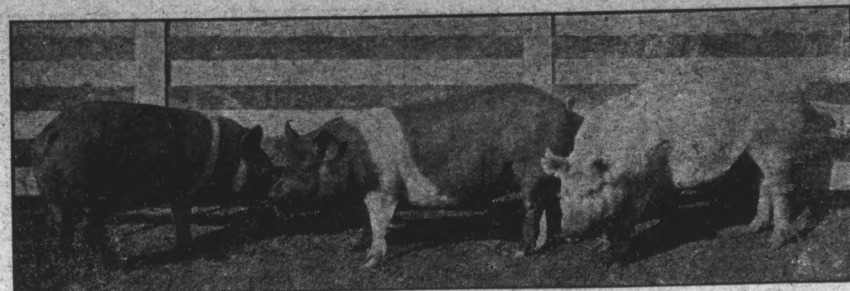
THE KING OF REMEDIES FOR LAME



Quit the draining expense and cure your suffering, lame and idle horse. Don't hold back—we take all risk to permanently cure mule, work horse or \$10,000 trotter or Ringbone, Thoropin—SPAVIN or Shoulder, Knee, Ankle, Hoof or Tendon disease. Our FREE Save-The-Horse BOOK tells the story. This remarkable, serviceable book, which every horse owner will value, sample of signed Guarantee with other substantial references and evidence are all sent FREE. They prove what Save-The-Horse has done for over 250,000 satisfied users. Save-The-Horse is no cure-all but for diseases causing lameness you can depend upon it. Horse works, earning while being cured. Write at once.

TROY CHEMICAL CO., 320 State St., Binghamton, N. Y.
Druggists Everywhere sell Save-The-Horse with CONTRACT, or we send by Parcel Post or Express paid!

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



The Brood Sow at Farrowing Time

--By Geo. F. Henning, Jr.

WHAT plans have you made for the farrowing season, only a short time away? Have you done everything within your reach that will save you the most pigs, and make you the most money? It has been truly said many times, "minutes have been dollars to the hog owner." There is nothing in the hog crop that yields such large returns as the time spent in proper care and management of the brood sow previous, at, and shortly after farrowing time.

To begin with, every brood sow owner should have a record of the date his sow was bred. Then he knows that sixteen weeks from that time under normal conditions he can expect his sow to farrow. This keeping of records is very important for how often has many a farmer left the old sow go, forgot all about this valuable creature, and much to his surprise, walked around the straw stack on a certain morning and found a nice litter of pigs. Or, as in one case that I remember where a farmer forgot all about that he owned some brood sows, and one of which farrowed her litter one night near the water in a creek. A storm came up during the night, the stream rose and washed the litter away, only to be found two days after on the bottom of the creek. Why? Just because he was too negligent to scratch down a few figures at the time of breeding. Now it seems to me that was pretty dear experience and mighty poor business. Should our business houses today proportionately make such mistakes they would be forced to the wall. But the farmer will persist in doing his old way.

Granting that we know the date our sow is to farrow, a week or ten days previous, the sow should be put in her own pen by herself. Her new home should not be too large nor too small, one 9x6 feet or 10x8 feet is about right. It should be warm and comfortable and protected from all drafts. A guard rail should be around the outside edge. One made from a 2x4 with the edges rounded so that the bottom edge is about six inches from the floor and about four inches from the wall meets the requirements. The pigs then can get in under the 2x4 and the old sow cannot crush them. Next the pen should be thoroughly cleaned of all dirt and manure. Then a good sprinkling of some coal tar dip or other disinfectant is a mighty good practice. It makes one feel as though he was making a healthful home for the sow. After sprinkling, plenty of clean straw should be put in the pen. From observation I have noticed that the straw that is broken up is much better than the coarse stiff straw. The mortgage lifter will make her own bed to suit herself and you need not worry about that part. About three days before the sixteen weeks is up it is a good plan to take out all wet straw and to continue to do so until she farrows, each time putting dry straw back in the pen. One should be careful not to give her too much, just enough for a medium bed, as too much makes it hard for the young pigs to crawl over and many times they crawl under it and the mother crushes them to death.

Now how should she be handled for

these first ten days. She should be petted, rubbed and made to believe she was the most important animal on the farm so that she will grunt with contentment when anyone is around. It is only by such treatment that one can get in the pen and handle the young. She knows the herdsman is her friend and will do her no harm.

