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The Michigan State Farm Bureau

Holds Annual Meeting After A Year of Most Remarkable Growth

THE Michigan Farm Bureau is to be made safe for farmers. It has gone on record as opposed to any entanglements with politics or religion and to any connecting links with capital or labor.

By collective purchasing and marketing it will try to save large sums of money to its members.

It will interest itself in the problem of farm tenantry and promises to be an important factor in its solution.

It is going to act as the big brother to any group of farmers in need of help.

Educational and social conditions on the farm will be promoted by it so that more and more of the satisfactions of life will be brought to the rural community.

It stands for efficient operation of the railroads, whether under federal or private control but it believes private ownership offers most promise of relief.

It will support legislation to restrict speculation in food and other commodities.

It is opposed to compulsory military training.

It demands better rural telephone service without discriminatory rates.

It hopes to remedy the milk producing and distributing situation, with

benefit to the consumer as well as the farmer.

It will become part of the new great national voice of the farmer.

These points constitute the essentials of the Michigan Farm Bureau's program as set forth in reports, constitution, resolutions and verbal discussion at the business session held in connection with Farmers' Week at the Michigan Agricultural College, February 5-6.

Roland Morrill, of Benton Harbor, who was re-elected president, struck the keynote in his opening address when he said:

"The farmer has learned that he must be a business man. He can get a dividend, but it takes business methods. Because the farmer combines in himself the three elements of capital, labor and management, he can say to each, 'You must play the game squarely.' He must become the balance wheel of industry.

"But harmony is imperative and we must avoid those things which divide men. So far all the state organizations have kept off the rocks of religion and politics in a remarkable manner. We must have one great national voice that will be acknowledged and listened to throughout the United States and that will command respect

through its merits and because its demands will always be just."

The prospective power of the bureau for organized action was indicated in Secretary C. A. Bingham's report for the year. Mr. Bingham cited the problem of the sugar beet growers, which he said, "Hinges on the refusal of manufacturers to consider negotiations for any new basis for a contract with the growers in 1920." The report of Mr. John L. Shepard, of Allenton, special investigator for the bureau, shows that the manufacturer's profit is approximately seven times that of the farmer and that the growers cannot be expected to continue to do business extensively under the present contract scale in the coming year.

Mr. Bingham urged that the bureau assist the growers in efforts to obtain a fairer contract and recommended that help be given in the form of a publicity campaign to set the facts in the case before the public, with the appropriation of \$2,000 for the purpose.

He also took up the question of the establishment of a purchasing department to fill orders of individuals assembled in the various counties for such materials as fertilizer, seed, coal, fence posts, corn, alfalfa and other commodities needed. He said it was possible fertilizer orders for several

thousand tons could be placed this month with a large saving to members.

Mr. Bingham recommended that this department be established with the least possible delay and asked an appropriation of \$15,000 from the general organizations funds for the initiation of such activities with expert help and proper office facilities, which appropriation was unanimously allowed.

Inasmuch as the delegates adopted the secretary's report these projects will go forward immediately.

While a few sections of the constitution evoked considerable discussion, the delegates seemed to be of practically one mind. Perhaps the most significant decision was that defining eligibility for office. It was held any person who does not derive more than half his income from farming shall be barred. Likewise any person holding a public office shall automatically cease to function as a bureau officer. The last ruling had the immediate effect of disqualifying Frank Vandenberg, of Marquette, second vice-president, who is a state senator.

Another mooted point was the question of representation. There was some sentiment to make one thousand the unit of membership, but because

(Continued on page 232).



The Delegates and Officers of the Michigan State Farm Bureau Stop a Moment from Busy Sessions to be "Snapped."

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DETROIT, FEBRUARY 14, 1920

CURRENT COMMENT

The Wheat Price Guaranty

ONCE more the question of the government wheat price guaranty is a bone of contention in congress. The Gronna bill, now pending in the senate, would repeal the wheat guaranty act and abolish the United States Grain Corporation as soon as its affairs could be wound up.

The fact that this bill has been favorably reported by the Senate Agricultural Committee is an indication that the members of this committee believe that the price of wheat will remain above the guaranty until after the lapse of the period before its expiration. On the other hand, Wheat Director Barnes, president of the United States Grain Corporation, in an open letter to Senator Gronna, author of the bill, characterizes it as a direct repudiation of the government's pledge. In support of this position he calls attention to the position of foreign exchange in our money market, and gives warning that abolishing government support may precipitate a decline in prices which might carry prices below the guaranteed level, prior to May 31, when the guaranty will expire. Mr. Barnes says, and quite truly, that "the future course of prices cannot be forecast in the face of world unsettlement which in the last few days has wrecked the United States export trade by the total collapse of overseas finance."

The milling wheat trade is entering general protest against this proposed legislation on the ground that even if the price remained above the government guaranty until its expiration, the abolition of the guaranty at this time would tend to unstabilize the market and favor the operations of grain speculators. The unsettled condition of the flour market has made millers apprehensive of the future, notwithstanding the firmness which has characterized the market for good milling grades of wheat during recent weeks.

There are possibly political phases of this controversy which are not understood by the average layman, and which hold small interest for him. The phase of the situation in which farmers who have wheat to sell are interested is the maintenance of the government guaranty, which should be kept in force with adequate machinery for its maintenance until its expiration, since there is no question but that under present unsettled conditions its present repeal might prove a first being a much more active factor disturbing factor of no small importance in the grain market, notwith-

standing the strength which has held the market above the guaranteed price for some months. The maintenance of the pledged guaranty is due to wheat growers who still have wheat in their bins, and so far as the guaranty is a stabilizing factor in market conditions its continuation is due legitimate grain dealers and millers.

One factor in future market conditions which cannot be forecast at this time is the effect of the winter on the growing crop. This will be a known quantity by the time the guaranty expires by limitation. Increased stability, rather than added uncertainty, is the need of the hour in all foodstuffs markets.

Building Up Soil Fertility

IT is easy to write superficial truths or incidents of farm experience or to prescribe methods of fertilizing land; it is not so easy to deal with fundamental problems. Altogether too much of our American teaching in regard to soil building deals with quick-acting agents and methods too expensive for the general farmer to put into practice. We have wasted the fertility of ages through improper methods of soil handling and sending it to the market, and now when it is too late, we suddenly turn to our soil experts for immediate relief. It is only natural that they should prescribe methods that are too expensive for us to put into ordinary farm practice. Our problem, today, is that of adopting a safe and permanent system of farming that will gradually restore our lands to their former state of fertility and at the same time return a profit while the work is going on, rather than an expensive panacea to be quickly applied; the effects of which will soon pass away, and leave us worse off financially and actually than we are at the present time.

Every logical scheme looking toward the improvement of the soil on our Michigan farms includes the growing of forage crops and grasses. Getting and returning a basic supply of humus, or in other words, a soil to work with, is what concerns us all. In most instances results can be hastened by the judicious use of suitable fertilizing materials to encourage the growth of these soil improving crops, but after the soil is in condition to grow these crops successfully the fertility can be more profitably maintained by the persistent practice of simple systems of farming which provide proper limiting elements of fertility. The growth of leguminous forage crops and grasses, the plowing under of manures, both barnyard and green, and the systematic alternation of crops are absolutely essential. In many cases phosphorus will be needed for the successful production of crops. With the exception of peaty and mucky types nearly all soils are adequately provided with potassium for the growing of general farm crops. Nitrogen, with the possible exception of some of the quickly available forms, can be secured through leguminous forage crops and barnyard manure.

In order to make leguminous forage crops and grasses attain maximum growth and fertilizers produce maximum returns, most of our soils must be limed. Failure with clover and alfalfa are due almost altogether to an acid condition of the soil. Ground limestone applied at the rate of from one thousand to two thousand pounds to the acre, neutralizes the acid and increases the supply of available calcium, thus encouraging the growth of these valuable soil-building crops.

In this connection it might be well to separate the leguminous forage crops and grasses in our minds; the former its present repeal might prove a first being a much more active factor disturbing factor of no small importance in the grain market, notwith-

supply of organic matter to last through the rotation of crops being practiced. To derive maximum soil-building benefits from legume crops requires that our crop rotation shall be so arranged as to keep the land covered by a growing crop as much of the time as practicable. The constant occupation of the soil results, first, in preventing the losses of fertility which might occur mechanically, by washing and blowing away of the soil; chemically, because of leaching during the fall and early spring; and bacteriologically, by the drying out of the soils which lie bare during the hot and dry season, thus preventing the growth of, or actually destroying living organisms. In the second place all of the natural agencies are more active in a soil that is occupied by a growing crop.