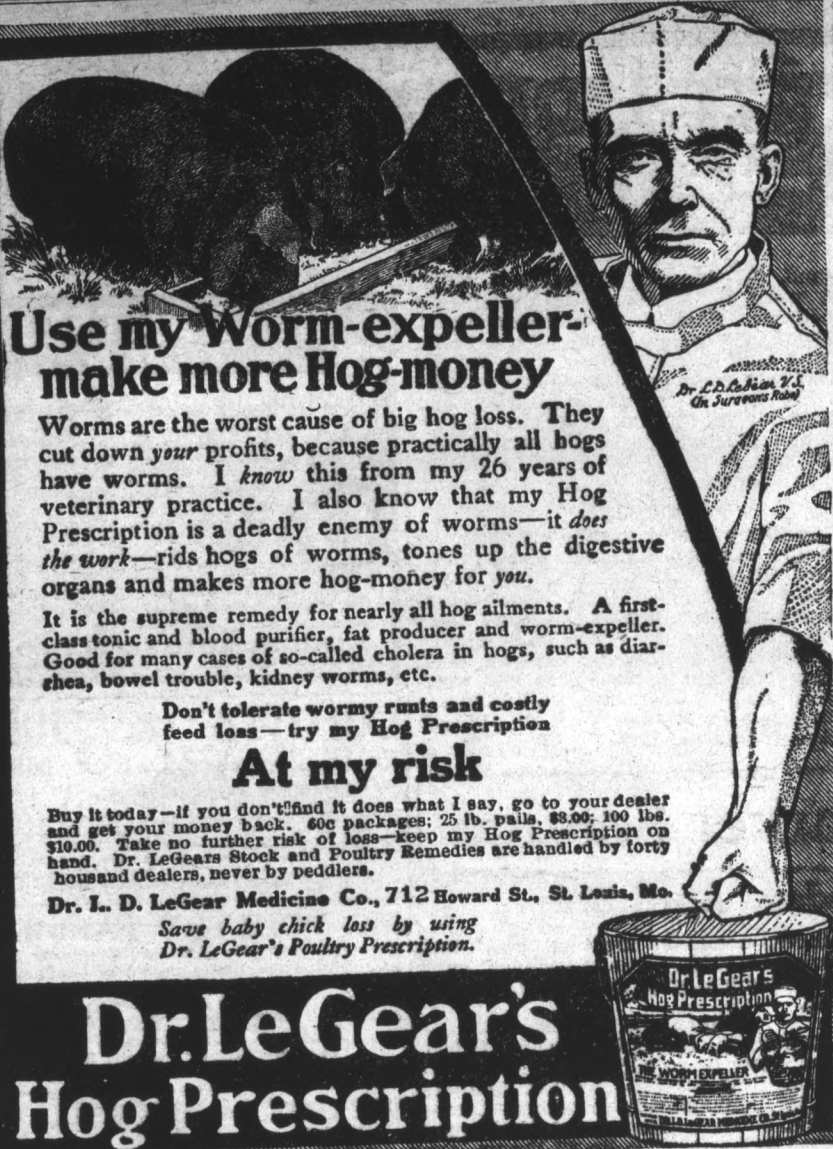
Her feeding is equally as important. She should have been fed rather liberally on a protein ration all through the gestation period. But now she should by all means be fed on a protein ration but rather light. A good ration is one made of skim-milk and middlings or a little bran. Then it is a good plan to feed a little charcoal to satisfy that mineral desire so characteristic of hogs. By feeding a rather liberal protein ration now the pig eating instinct is often exterminated which many times causes the old sow to go to the shambles. Three to four days before farrowing the ration should be rather laxative in nature and the last day should be extremely light so she will not have a full stomach when giving birth to her young.

At farrowing time some breeders say stick right with your sow, and as each pig is born see that it gets a teat and is started right on its porky road. Then too, in case the sow has any trouble one can give veterinary attention or call one who can. Others say stay away and leave the sow alone, as you disturb her, make her nervous and fretful. I believe and have found it to be a good practice if, during warm weather and with a guard rail around your pen one need not worry, but during the cold weather it is best to be on the job and lose no time in getting the pig to the teat and if real cold it is many times advisable to dry the newly born pigs with a warm blanket. Too often pigs have frozen to death where, by a few hours of close attention, many a dollar could have been saved.

All feeds after farrowing should be kept away from the sow for at least twelve hours, and she should be left entirely alone. She has passed through a critical period, is sick and in a fevered condition. Some breeders think she should not be fed before twenty-four hours but that is too long. From twelve to eighteen hours she can be fed a light slop of skim-milk and middlings or a light gruel. It must be remembered that the udder is full of milk and by feeding too soon many times serious results show themselves. Sows have died from such feeding, and inevitably the pigs will get the scours. It takes from three to four days to bring the sow up to full feed and after that time you can commence to feed liberally for you then are on your way to pork success.

Briefly concluding, treat the sow as she should be for you can well afford to do so, use every precaution at farrowing time because too often minutes at the critical time have cost owners unknown dollars, and finally use just plain common sense and the old brood sow will bring you a handsome reward.

In a few years the "air-flivvers" will be getting in the way of the aerial limousine.



Use my Worm-expeller—make more Hog-money

Worms are the worst cause of big hog loss. They cut down your profits, because practically all hogs have worms. I know this from my 26 years of veterinary practice. I also know that my Hog Prescription is a deadly enemy of worms—it does the work—rids hogs of worms, tones up the digestive organs and makes more hog-money for you.

It is the supreme remedy for nearly all hog ailments. A first-class tonic and blood purifier, fat producer and worm-expeller. Good for many cases of so-called cholera in hogs, such as diarrhea, bowel trouble, kidney worms, etc.

Don't tolerate wormy runts and costly feed loss—try my Hog Prescription

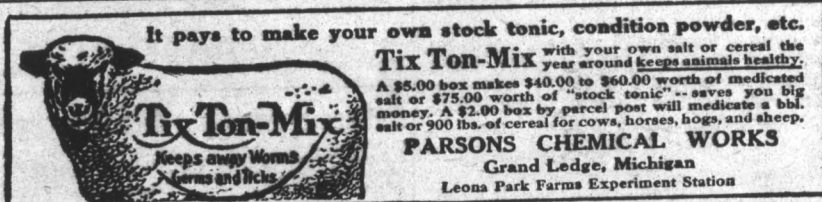
At my risk

Buy it today—if you don't find it does what I say, go to your dealer and get your money back. 60c packages; 25 lb. pails, \$3.00; 100 lbs. \$10.00. Take no further risk of loss—keep my Hog Prescription on hand. Dr. LeGear's Stock and Poultry Remedies are handled by forty thousand dealers, never by peddlers.

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

Save baby chick loss by using Dr. LeGear's Poultry Prescription.

Dr. LeGear's Hog Prescription



It pays to make your own stock tonic, condition powder, etc.

Tix Ton-Mix

with your own salt and cereal the year around keeps animals healthy. A \$5.00 box makes \$40.00 to \$60.00 worth of medicated salt or \$75.00 worth of "stock tonic"—saves you big money. A \$2.00 box by parcel post will medicate a bbl. salt or 900 lbs. of cereal for cows, horses, hogs, and sheep.

PARSONS CHEMICAL WORKS
Grand Ledge, Michigan
Leona Park Farms Experiment Station

HOLSTEIN DISPERSION SALE

Monday, April 14, 1919, 1 P. M.

40 Registered Holstein Cattle and 12 High-grades Headed by Long Beach Johanna Rue Lad. No. 199838

The records of his two nearest dams average: Butter, 7 days, 30.48 lbs. The dam, a 30 lb. cow, is a sister to Finderne Pride Johanna Rue, 1470.59 lbs. butter in 1 yr., also sister to the dam of Segis Fayne Johanna (50.68 lbs. butter in 7 days). The worlds record cow. A. R. O. cows in this sale from 19 lb. 2 yr. old to 23.82 lb. full age.

All animals over 6 months old, tuberculin tested, by state-approved veterinarian. Sale at Fair Acres Farm, 3 miles north of Ann Arbor, on Whitmore Lake road. Free transportation. For catalog, write

BRAUN BROTHERS, R. R. 1, Ann Arbor, Mich. COL. D. L. PERRY, Auctioneer

Fulton County Breeders

Consign Fifty Registered Holsteins
To Be Sold At

Wauseon, Ohio, April 15th '19

46 females, most of which are bred. 25 soon to freshen. 2 bulls ready for service, by 30 pound sires and out of high record dams. 2 richly bred bull calves. Every animal is tuberculin tested and is under Federal supervision. This is FULTON COUNTY Breeders first consignment. We have stuck to the Motto "Not How Many, But How Good" and we hope you will appreciate the consignments. L. E. Connell, Jay C. Burr, Wm. Biddle, Everett Spring, H. H. McQuillen.

Hereforde Bob Fairfax #94027 at head of herd. Stock for sale, either sex, polled or horned, any age. Priced right. EARL O. McCARTY, Sec'y. H. B. Ass'n. Bad Axe, 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. O. depot, 1 hour from Toledo, Ohio. Automobile meets all trains. Write

BIDWELL STOCK FARM,
Box B, Tecumseh, Mich.

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

Shorthorns Scotch and Scotch Topped cows and heifers, priced right. Come and see them or write W. B. McQUILLAN, R. 7, Howell, Mich.

Richland Farms

Shorthorns

Home of the Mich. Champions. We have just purchased the entire herd of Scotch cattle belonging to the Estate of the late A. D. Plintom, Kansas City, Mo. About Feb. 1st. we will offer a choice lot of young bulls for sale.

C. H. PRESCOTT & SONS,
Office at Tawas City, Mich. Farms at Prescott, Mich.

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

Stockers & Feeders For Sale
130 Shorthorn Steers ave. 1065 lbs.
170 Hereford Steers ave. 930 lbs.
2 cars of yearling Herefords ave. 750 lbs.
2 cars of Shorthorn yearlings reds and roans. These steers are dehorned and in good flesh. Wapello Co. Ia. is noted for its good cattle. Write JOHN CARROW, R. 3, Ottumwa, Ia.