While it is possible, and in many cases practicable, to maintain the fertility of our farms without feeding live stock, it is always done at a greater cost than if done by a system of stock feeding and manufacturing manures. If the farmer gets only from the feeding of live stock the sale value of the feed consumed, he is making a profit, for the feed does not cost him the market price, and he has the manure left on his farm. If, on the other hand, he plows under from \$40 to \$60 worth of feed per acre, when by feeding stock he could recover fully eighty per cent of its plant food elements, he is not making the most of his opportunities as a farmer. If he sells his leguminous forage crops he cannot maintain the fertility of his soil. He must either bury them as green manure or feed them on the farm if he is to maintain and increase its productiveness. It is merely a question of whether he can afford to lose the feeding value of these crops and use them altogether for manure.

We believe, however, that there is a broader application of the use of these forage and grass crops for the farmer who grows live stock and uses a certain acreage for pasture to store up fertility for him while sustaining the stock. By concentrating his cultivation and the application of manures on the acreage of land under cultivation he can receive a higher return for his labor and team work than is possible by growing grain crops for market and plowing under the forage crops for fertilizer. If he seeds down a portion of his farm to permanent pastures, establishes alfalfa meadows and seeds clover along with timothy, he can reduce the cost of tillage operations, reduce the cost of equipment, avoid maintaining an unnecessary number of horses, eliminate many of the risks of weather, insects and fungus diseases, and best of all solve the complicated labor problem. In nearly every instance more acres of forage crops and grasses and the rearing and finishing of more live stock would easily result in greater annual profit and a better system of maintaining soil fertility.

News of the Week

Wednesday, February 4.

PEACE is signed between Esthonia and Soviet Russia.—Secretary Baker confirms the reports that Vladivostok, Russia, has fallen into the hands of the social revolutionists.—France prohibits the exportation of rail ties.—Freight congestion is given as the cause for the closing down of a number of Canadian flour mills.—Director Hines offers three plans for the settlement of the troubles of the railway employees.—The total gross debt of the United States is \$25,668,339,095, which was reduced \$168,689,710 during the month of January.—The Canadian minister of finance proposes to charge a tax of ten dollars per ton on all newsprint paper shipped out of that country.

Thursday February 5.

THE recent sensational tumble in English exchange rates brings out the report that England will stop exporting cotton from the United States

while stock prices here drop heavily.—Germany's delegates to Paris refuse to transmit to Berlin the list of persons who the Allies declare are guilty of war crimes.—The war department announces that one-half of the eight thousand American troops in Siberia have been withdrawn.—Mississippi ratifies the women suffrage amendment to the federal constitution.—Government furs are sold at St. Louis sale at an advance of fifty-five per cent over prices at the previous sale.—Business failures in the country for January were 511 the smallest number for any month in twenty-three years.

Friday, February 6.

FRENCH concerns dependent upon foreign materials are being driven toward bankruptcy by the rapidly declining value of the franc in the world markets.—Canadian business and labor leaders hold that increased production is the only salvation for present economic troubles.—British courts are ordering flogging as punishment for stealing automobiles.—The historic King's College of Nova Scotia, built in 1791, is destroyed by fire.—India changes her monetary standard from a sterling and silver basis to a gold basis.—Railway men are asking the United States Railway Administration for an increase averaging forty per cent over the present wages.—Fifteen persons are killed in a railway collision near Dijon, France.

Saturday, February 7.

THE American Federation of Labor announces its plan to enter politics during the coming presidential campaign.—Allied premiers meet next week in London to consider minutely the question of Germany's resistance to allied demands.—Bolsheviks are recruiting natives of Russian Turkestan for the overthrow of English rule in India.—Fighting between Montenegrin insurgents and Serbians results in heavy losses.—A French liner is reported to be on fire in the Indian Ocean.—A Quebec paper concern is forbidden to sell newsprint paper for more than \$80 per ton.

Sunday, February 8.

A HEAVY snow storm sweeps over the eastern states.—The navy department is asking congress for \$12,890,000 for the construction of naval air craft.—Soviet forces are reported as slowly approaching the frontier of India and clashes between them and British troops may occur at almost any time.—Probation officers and county agents of Michigan are planning the establishment of probation farms.—The fuel situation in many central Michigan towns and cities is becoming acute.—The demand for Germany war leaders is being forwarded to the French charge d'affaires at Berlin.—An epidemic of hiccoughs is baffling doctors in several eastern districts.

Monday, February 9.

IT is officially intimated that the German war leaders wanted for trial by the allies will be handed over at the eleventh hour.—Herbert Hoover denies his candidacy for the nomination for president and that no one is authorized to speak for him.—The peak of the influenza epidemic in New York City passes.—Austrians officially praise the United States food relief plan.—The British steamer Bradboyne is believed to have foundered in mid-ocean and loss of life is feared.

Tuesday, February 10.

RAILWAY maintenance workers declare a strike, to take effect on Tuesday, February 17, while the railway department charges that this action of the men is in violation of the agreement to give the administration thirty days notice.—A virtual embargo is placed on the shipment of coal to Michigan as a result of the coming strike.—Having no cars available sugar companies claim they are unable to get the 30,000,000 pounds of sugar from the sugar beet districts of Michigan to Detroit and other cities of the state where consumers are now on short sugar rations.—Martial law prevails in Lexington, Ky., to prevent the lynching of a negro condemned for slaying a ten-year-old white girl.

JANUARY SURPLUS MILK QUESTION SETTLED.

The surplus milk question for the Detroit area for the month of January has been settled by agreement between producers and distributors. A committee consisting of three producers and three distributors, with Professor Anderson of the Agricultural College as referee, agreed that the surplus would be five per cent of the total milk delivered for the month. The price for this surplus was established by a committee of five producers and five distributors with Professor Anderson as referee, at \$3.00 per cwt. at the country stations.

Farmers' Week at the College

Enthusiastic Farm Folks Enjoy Fine Program at East Lansing

FARMERS' WEEK at the Michigan Agricultural College opened an interesting program, with a large and enthusiastic attendance from all parts of the state. On account of delayed trains and the epidemic of influenza, some of the speakers failed to arrive and substitutions were necessary. The first agricultural guns were fired at the Tuesday meeting by Dean Alfred Vivian, of Ohio, and Kenyon L. Butterfield, of Massachusetts.

"The farmer must value himself and his efforts properly and then teach the city that the day of cheap food is past," declared Dean Alfred Vivian, of Ohio State University, in addressing the general afternoon session of Farmers' Week at the Michigan Agricultural College, on Tuesday, February 3. Dean Vivian substituted at the last moment for President G. C. Creelman, of Ontario Agricultural College, who was kept from filling his engagement by an outbreak of influenza in Ontario.

While paying high tribute to the general efficiency of the average farmer, Mr. Vivian laid the blame for much of the present problems of agriculture directly at the farmer's own door, and asked that Michigan food producers look at their own side of the game before criticizing the attitude of the consumer.

"In the past, farmers have consistently undervalued their own efforts. Farmers have turned in their labor at from fifteen to thirty cents an hour in figuring their cost of production, while plumbers, carpenters and hod carriers are demanding all the way from seventy-five cents to a dollar an hour for their labor.

"Farming is the only business which demands the work of all members of the family, and yet the farmer never figures the value of his children's labor in reckoning his costs of production.

"And yet in the face of this we see that the farmer must be not only a skilled worker, but an efficient manager and capitalist as well. He must be an expert mechanic, a trained worker, a judge of men, a marketing authority and an all-around business man. In spite of these things he is in the habit of estimating his own time as worth one-fourth that of a hod carrier.

"A farm is a small manufacturing business that takes raw products and turns out the food of mankind. The farmer must account for interest, taxes, insurance, and depreciation—just as any city manufacturer must account for them, and yet he slides along on the narrowest of margins.

"In addition to all this, farming is made hazardous by the uncertainty of the weather. No amount of precaution can guard against all of these uncertainties.

Farmers Not Profiteers.

"Those who hold that the farmer is a profiteer should be told of actual conditions. The big problem of agriculture today is to teach the city man that the farmer faces problems other industries never dream of.