Milking Shorthorns Clay bred young bulls 3 to 10 months old. DAVIDSON & HALL, Tecumseh, Mich.

Rosemary Farms, Williamston, Mich. young bulls ready for service. Shorthorns bred for milk & beef. Herd estab. by Prof. C.H. Burgess, Mich. Agri. College.

Shorthorns Central Mich. Shorthorn Breeders Ass. offer 31 bulls all ages. 17 females for sale. Write Oscar Skinner, Sec., Gowen, Mich.

Shorthorn Breeder No stock for sale at present. CHAS. WARNER, Jr., Tmlay City, Mich.

Shorthorns 100 head to select from. Write me your wants, price reasonable. Wm. J. BELL, Rose City, Mich.

The Kent Co. Shorthorn Breeders have both males and females for sale. Ask about them. L.H. LEONARD Sec., Caledonia, Mich.

Milking Shorthorns of best Bates breeding and O. I. C. swine. Bulls for sale 1 mo. to 1 year old. E. H. KURTZ, Mason, Mich.

Hogs all sold, have a nice Shorthorn bull calf, six months old, good individual price \$100 if taken soon. JOHN D. WILEY, Schoolcraft, Mich.

Cattle For Sale Stockers & feeders, from 500 to 1,000 lb. Write your wants. ISAAC SHANSTROM, Fairfield, Iowa.

Brown Swiss, 2 bull calves, 5 and 9 mos. old, sired by grandson of College Bravura. 2nd. E. T. SPENCER, R. 1, Portland, Mich.

Don't Buy A Bull But Buy This Sire

Here is a very straight 6 months old calf out of a show cow that has an A. R. O. record of 27.09 lbs. butter, 607 lbs. milk in 7 days and a big milker for the year. His sire is a 32 lb. son of the famous \$50,000 bull.

If you want a real sire that will make you money write

LAKE SIDE DAIRY
LAKE ODESSA, MICH.

HOGS

Serviceable Berkshire Boars and White Leg-horn Cockerels. PRIMEVAL FARM, Osseo, Mich.

Duroc Opportunity

What would the earning capacity of a Brookwater Boar be in your herd? A mid-west breeder states that the Brookwater boar he used added from \$75 to \$100 to every gilt bred to him. It paid this man to use one of our boars it will pay you.

We have several that we are offering at prices which appeal to the small breeder who must of necessity be a conservative buyer. We have a few that are good enough to be used in high class herds at prices in keeping with their individuality and breeding. Money invested in a good herd boar very speedily increases the value not only of what you sell but what you keep. Send for price list or better, visit the farm.

BROOKWATER FARM, Ann Arbor, Mich.
HERBERT W. MUMFORD, owner.
J. BRUCE HENDERSON, Manager.

Duroc Jersey's—A few extra good fall boars bred by Orion Cherry King Col. 2nd. Duroc sows all sold. W. C. TAYLOR, Milan, Mich.

Registered Duroc Gilts

Descendants of the leading strains: Cherry King, Defender, King of Col's, The Professor, all bred to Col. Defender the 26th. No. 123705, his sire, Pal's Premier Col. T. No. 81021. Dam, Royal Defender No. 231580, one of the most promising herd boars in Michigan. Prices reasonable. Write for prices and further information.

THE JENNINGS FARMS, R. 1, Bailey, Mich.

50 DUROC

bred sows and 50 fall pigs. You need a litter by Orion's Fancy King the biggest pig of his age ever at International fat stock show. Catalog tells all.

NEWTON BARNHART, St. Johns, Mich.

OAKWOOD FARM

Nothing for sale at present booking orders for spring pigs (Durocs). Tax Payer and Gold Medal breeding.

RUSH BROS., Romeo, Mich.

DUROC-JERSEYS

E. D. REYDENBERG, Wayland, Mich.

DUROC JERSEYS

Gilts bred for June farrow of the heavy boned type also fall pigs either sex pairs not skin.

F. J. DRODT, R. 1, Monroe, Mich.

Duroc Jersey's. A few choice gilts bred to Brookwater King Special III 467. (A full brother to Brookwater Lass D. the grand champion sow at the 1918 International). Carey U. Edmonds, Hastings, Mich.

Spring Farrow sows all sold. Write me your future wants.

JOS. SCHUELLER, Weidman, Mich.

FOR Sale Duroc Jersey's of the big boned type fall pigs of either sex and taking orders for spring pigs.

CHAS. BRAY, Okemos, Mich.

Hampshires Boars at a bargain bred gilts all sold.

JOHN W. SNYDER, R. 3, St. Johns, Mich.