"High prices for foodstuffs are not going to the farmer. He may receive about \$9.50 a barrel for his wheat, but the man who buys a portion of bread in a restaurant will pay at the rate of \$270 a barrel for this same wheat. Clearly the high cost of living is not benefiting the farmer. In 1914 he got a dollar for his wheat, while today he gets two things that look like dollars but are worth only fifty cents.

High Cost of Loading.

"The big trouble with the country today is not the high cost of living; it

is the high cost of loading, but not farmer loading. Farmers cannot strike, or even slow up too much on production lest the country starve. The ignorance of the city regarding these things must be changed.

"Agriculture asks no favors. It merely demands a fair return for its efforts. To get this it must have proper leadership and legislation. In my mind the farm bureau is the organization which can and will furnish this leadership and father this legislation. A better day for agriculture is coming. We must merely be patient and wait for the development which is sure to come."

Kenyon L. Butterfield, President of Massachusetts Agricultural College, discussed "Vital Problems of Country Life," before the Tuesday evening gathering, and held that the earning of a decent livelihood, a satisfied life, and a voice in the big affairs of the world were the three fundamental issues before the agricultural men of the country today. In order that the farmer may receive a satisfactory return—a fair minimum wage, it must become possible for him to have easier access to the land. He must be able to be-

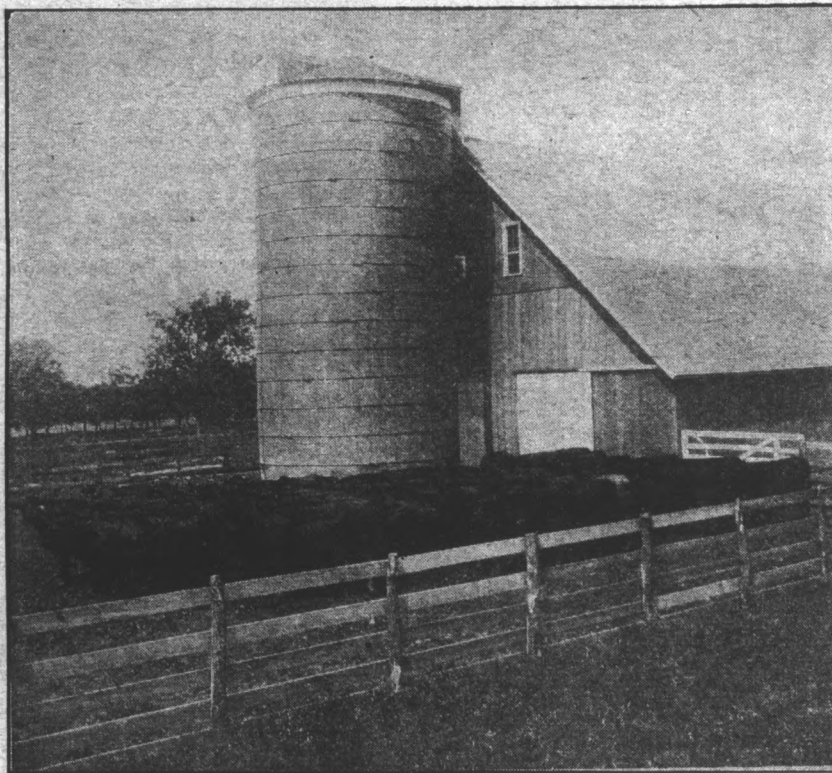
In addition to a fair return on his efforts, the farmer must be able to live a satisfied life. It is the old question of keeping the boy and girl on the farm. This satisfied life is not dependent on large profits, but rather on the conditions which surround the farm.

We must have a more efficient educational system for rural districts. The development of adequate education for the farm is necessary if we are to have a development of democracy.

Equal Chance for Farm Boy.

The farm boy and girl must have an equal chance for a good education with any other boy and girl. Rural high schools of the consolidated type will meet this demand. Federal appropriations should be made to help in building up the system. Cooperation in business and social life, and the restoration of the rural church to a position of power will aid in the development of conditions which will lead to a satisfied life on the farms of Michigan.

"Finally, the farmer must have a voice in the big affairs of the world. During the war and after the war, one seat has been vacant in the counsels—and that seat has been the seat of the farmer.



Good Beef Cattle Help to Solve the Labor Problem on Michigan Farms.

come a land-owner, or at least to rent for long periods. Better and easier credit for the farmer would be of help in this way.

At present more than one-third of all the farmers in America have been on the land they are now holding for only four years or less. This condition is bad. Under it society cannot be built up, and a tendency to rob the soil of its fertility makes good farming impossible. The transient farmer cannot have the interests of the community, nor of his farm, at heart. Cheaper methods of distributing his products will aid the farmer in earning his fair return. The right of collective bargaining, adequate grades and standards, and local marketing to avoid long shipping, must come.

"The big job of the farmer today is to cater to the wants of the consumer. He must produce what the consuming public wants, and market it when and where it wants it. This is the same business principle which underlies all industry. We must change our point of view, get that of the consumer—then meet him in a business proposition.

Farming, the biggest business, and representing the biggest single class in the country, should have more to say in the affairs of the nation. Farmers must have a single, powerful voice; they must 'sit in' with big interests, and they must have world views on subjects that concern their life and work."

The Muck Farmers' Meeting.

The first general session of the Michigan Muck Farmers' Association, which was held at the Michigan Agricultural College, East Lansing, Tuesday, February 3, was given over to the subject, "Muck as a Fertilizer." The first speaker of the day was Roger Reed, of Saugatuck, who led the question box and discussion. He pointed out the coming importance of muck soil as a fertilizer and its use in general agriculture. He stated that on seven acres of muck soil he produced six bushels of clover seed. A neighbor had told him previous to planting that it was impossible to raise an umbrella on the ground.

C. B. Cook, of Pontiac, and R. Wiley, of Traverse City, both gave interesting

talks on the subjects. Mr. Cook stated that a combination of muck and marl carry with it two vital, essential elements. They are nitrogen and humus. These two elements are lacking on most of our Michigan farms.

There are many questions that arise in regard to the use of muck as a fertilizer. Will it pay the farmer to haul muck and peat soils to high lands on his farm? This will depend, of course, on the nature and composition of the muck soil. There are several types of muck and peat soils. It is difficult to tell the distinct difference between them, and they grade into each other in such a way that it is difficult to identify the particular type to which a certain deposit belongs. Such factors as stage of decay, amount of water present, temperature, vegetation, etc., determine this. Some types of muck and peat may lay in the ground for several years and not become available. Farmers should take great care before applying it to see that it is of the right type, if benefits are to be expected. Muck, when absolutely dry, contains three per cent of nitrogen. It may be available or in an unavailable form, depending upon the nature of the soil. Mr. Cook stated that during the last few years farmers have had to sell their farm fertility in order to keep going. Besides the three per cent nitrogen that muck carries it also contains a large amount of humus. Peat soils generally have a larger amount than muck soils. On a great many of our Michigan farms this is the limiting factor to crop production. At present manure is most commonly used, but decomposition takes place very rapidly and applications have to be made every three or four years.

Muck is the most valuable as a fertilizer when used in combination with manure. Experiments have been made by several prominent farmers in the state where manure and muck was applied separately and then in combination. The latter yielded the best returns. In a compost pile the muck can be applied in layers, but better results have been obtained when it is mixed with the manure. The process which takes place in a compost heap is fermentation and is produced by bacteria.

During the course of the decomposition in the heap, the nitrogenous materials of the manure are largely broken down into ammonia, a compound which is highly valuable for fertilizing purposes. Ammonia is a gas, soluble in water, and may be lost in two ways, by passing out into the air, and by being carried off in the drainage. It is therefore essential that a compost heap be kept air-tight and suitable protection be given to the covering so that the valuable elements will not leach away. Muck, when added to a compost pile, has the property of absorbing the liquid gases which are valuable as a fertilizer. When in the raw state the nitrogen compounds in peat and muck are not always available for plant use, the decay in the compost heap converts a large proportion into soluble form.

The last speaker of the meeting, Dean Alfred Vivian, of the Ohio State University, stated that a ton of muck when composted with a ton of manure, was equal to two tons of manure. Muck also has the property of reducing the noxious odor of the pile. The product obtained in this manner is also capable of being more evenly distributed through the soil and is not so apt to burn out a crop on light soil as is fresh manure.

He further stated that in the state (Continued on page 14).

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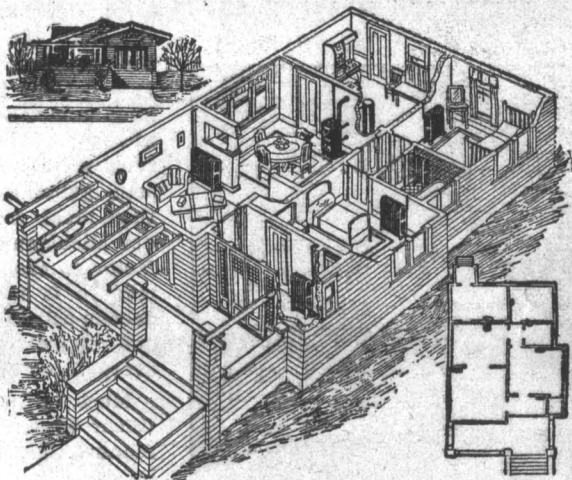
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Why Farm Legislation Lags

WHY does legislation demanded by farmers lag? Why does it take months and months, and sometimes years of discussion and hearings to get a really meritorious measure through congress, one which has little direct opposition and is looked upon with favor by many senators and representatives? These are some of the questions that are agitating the minds of the folks back home, and one reader has asked me to throw some light upon this important subject.

There is a vast deal of lost motion in congress. Days and days are spent in hearings in order that the committees may arrive at a direct and true understanding of the farmer's desires before reporting the bill out onto the floor of the senate and the house. If the farmers were not as often misrepresented by their misrepresentatives as they are accurately represented by their real representatives, much time would be saved and more progress made in congressional action.

Senator Wadsworth, of New York, emphasizes a plain truth when he says that it is difficult for the legislative branch of the federal government to get a clear understanding of what the agricultural population of the country believes wise and proper.

The other day I attended a hearing before a sub-committee of the senate judiciary committee on the Capper-Hersman bill, giving the farmers the right of collective bargaining in the sale of their products. This bill is not openly opposed by anyone. It is recognized as a much needed measure and the senators to whom it has been referred are evidently convinced that a law embodying the essential features of the Capper-Hersman bill should be enacted. And they are taking much pains to ascertain just what the farmers want.

It must be remembered that the bill as now presented, was drawn up by J. D. Miller, general consul of the Dairymen's League, and other leading attorneys employed by the farm organizations, aided by men who have been actively concerned in vast cooperative enterprises and made a life-long study of farm cooperation. All the provisions have been carefully investigated, discussed and weighed, with these objects in view: The securing of a measure which will be effective, which will have some show of passing through congress, receiving the President's signature and a favorable decision from the supreme court. All of these essentials must be carefully and thoughtfully considered in the drafting of a bill.

At the hearing, Mr. Miller of the Dairymen's League, explained the provisions of the bill and their probable effect upon farm cooperative organizations. If a senator had any doubt as to the need of the measure it was apparently dispelled by Mr. Miller's plain statement of facts and his convincing arguments in its favor. Governor Deneen, of Illinois, representing the Chicago Milk Producers' Association, made a strong plea for the bill, and Thomas C. Atkeson, Washington representative of the National Grange, presented a letter from National Master Lowell, showing that the Grange membership was solidly in favor of the proposition.

Benjamin C. Marsh, of the Farmers' National Council, represented himself as appearing in behalf of "several million farmers." Whether he was in favor of, or opposed to the bill I was unable to discover by his remarks, but I was told that he claimed to be speaking for it. He began by pointing out some of the "ridiculous absurdities" in its provisions. And then he proposed a change in the wording, which Senator Norris, chairman of the committee, pointed out would lead to such abuses as would defeat the objects of

the bill. Mr. Marsh made some uncalled for slurring remarks concerning the Grange and one or two other farm organizations, and then launched into a line of argument which led the chairman to ask, "Why, if the statements were true, there was any need for such a bill?"

From this point the self-appointed spokesman for "millions of farmers" rambled off onto the Rochdale system, government ownership and other theories several hundred miles removed from the subject. And so the talk went on until the senators, except the chairman, had all left for more important matters.

Other hearings will be held. The leaders of the Grange, the National Farm Board, and other farm organizations will present their views again in an effort to get the bill through congress, and no doubt there will be the same "muddling" by impractical theorists who claim to be, but are not, representing "millions of farmers."

This is one reason why farmer legislation drags through congress, and often excellent measures never get beyond the committee rooms. They are talked to death by cranks. It is evident that the patience of even the best intentioned congressman or senator may become exhausted, after he has listened for hours to some long-winded, addle-brained, would-be, farmers' representative suffering with a severe paroxysm of intellectual indigestion.

The undeniable truth is that if the farmers want prompt action on legislation at Washington, they will have to follow the example of other interests, send practical, experienced, clear-thinking men to represent them, men who know just how much to say, and are able to quit when they are through. This is no place for dreamy idealists, whose brains are clogged with half-baked theories.

At a public hearing in the presence of senators and congressmen and daily newspaper reporters is not a proper place for the representative of one association of farmers to denounce other farm organizations. Nevertheless, at a hearing before the commerce committee, the following day, this same Benjamin C. Marsh, representing the Farmers' National Council, declared that Wall street influence controls the policies of the National Federation of Farm Bureaus, the National Farm Congress, and the National Grange, and this stupid falsehood was the only part of the proceedings that got into the daily papers.

The representatives of the Farmers' National Council have been persistent in their efforts to lead congress to believe that the farmers want government operation and ownership of railroads. A few days ago George P. Hampton accompanied a delegation of railroad brotherhood officials, headed by Samuel Gompers, to the White House, and representing himself as usual, speaking for the farmers, asked President Wilson to postpone the return of the railroads until government operation could be given a more extended trial.

This misrepresentation of the great body of clear-minded working farmers by the representatives of a few radicals, has aroused the indignation of several of the big farm organizations, among them being the International Farm Congress, the National Farmers' Congress, the National Grange, the American Farm Bureau Federation, the National Farmers' Union, the American Cotton Growers' Association and the National Federation of Milk Producers. These organizations have presented a memorial to congress declaring that there is no need of a change in existing social standards and economic laws; that the farmers (Continued on page 230).

The Railroads

*Why Opinion Has Changed
On Government Operation*

By John R. Rood

A FEW years ago there was a considerable demand for public ownership and operation of railroads. When the war came on and operation of the railroads by the companies broke down, the government took over the roads to operate, not because of any demand by the public for such operation, but as a war measure, because the government could not get the required service in any other way.

It was understood that the operation in that manner was to be only temporary, and for the most part the officers in charge of the several roads were retained, though that meant the retention of considerable numbers whose principal service was in getting business for the several companies, whose services could scarcely be used in their original capacity when the roads were all operated by one concern, and it was immaterial over what route the goods were shipped, and especially when it was not a question of getting business but of handling the business in hand.

While the roads have been handled by the government numerous economies were effected, by routing regardless of ownership of the lines, by cutting out numerous duplications, and in other ways. Also the rates on passenger and freight transportation was raised to some extent.

In the meantime the public sentiment in favor of public operation of the roads has very noticeably lessened. This communication is written to call attention to the causes of this change in sentiment? Why has it changed?

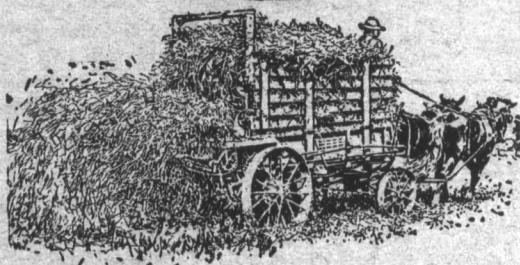
First, it certainly has not changed because of any real increase in the rates for passenger and freight carriage; for there never was a time when a man could ride so far on the railroad for a day's wages, a bushel of wheat, corn, oats, potatoes, apples, or for a ton of hay or a pound of wool as he can today, or when it cost less of the proceeds to carry goods to market than it does now, unless it be during the past year or so that the government has been operating the roads. The freight and passenger rates have not at all increased in proportion to the rise in cost of transportation.

Second, it has not been changed because of any real difficulty the government has experienced in operating the roads. True, the service has not been as prompt and rapid as before the war. But if a parallel is wanted we should not go back to the pre-war days for it, but look into other lines today and see whether deliveries from the factories are as prompt as before the war, or whether it is as easy for the farmer to get things done on time as it was then. The answer is plain. So far as efficient service under government operation is concerned, we have not yet had a chance to try it out; nor can that be done till the return to normal times, and a sufficient length of time under government operation to see what the government can do.