Hampshire Hogs The International Grand Champion Hog of 1913, both sexes for sale. Spring deliveries booked now. ELI SPRUNGER & SON, Saginaw, W. S., Mich.



Raise Chester Whites

Like This

the original big producers

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

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



Breed The Best

THE WORLD NEEDS LARGE FAT HOGS

Why lose money feeding and feeding scrub hogs? Two of our O. I. C. Hogs Weighed 2806 Pounds.

We are the most extensive breeders and shippers of pure bred hogs in the world. Write today for the true story of the real O. I. C. Hogs. All foreign shipments U. S. Government Inspected

We have bred the O. I. C. Hogs since 1908 and have never lost a hog with cholera or any other contagious disease.

WRITE TODAY—FOR FREE BOOK "The Hog from Birth to Sale" THE L. B. SILVER CO. 196 Heights Temple Bldg. CLEVELAND, OHIO

Chesters, March and April pigs in winning stock prices reasonable satisfaction guaranteed. F. W. ALEXANDER, Vassar, Mich.

THE WORLD'S CHAMPION big type O.I.C.'s. 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 boar of Michigan, New York and Tennessee state fairs. Also, O. C. Giant Buster, undefeated Senior boar pig wherever shown and Grand Champion of Oklahoma state fair. Get our catalogue of Grandall's prize hogs, Cass City, Michigan.

O. I. C. and Chester White Swine Strictly Big Type with QUALITY. I am sold out of everything but fall pigs. These pigs are as good—and I think better than any I ever bred. I am one of the oldest breeders of Big Type in the U. S.

O. I. C.'s big type serviceable boars. Yearling sows and gilts bred for spring farrow. G. P. ANDREWS, Dansville, Mich.

O. I. C. Bred Gilts All Sold. H. W. MANN, Dansville, Mich.

O. I. C. Boar, 14 months old. Large fall pigs of either sex. C. J. THOMPSON, Rockford, Mich.

O. I. C. Gilts bred for summer farrow and a few fall boar pigs any of them good enough to ship. C. O. D. F. C. BURGESS, R. 3, Mason, Mich.

O. I. C.'s 2 choice yearling boars, 2 spring pigs. CLOVER LEAF STOCK FARM, Monroe, Mich.

O. I. C.'s 2 last July and 4 last Sept. boars, good growthy fellows, Farm 1/2 mile west of Depot. OTTO B. SCHULZE, Nashville, Mich.

FRANCISCO FARMS

SHORTHORNS—POLAND CHINAS Three choice heifers and a few young cows to offer. Also fine good gilts bred for late spring farrow. Prices are attractive.

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

For 25 Years We have been breeding Big Type Poland China hogs of the most approved blood lines. Our new herd boar "Michigan Buster" is a mighty good son of the great "Giant Buster", dam "Mow's Miss Queen 2". Some breeding! We are all sold out except a few fall pigs at \$25.00 each.

J. O. BUTLER, Portland, Mich.

Big Type Poland Chinas

A 400 lb. Aug. 25 yearling and a few 250 lb. Apr. gilts. Quality stuff, registered, and cholera immune. Bred for Mar. and Apr. farrow.

WESLEY HILE, R. 6, Ionia, Mich.

P.C. bred gilts sold. For sale herd boar prospect 17 mo. old, wet, 600 lb. with quality, sire Buster Giant, 2830 lbs. dam Nemo L. 5490 lb. an 800 lb. sow in flesh. Sire sold for \$1500, priced reasonable. Free Livery from Parma.

W. E. LIVINGSTON, Parma, Mich.

Big Poland Chinas

with quality. For sale, summer and fall gilts, open or bred.

G. A. BAUMGARDNER, R. 2, Middleville, Mich.

L. S. P. C. Bred sows all sold, 2 boars ready for service. Also 1 fall boar, and fall gilts to breed for fall farrow.

H. O. SWARTZ, R. 1, Schoolcraft, Mich.

MOH. Champion

herd of Big Type P.C. Nothing for sale but fall pigs; orders booked for spring pigs.

E. B. LEONARD, St. Louis, Mich.

Big type P. C. fall boars the big prolific kind, their breeding traces to the best herd in Ill. Iowa, & Neb.

C. E. GARNANT, Eaton Rapids, Mich.

Large Type P. C. Nothing for sale now. Will be in market with better than ever this fall. If herd stuff counts.

W. J. HAGELSHAW, Augusta, Mich.

Big Type P. C.

boar and bred gilts. Choice Aug. pigs at a bargain.

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

Big Type P. C. Choice bred sows from Iowa's greatest herds, the big bone prolific kind with size and quality.

E. J. MATHEWSON, Burr Oak, Mich.

Big Type Poland's all sold out, nothing for sale at present. Booking orders for spring pigs. Thanking my customers.