Third, it is not because the government cannot operate the roads as efficiently or economically as the private companies. The best informed railroad men in the country today inform us that there are not a half dozen private companies in the country that could operate their roads on the present schedules for six months without going into the hands of a receiver, and soon into bankruptcy. And yet the railroad administration reported that the government earned a net profit from the operation of the roads during last November of over \$8,000,000. This has been done in the face of the

(Continued on page 240).

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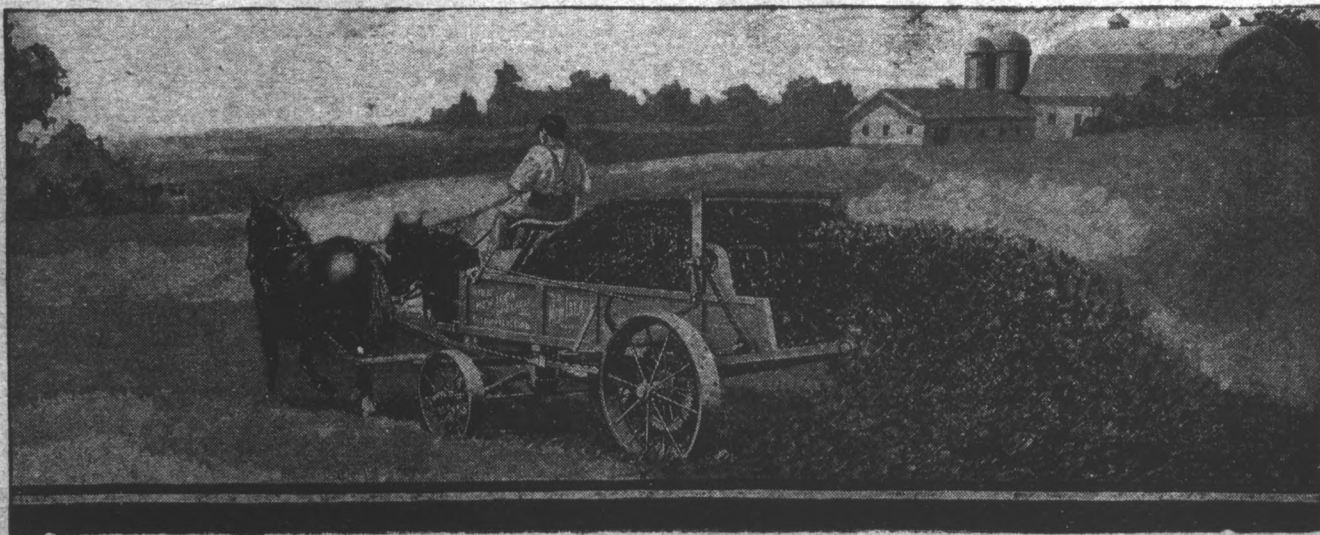
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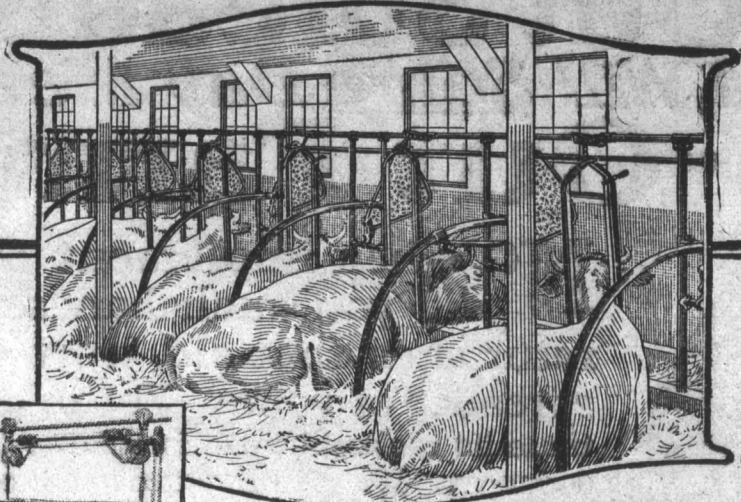
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Why Farm Legislation Lags

(Continued from page 228).

are emphatically opposed to government ownership and operation of railroads on the ground that it is against good policy and the principle of sound Americanism. They have called upon congress to expedite the enactment of legislation providing for the return of the railroads to private ownership with as few restrictions as are necessary to protect the public interests. The memorial denounced government price fixing as an interference with the law of supply and demand, and declared that it was dangerous discrimination to compel any group of citizens to sell their products in a regulated market and to buy their supplies in an unregulated market. Profiteering was condemned. Opposition to compulsory military training was emphasized and recognition of the rights of the farmers in collective bargaining as embodied in the Capper-Hersman bill now pending in congress was advocated, while strict economy in government expenditures was urged.

A copy of this memorial was mailed to every senator and representative, and it has created widespread discussion. Never before has congress as a body had its attention so forcefully directed to the viewpoint, the aims and demands of the men and women on the farms. It has clarified the situation in regard to the farmer's position on the railroads, price fixing and other large questions, and is being used as the basis of many editorials in the city dailies which are remarkably fair and intelligently written.

Another matter of considerable interest just now, is the report of results from a questionnaire among the farmers conducted by the Post Office Department for the purpose of developing methods by which the department can assist in reducing the cost of living. Replies have been received from more than forty thousand farmers, who agree almost unanimously that three chief factors in the high cost of living are scarcity of farm labor, profiteering by middlemen on farm products, and lack of facilities for direct trading between the farmers and the consumers.

The replies indicate that there is much dissatisfaction with farm conditions compared with the high wages in the cities, and that many farmers have decided to quit farming or cut down production to their own labor capacity, thus portending a decided decrease in agricultural production.

This report coming close on the heels of the statement issued by the farm organization leaders, will have a tendency to speed up congress to action, and may result in the early enactment of legislation which will have a wholesome effect upon the farming industry.

One point upon which there is general agreement is the fact that E. T. Meredith, the new secretary of agriculture, has a big man's job on his hands, and it is also quite unanimously agreed here in Washington by men who know him that he is big enough to fill it. Officials of the National Board of Farm Organizations say they expect to find that Mr. Meredith is in sympathy with the legitimate aspirations of the farmers of the nation and they express a sincere hope that his conduct of the business of the Department of Agriculture will be eminently successful. "It is recognized that the new secretary of agriculture will be required to deal with problems of the most difficult nature, upon the correct solution of which will depend the nation's supply of food. Mr. Meredith is well known to millions of farmers and from his experience should be well informed as to the nature of problems confronting them and to possible solutions that may be reached. It is not doubted that Mr. Meredith will meet

these problems in a fair, broad and enlightened spirit, which will allow of their solution in such a manner as to benefit the whole nation and develop the best interests of agriculture. It is fully realized that the new secretary is handicapped by the fact that he enters upon his duties late in the history of the administration and at a time when many of his acts will be judged from the political standpoint." Mr. Meredith will also be hindered in his administration of the department by the present determination of congress to economize in government expenditures. The annual appropriation for agriculture in the bill ordered favorably reported to the house by the committee on agriculture, carries \$31,000,000, some \$7,000,000 less than the department's estimate, and \$3,000,000 less than the appropriation for this year.

E. E. REYNOLDS.

SPEED IN SHOP PRODUCTION NEEDED.

E L I M I N A T I O N of useless employees in non-productive business, speed in all industry commensurate with the present activity of the farmers and determination of dealers and jobbers to exact only a reasonable profit were recommended as solution for the high cost of living problem by Edwin Meredith, on taking the oath of office as secretary of agriculture.

The high cost of living problem, the new secretary said, can not be solved through the efforts of one class, but business and labor together must recognize the solution as a common duty or "less and less will there be of farm produce distributed among the people and higher and higher will go the price of what is produced."

"The farmers of America," said Mr. Meredith, are willing to assume their part of the responsibilities as American citizens in meeting any problem threatening the welfare and stability of our country, but this high cost of living problem is a mutual one, and they ask that it be approached by all the people as a common problem.

"They ask that those engaged in distribution eliminate the lost motion and not put so great a burden on production as there is on it today. In other words, they ask that there be an adequate number of producers of wealth, and this includes property and food of all kinds, and only such number of distributors as is necessary to perform the services required.

"They ask that the banks, railroads, wholesale houses, retail establishments, factories—all of which are vitally necessary to the farmer and recognized by him as such—be speeded up along with him, that the work now done by three men may be done if possible by two, and the burden of transportation and distribution be thereby lightened.