L. L. Chamberlain, Marcellus, Mich.

Mammoth Poland Chinas all sold. General Jones No. 317249, son of Gerstale Jones heads our herd. Clyde Weaver, Ceresco, Mich.

Additional Stock Ads on Page 519

LATEST MARKET REPORTS

SECOND EDITION.

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

WHEAT.

Wheat values make another good advance. The demand is firm and steady from both domestic and foreign sources. Michigan millers are finding it a little difficult to secure ample supplies of winter wheat from this state, although spring wheat stocks are ample. The visible supply decreased 9,400,000 bushels last week. The growing crop is in high condition and the abandoned acreage will probably be the smallest on record. One year ago No. 2 red wheat was quoted on the local market at \$2.17 per bushel. Present Detroit prices are:

No. 2 red	\$2.45
No. 2 mixed	2.43
No. 2 white	2.43

CORN.

Corn prices fluctuated last week but the general situation shows the trade to be steady to firm. On the last day of March there was heavy buying at advanced prices. The attempt to bear the market with news of proposed importations from Argentine failed, inasmuch as all contracts for corn from the South American country were made subject to strike interference. Farmers are not delivering corn in quantities, believing that it is yet more profitable to feed the grain. A year ago No. 2 corn sold on the local market at \$1.60. Present Detroit quotations are:

No. 3 corn	\$1.65
No. 3 yellow	1.70
No. 4 yellow	1.65
No. 5 yellow	1.63
No. 6 yellow	1.60
No. 3 white	1.68

At Chicago trading is active and prices advance over those prevailing at the close of last week as follows: No. 3 yellow \$1.59½@1.62½; No. 4 yellow \$1.57½@1.59; No. 5 yellow \$1.55½@1.56; May \$1.57½; July 1.45½.

OATS.

With a good supply of oats still in farmers' hands and a quantity under government control that may be placed on the market, the tone of the oat deal has been easy, with quotations slightly below those of last week. Millers however, are buying the grain. The visible supply decreased 2,473,000 bushels during the week. A year ago standard oats were quoted at 95c per bushel. Present Detroit quotations are as follows:

Standard70
No. 3 white69½
No. 4 white68½

BEANS.

A very substantial advance in the price of beans is noted for the past week. The demand has improved throughout the country. Domestic consumption is expanding, export buyers are busy and speculators are taking hold of the market. Boston reports better interest in the trade with prices slightly higher for Michigan pea beans at \$7.50@8 a bushel. Philadelphia also reports slightly higher prices with the Michigan pea beans at \$7@7.75. New York is receiving very limited shipments with the demand and movement improving. Michigan pea beans have advanced in the metropolis up to \$8. Chicago has a better market with Michigan choice hand-picked at \$7.50@7.00. The Detroit Board of Trade quotes immediate and prompt shipment at \$7.75, which is an advance of 75c in the past six days. At Michigan points the quotations to farmers are generally at \$6@7. Over 2,500 tons of beans were shipped from New York City to England in the last two weeks. Rocky Mountain jobbers' association reports 780,000 lbs. of white and 13,170,000 lbs. pinto hel dby elevators and growers in Colorado.

FEEDS.

Quotations remain about steady as follows: Bran \$46; standard middlings \$46; fine middlings \$50; coarse corn meal \$64; cracked corn \$67.50; chopped feed \$52 per ton in 100-lb. sacks to jobbers.

SEEDS.

Another \$1 is added to the price of

clover seed as follows: Prime red clover \$29.50; alsike \$25; timothy \$5.

HAY.

Market firm at advanced prices. No. 1 timothy \$29.50@30; standard \$28.50@29; No. 2 timothy \$27.50@28; No. 1 mixed \$27.50@28; No. 1 clover \$25.50@26 per ton.

BUTTER.

Prices have recovered some of the loss sustained last week. At Detroit fresh creamery stock is now selling to jobbers at 61@62c; at Chicago creamery is now at 55@63½c. The New York market rules steady at 64@67½c for creamery stock. The Philadelphia trade advances again with western creamery extras at 67c.

POTATOES.

The movement of potatoes has been on a liberal scale the past few days, the result of an improved general de-

mand. Wednesday 531 cars, of which 43 were in Michigan, left producing sections. Growers are receiving at Michigan warehouses for U. S. grade No. 1 bulk \$1.25@1.40 per cwt. At Detroit this grade goes to jobbers at \$2.65@2.75 per 150-lb. sack; in Cleveland \$3@3.10; in Pittsburgh \$3.15; in Columbus \$3.15@3.25; in Chicago \$1.60@1.70 per cwt; in Indianapolis \$1.95@2; in Cincinnati \$1.90@2.

EGGS.

Consumption is expanding about as rapidly as receipts increase, and prices show little change. At Detroit fresh first are jobbing at 40½c; extra firsts in new cases at 41c. At Chicago firsts are quoted at 38½@39½c; ordinary firsts 38@38½c. Nearby western stock brings 42@58c in New York and western firsts and western extra firsts have advanced in Philadelphia to \$12.15@12.45 per case.

Live Stock Market Service

Reports for Thursday, April 3rd

BUFFALO.

Woolled lambs sold at \$20.25@20.40; clipped lambs \$17.50; calves went to \$20.50; pigs \$20; other hogs \$21; the cattle trade continues steady.

DETROIT

Cattle.

Receipts 2,897. Market is steady at last week's closing prices.
Best heavy steers.....\$14.00@16.00
Best handy wt bu strs... 12.50@13.50
Mixed steers and heifers 12.00@13.00
Handy light butchers.... 10.50@11.50
Light butchers

WOOL

The first series of auction sales of government wools under the reduced minimum level of prices convinced the buyers that the market for the better grades will continue strong. Wools below the three-eighths class showed a little weakness but government price levels were entirely disregarded in the sale of offerings classified above that grade. Delaines sold on a basis of 60@74c in the grease; half-bloods 67@72c; quarter-bloods, washed 89@94c. Buyers from the smaller mills were very much in evidence at this series of sales. Heretofore the big mills have had little competition from the smaller manufacturers. As regards the new clip it is too early to predict the probable level of values. Some trading has been done on the quiet but neither the dealers nor the growers have set any mark upon which general dealing might be based. The successful auction sales held in Philadelphia and Boston have convinced western sheep men that a strong market should obtain this season, and it is probable that as a result of this feeling, selling will not start in at as low a figure as would have prevailed had dealers bid less anxiously for the government stocks. At the present time there is approximately 487,000,000 pounds of wool to be disposed of.

EATON COUNTY SHORTHORN BREEDERS ORGANIZE.

The Shorthorn breeders of Eaton county met March 25 at the office of County Agent Farrand to perfect an organization. Professor Edwards, of M. A. C., gave an address showing by examples the value of cooperation, the advantages of organization which, he stated, resulted in more interest in individual herds, more breeders, larger demand for pure-bred stock, cooperation in purchasing pure-bred sires and better sales through the efforts of the organization. The seven directors are: Edward Simpson, Chester; D. G. Cronk of Bellevue; Nelson Space, of Grand Ledge; Wm. Marshall, of Potterville; Ira Zimmerman, Diamonddale; P. J. Wilson and Laurence Otto, of Charlotte. Ira Zimmerman, president; Wm. Marshall, vice-president; Laurence Otto, secretary-treasurer.

NEWS OF THE WEEK.

(Continued from page 522).
by the postmaster-general.—About 600 Michigan men of the 85th division arrive in New York and will go to Camp Custer for discharge.—A new Portuguese cabinet is to be formed.—The commission on responsibility for the war has decided to condemn the violation of neutrality and all the crimes committed by the central powers and to appoint an international tribunal to judge all those responsible, including the former German emperor.—General Allenby is to use his forces to restore order in Egypt.

Monday, March 31.

It is now expected that the peace treaty will be signed by Easter.—A proposal has come from the present rulers of Russia making possible a joint peace which would bring Russia into the League of Nations.—The republic of Austria has banished the houses of Hapsburg, Bourbon and Parma and confiscated all property except private incomes.—Field Marshal Foch summons German delegates to meet him at Spa concerning the Danzig difficulty.—Korea proclaims itself an independent state and forms a provisional government in Manchuria.

THERE is much greater demand for feeder cattle in the Chicago market than can be supplied. The packers want steers selling at \$14 and upward, and stock feeders are able to buy only a limited number of steers weighing around 1,400 pounds at \$14@14.50 per 100 pounds. A few fleshy weighty feeders are selling around \$15@15.25, and recently a country buyer secured some prime 1,000-pound feeders at \$16, but such sales are rare. Good Shorthorn feeder steers weighing around 700 pounds can be purchased for \$11.75@12.50, and fair steers adapted for feeding are offered at \$8.50@9, such lots averaging from 500 to 600 pounds, while good to choice 850 to 900-pound feeding cows are selling at \$8.50@9.

CORRECTION.

The advertisement of Wildwood Farms, Orion, Mich., which appeared in our issue of March 29 gave the price paid for a bull calf sired by "Edgar of Dalmeny" (Imp.) as 211 guineas. It should have read 2,100 guineas or \$10,584.00.

THE WINNING FEED COMBINATION

TO get the maximum milk production and best health conditions over long milking periods, at any season of the year, you should feed a ration of exceptional PALATABILITY and one containing the WIDEST VARIETY of grain products which are high in quality of both protein and carbohydrate content.

Here are two feeds that exhaustive practical tests have proved to be the winning combination, and which require the least time and labor to feed.