"Business men must look to the operation of their establishments, no matter in what line they may be engaged, and see that no useless employee is retained to add to the cost of distributing what the farmer now produces. Useless employees must be released from non-productive work, that they may go into productive work and add to the sum total that may be distributed among all.

"Let us have six-tenths of our people in production and four-tenths in distribution, that there may be six-tenths of what America can produce each day for each of us, rather than four-tenths."

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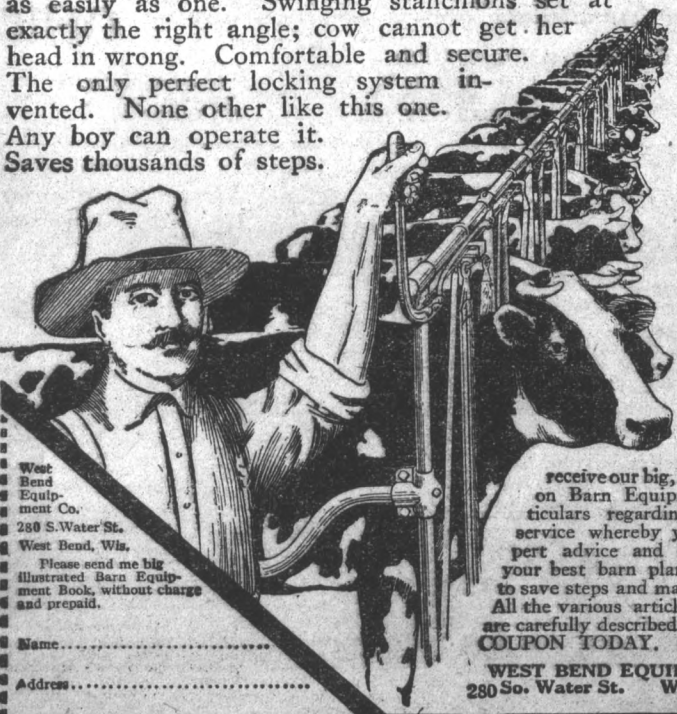
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Farm Loans---

Why They Should Be Tax-exempt

By C. E. Lobdell

IN the consideration of any demand for legislation it is well perhaps to look first to the source from which the demand comes and to ascertain, if possible, whether that source has an interest in the proposed legislation apart from the interest of the general public.

The only agitation for the repeal of the tax exemption features of the Federal Farm Loan Act is being carried on by and at the expense of the Farm Mortgage Bankers of America. Who are the "Farm Mortgage Bankers of America?" A group of wealthy, well organized, highly efficient and personally honorable gentlemen who are and have been for years engaged in the business of making and selling farm mortgage loans, realizing therefrom, as a rule, an annual profit of from two to four per cent, that being the annual difference in the rate received by the investor and charged the borrower. We are all easily self persuaded, and where a given public policy encroaches upon our individual incomes it is easy to find a patriotic motive for opposing such a policy, and the fact that the Federal Farm Loan Act fixes the maximum difference between the rate charged the borrower and realized by the investor at one per cent per annum, and the further fact that large numbers of eight and ten per cent loans controlled by members of the Farm Mortgage Bankers of America have been refunded into five and a half per cent loans through the Federal Land Banks may possibly, but quite unconsciously have influenced the Farm Mortgage Bankers of America and given rise to their campaign.

In discussing the question of whether or not the farmers of the country are entitled to the benefits of the tax exemption privilege of the bonds issued by their banks, it is perhaps well to reflect upon what the Farm Loan System really is. It is not a fraternalistic organization; it is not a system of government loaning—the latter statement cannot be too strongly emphasized or too often repeated. It is a plan for the coordination of the farm credit of the country into borrowing organizations of sufficient magnitude to entitle them to credit upon the basis of other enterprises of equal magnitude and equal public necessity, these organizations to be ultimately entirely owned by the borrowers themselves, but operated always under such government supervision as to guarantee the soundness of their operations and the integrity of their securities. It is true that a large majority of the stock in the first instance was subscribed by the federal government, but the law contains provision for the entire repayment of that stock, and such repayment is already well under way. It is true that the law provides for the payment of the expenses of the Farm Loan Board, registrars and examiners by the government. This is the supervising organization, but the progress of the organizations to date warrant the statement that in the almost immediate future they can assume this burden, thus relieving the government of any pecuniary interest or element of expense, and this, in the judgment of the writer, should be the policy pursued.

Federal land banks operate upon a fixed basis of income and the excess of that income over expenses and reserve goes back to the borrowers in the form of dividends. Already two of the banks in the territory where interest was originally highest have declared dividends and three others will do so July 1. It will thus be seen that

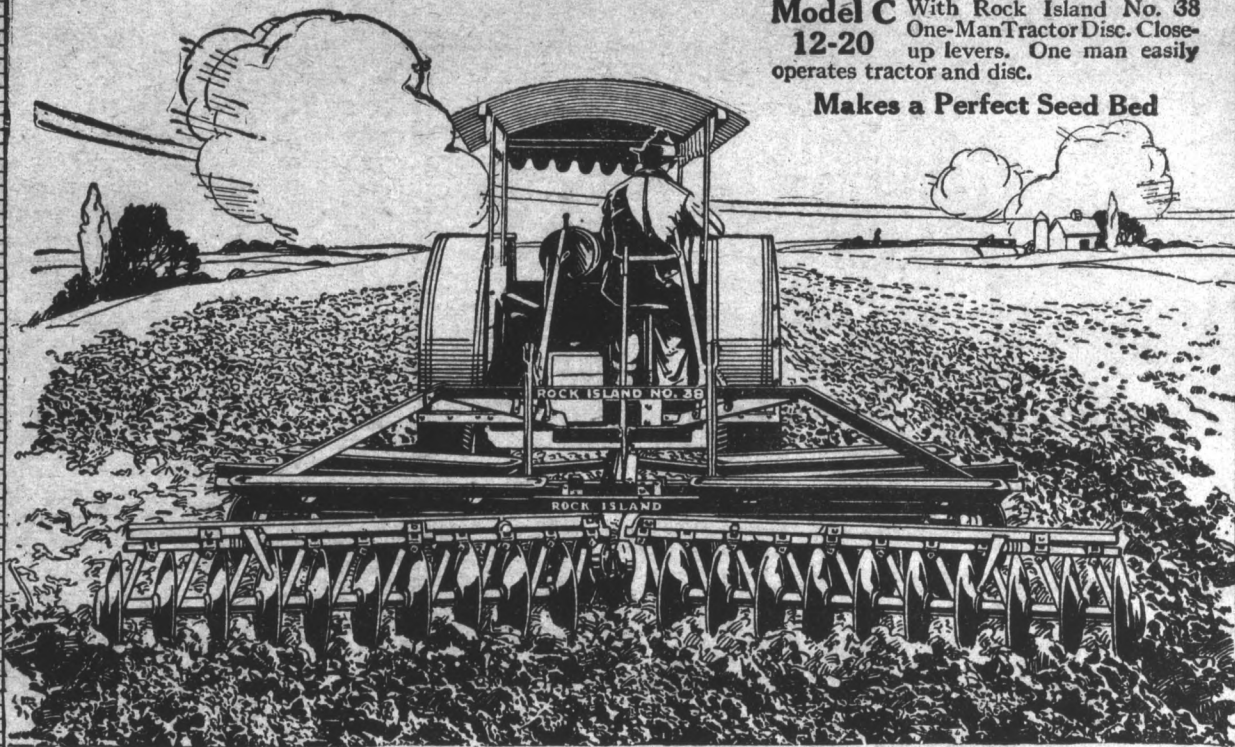
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Heider

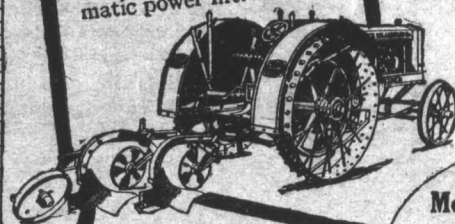
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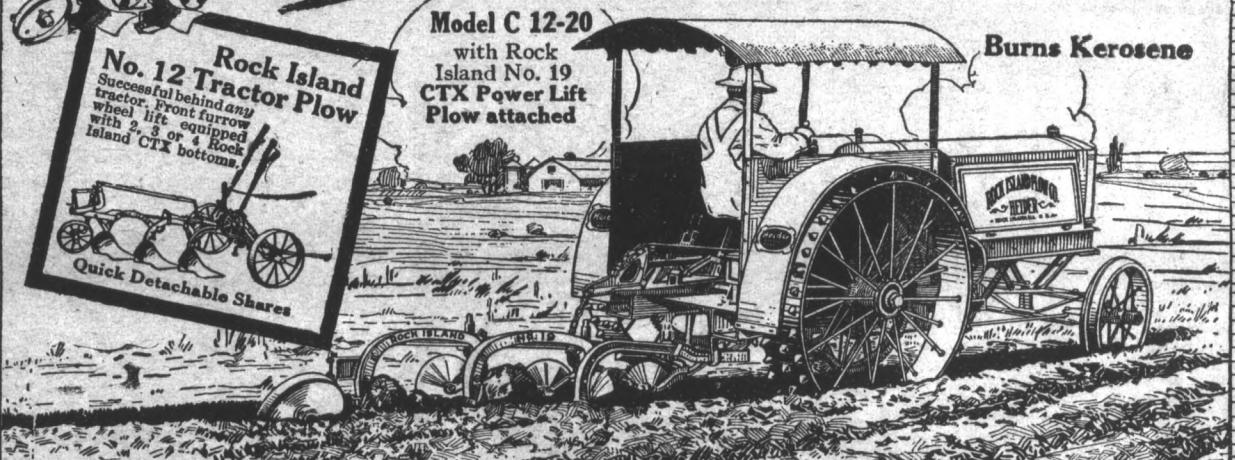
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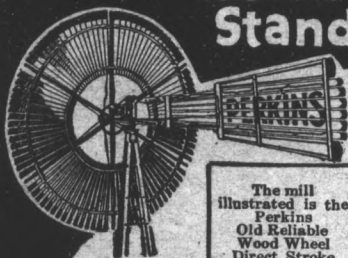
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Just fill out the coupon below. Mail it to us without a cent of advance payment. We will at once send you a Majestic Separator for you to use as your own for 30 days. Put it to the severest tests. Skim warm or cold milk with it and see how closely it skims. The direct Babcock Test (the severest known) proves that the Majestic gets 99 and 99-100% cream from whole milk—practically 100%. Notice the simplicity and solidity of construction—nothing to get out of repair and built for a lifetime of service. See how easily it runs—how quickly and easily it is cleaned. If you decide to keep it, make the first small payment 60 days after it arrives and pay balance in 5 equal 60 day payments, giving you a full

Year To Pay No Interest

If for any reason at all, you decide not to keep the separator, return it. We will pay freight both ways. The Majestic has the latest improved combined disc and wing bowl that not only gets the most cream but also skims it in better condition. Does not break the cream globules, as so many separators do. This means better quality butter—more profits for you. Remarkable inside automatic oiling device which insures perfect lubrication under all conditions. Absolutely impossible for the slightest particle of oil to come in contact with cream. Famous French helical gears produce tremendous speed of bowl—8,000 revolutions per minute—with just moderate turning of crank. No matter how much you pay, you can't possibly get a more durable, more practical, more efficient or easier to run cream separator. It is a mechanical marvel throughout. Order the size you want. You run no risk. Judge the merits of the Majestic for yourself. If it isn't all and even more than you expect, don't keep it. Send it back. You can't possibly lose.

Your Choice of 4 Sizes—No Money Down

No. 452AMAS. Capacity: 375 lbs. Terms: \$9.15 in 60 days; balance 5 equal 60-day payments, each \$9.15. Total price \$54.90
No. 452AMA7. Capacity: 500 lbs. Terms: \$10.50 in 60 days; balance 5 equal 60-day payments, each \$10.45. Total price \$62.75
No. 452AMAS. Cap.: 750 lbs. Terms: \$11.65 in 60 days; balance 5 equal 60-day payments, each \$11.62. Total.... \$69.75
No. 452AMAS. Cap.: 1000 lbs. Terms: \$12.65 in 60 days; balance 5 equal 60-day payments, each \$12.62. Total.... \$75.75
For the average we recommend the 500 lb. size.

THE HARTMAN CO. 4043 LaSalle Street
Dept. 2527 Chicago

Ship Majestic Separator No. lbs.
capacity. If satisfactory, I agree to pay one-sixth the price 60 days after arrival and balance in 5 equal 60-day payments as stated in this ad. If not satisfactory, I will return Separator 30 days after arrival, you to pay freight charges both ways.

Name.....
Address.....

Michigan State Farm Bureau

(Continued from first page).

the bureau needs leaders and because it was believed a larger body of delegates will be more likely to produce them, the unit was placed at five hundred. One delegate will therefore be sent from each county, with an additional delegate for each five hundred members beyond the first five hundred.

Machinery for the marketing and educational programs was provided for in the by-laws. One member of the executive committee will call together representatives from all the cooperative marketing associations now existing within the state. This will include one invited member from the Michigan State Grange, the Ancient Order of Gleaners, the Michigan State Association of Farmers' Clubs, the Michigan Potato Growers' Exchange, the Michigan Milk Producers' Association, the Michigan Crop Improvement Association, the Michigan Fruit Shippers' Association, the Michigan Wool Growers' Association, the Michigan Poultry Association, the Michigan Sugar Beet Growers' Association, the Michigan Grape Growers' Association, the Marketing Division of the Michigan Agricultural College, and such other state agricultural associations as may have

pressing questions was crystallized at the final session on Friday in the set of resolutions adopted. They follow:

Resolutions Adopted by Michigan State Farm Bureau.

From among the maze of matters that has been brought to our attention the attempt has been made to select those of the most vital importance to the farmers of this state, assembling in some cases several similar resolutions into one, as we have realized the utter impracticability of attempting, in the short space of time allotted, to run the gamut of problems and their ramifications that are today confronting the farmers of this state and this nation. With these ideas in mind, for your consideration, the following declarations are recommended:

That this convention declares the Michigan State Farm Bureau independent of affiliation with any commercial, labor or industrial organization, but asserts that it shall maintain a cooperative attitude to all movements promoting and pertaining to the welfare of American institutions.

That this organization declares it to be its earnest desire and purpose to cooperate with other state federations of farm bureaus and other agricultural organizations in efforts for improvement of agricultural conditions not only in this state but over the country.

That this organization demands adequate protection, through the medium of appropriate federal legislation, of the rights and privileges of farmers of Michigan and the United States to buy and sell collectively.

That this convention urges early action in the establishment of the purchasing department of this organization, as already approved, because of the vital need of the farmers of the state for adequate mediums of doing business, and furthermore advocates earnest consideration by the executives of this organization of ways and means of providing better mediums for the marketing of farm products that will not only be of financial benefit to the farmers, but also the consumers.

That this organization assist in an attempt to remedy the milk-producing and distributing conditions in Michigan with the intention of determining more definitely the cost of production, and that milk and its products be paid for on a quality basis as well as butterfat content, and that due publicity be given to milk and its products as a necessity in the diet of children and that we further insist that the producers have as much right to a voice in determining weight and test of their products as the manufacturer and distributor.

That this organization is not interested primarily in federal or private ownership of the railroads, but in efficiency of them, and demands early action to bring about restoration of efficiency of live stock and other perishable commodity transportation, both in car equipment and train schedules, with the belief that such adequate service at just and equitable rates can be arrived at the sooner under private ownership; furthermore, that the executive committee of this organization seriously consider advisability of creation of a traffic department that may efficiently serve the members of this organization in the many ways they vitally need such service.

That the interests of the rural telephone subscribers of Michigan are not adequately taken care of to the detriment of large rural business interests, that financial loss is resulting through discriminatory rates and service, and that it, therefore, is urged the attention of the Michigan Public Utilities Commission be called to these conditions and remedy for them devised.

That this organization urges the enactment of national legislation that will restrict the opportunities for speculation in foodstuffs and other commodities that exist today and are very largely responsible for the high cost of living problem of the nation.

That this organization declares its opposition to the national compulsory military training bill, such opposition being in accord with the American Farm Bureau Federation. Legislation that will take the boys of the farm away from home at an age when they are of the most help to their parents, and which will persuade many of them to forsake rural life, is undesirable in our belief. No lack of patriotism prompts this opposition; the American farmer's loyalty to the government being apparent in the response of thousands from the country to the call to arms in 1917.

(Continued on page 234).



C. A. Bingham, the Popular Secretary of the State Farm Bureau.

an active interest in the marketing of farm products.

A member from the State Board of Agriculture, and a representative from M. A. C., will be two of the men authorized to sit on the educational committee.