In SCHUMACHER FEED and BIG "Q" DAIRY RATION you have a combination of milk producing materials which are most ideal. They furnish the five essentials of a successful dairy ration—PALATABILITY—DIGESTIBILITY—VARIETY—NUTRITION and BULK, so scientifically balanced that your cows will relish them day after day, year in and year out, and maintain their maximum flow and keep in vigorous, healthy condition.

SCHUMACHER FEED AND BIG "Q" DAIRY RATION

SCHUMACHER FEED has been the "stand-by" and standard of dairy feeds for years. It has to its credit more World's Champion Long Distance Milk and Butter records (as the carbohydrate portion of the ration) than all other feeds combined. Of 27 World's Champion Records to its credit, 20 were on YEARLY production—and long distance production means increased profits for you.

Fed in conjunction with BIG "Q" DAIRY RATION—our new high protein feed—you have a mixture which can be made suitable for any cow, in any lactation condition. The secret of the exceptional merit of SCHUMACHER is in the fact that it supplies the energy, stamina, "back-bone" vigor, "stand-up-ability" so vitally necessary for long milking periods.

BIG "Q" DAIRY RATION is a protein feed that has more than made good the dairymen's highest expectations—it is a DIFFERENT protein mixture—different because its protein content is not simply so much protein, but a selection of the RIGHT KIND, QUALITY and VARIETY of protein materials now recognized of VASTLY more importance than quantity.

Try Feeding the Following Suggested Rations and Let Your Own Cows Render the Verdict:

General Ration with Ensilage or Roots.....	One part Schumacher Feed One part Big "Q" Dairy Ration
To Fresh Cows with Green Feed.....	Two parts Schumacher Feed One part Big "Q" Dairy Ration
To Dry Cows.....	Four parts Schumacher Feed One part Big "Q" Dairy Ration
Test Ration.....	One part Schumacher Feed Two parts Big "Q" Dairy Ration

(Increase Big "Q" Ration if cow can handle more protein without bad effects)

Now is the time to force your milk production. Every extra pound of milk you produce by liberal feeding up to the capacity of the cow is two-thirds profit. That's why it pays big to feed these two ideal feeds.

The Quaker Oats Company Address Chicago, U.S.A.

Absolute Dispersion Auction Sale

45---Registered Holstein Freisian Cattle---45

On account of sickness in my family I have rented my farm and will sell without reserve my entire herd on
Monday, April 21, 1919

This herd is free from contagious abortion and tuberculosis, tested by authorized state veterinarian under state supervision, 60 day re-test allowed.

Many world records are represented in these animals and they are yours if you bid last.

They consist of daughters of King of the Pontiac Segis out of Dams ranging from 20 lb. to two year olds up to 30 lb. cows.

20 lb. two year olds up to 29.31 lb. three year olds bred to King of the Pontiac Segis.

Daughters of King Walker Champion No. 125062, A 30 lb. Bull out of a daughter of K. S. P. Alcartra.

Grand daughters of Pontiac Korndyke out of A. R. O. Dams up to 26.74 lbs.

Inspection invited, send for catalog, don't get this sale confused with other sales on the same date. Farm located at Royal Oak north of Detroit, Michigan, on Pontiac Trolley Line at Eleven Mile Road, also on Grand Trunk R. R.

S. T. WOOD, Pedigree Expert

JOHN H. McCLURE, Owner
Post Office, Royal Oak, Michigan

B. V. KELLY, C. P. S. PRICE
Auctioneers

Great grand daughters of Pontiac Korndyke out of A. R. O. Dams up to 26.74.

Daughters of King Lunde Pontiac Korndyke bred to King Korndyke Orinsky Pontiac whose nearest Dams average 37.76 lbs.

Daughters of King Lunde Pontiac Korndyke also grand daughters of Sadie Vale Concordias Paul DeKol, bred to King Korndyke Orinsky Pontiac.

Grand daughters of Pontiac Opello and Pontiac Nyx not bred.

Grand daughters of King Segis Champion Mobil a 40 lb. Bull.

Grand daughters of King Hengerveld Palmyra Fayne.



'Chain'

'Usco'

Keep the Home Fields Earning!

This year, your car should be a more profitable proposition to you than ever. Europe is still looking to American farmers for food. And there's a ready market for everything you can raise.

Your car's a time-saver—a distance cutter. It will help you keep the home fields earning. But to get its best work, you must give it good tires.

You'd be surprised to know—how many hundreds of thousands of folks—both in the

cities and on the farms—have decided that United States Tires are the best tires they can buy.

This year the proportion of United States Tire users is even greater than ever. War and war work taught the good judgment of putting good tires under a car or truck.

There is a United States Sales and Service Depot in your neighborhood. There you can get good tire service and sound advice as to the best United States Tires for your own individual use.

United States Tires are Good Tires