Michigan took its place in the fold of the American Farm Bureau Federation when the constitution was ratified by unanimous vote. Delegates to the national meeting in Chicago on March 3-4, will be instructed to work for the location of headquarters in the middle west, for the appointment of a secretary, either from or acceptable to the middle west, and for rulings providing that all representatives come from bona fide agricultural organizations.

The number of members of the executive committee was cut from eleven to six, so that administration of the plans of the bureau will not be hampered by an unwieldy body. The office of second vice-president was abolished.

Besides Mr. Morrill the following persons were re-elected: Vice-president, R. G. Potts, Washington; members of executive committee, A. J. Rogers, of Beulah; A. E. Menden, of Adrian; James Nicol, of South Haven, and Mrs. Cora Ketcham, of Hastings. Robert Blemhuber, of Marquette, and Ashley M. Berridge, of Greenville, short-course director at M. A. C., were the new committee members named.

Appointment of the secretary and treasurer was left in the hands of the executive committee, but the understanding prevailed that Mr. Bingham would be continued as secretary and Mr. Fred Van Nordsall, of Three Rivers, as treasurer.

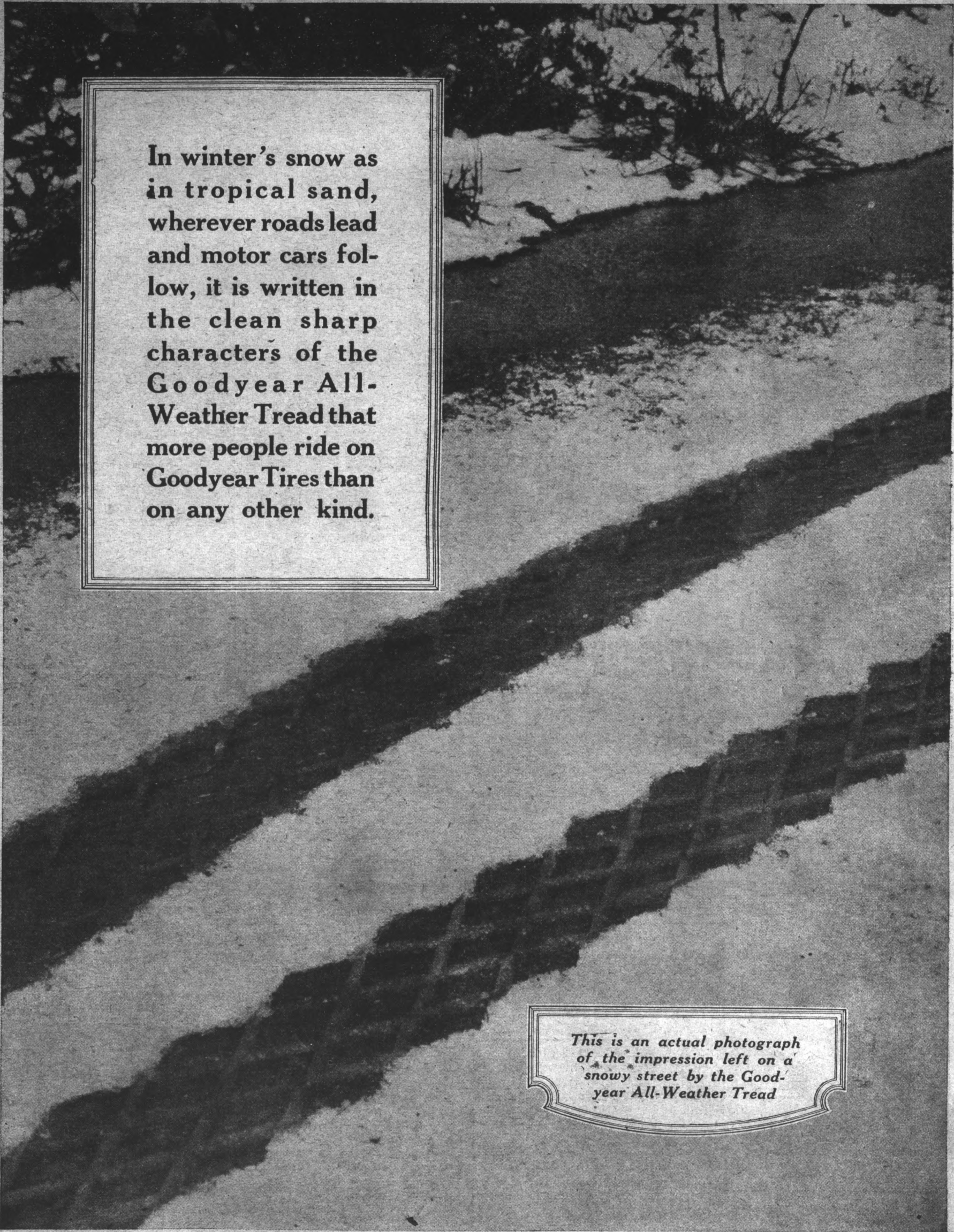
The attitude of the delegates toward

If you are going to buy a Plow Why not get a

LeRoy costs no more than the ordinary

Easy Draft

LeRoy Plow Co.
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In winter's snow as
in tropical sand,
wherever roads lead
and motor cars fol-
low, it is written in
the clean sharp
characters of the
Goodyear All-
Weather Tread that
more people ride on
Goodyear Tires than
on any other kind.

*This is an actual photograph
of the impression left on a
snowy street by the Good-
year All-Weather Tread*

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GOODYEAR

MICHIGAN STATE FARM BUREAU.

(Continued from page 232).

That this convention expresses its earnest appreciation of the efforts of the executive committee of this organization, and especially the secretary, Mr. C. A. Bingham, in the building in the last year of this organization into a valuable instrument for the farmers of this state to use in betterment of agricultural conditions.

That this organization recognizes that its strength and origin has largely been achieved through cooperation with the state and federal departments of agriculture. We declare it to be our desire to continue such cooperation in the future.

That this convention sincerely regrets the illness of our treasurer, Mr. Fred Van Nordsall, and member of our executive committee, Miss Flora C. Buell, which unfortunately has kept them from our annual meeting, and extends to them our earnest hope of speedy recovered health.

The Secretary's Report.

In his report of the activities of the organization since the preliminary meeting held at the College on February 5, 1919, Mr. Bingham gave the results of the big membership drive which to date had been extended to fifteen counties. The number of members signed up to the time of the making of the report was 22,749, which were divided among the fifteen counties as follows:

Oakland	1,850
Barry	1,391
Allegan	1,850
Gladwin	672
Montcalm	1,474
Van Buren	1,650
Lapeer	1,844
Genesee	1,382
St. Clair	2,192
Kent	1,375
Tuscola	1,819
Macomb	1,450
Ottawa	1,000
Washtenaw	1,300
Shiawassee	1,500

The records of the secretary's office show the total receipts for the past year to be \$76,225.00, and the disbursements \$72,229.05, leaving a balance of \$3,995.95. The present assets of the organization are as follows: Due from county membership checks for 1920, 1921 and 1922, \$278,585.05; from the state \$3,000; cash on hand and in the treasury \$3,995.05, and inventory \$1,047, or making a total of \$286,628. The present liabilities are \$4,000.

Will Help Sugar Beet Growers.

The secretary's office has interested itself in the problem of the sugar beet growers of the state, which hinges on the refusal of manufacturers to consider negotiations for any new basis for a contract with the growers in 1920. Mr. John L. Shepard, of Allenton, Michigan, was requested to act with the committee of sugar beet growers as representative of the Michigan State Farm Bureau. His report, backed up with figures that graphically illustrate conditions, show that the manufacturer's profit is approximately seven times the farmer's profit.

It is, therefore, urged that the Michigan State Farm Bureau assist the growers in efforts to obtain a fairer contract, one that will bring about a more equitable division of profits between the factories and the farmers than is now true, but not one that will mean an increase in the gross figure and a corresponding increase in the cost of sugar to the consumer.

It is recommended that this assistance to the sugar beet growers be in the form of a publicity campaign, and that this convention appropriate two thousand dollars for such a campaign, to set the facts of the case of the growers squarely before the public, and acquaint the sugar consumers of Michigan with the fact that the price they are now paying for sugar is exorbitant; that it is not the fault of the beet grower that such excessive prices are charged, but the fault of manufacturers, not content with a reasonable return on their investment. There also is an opportunity to lend the beet growers a helping hand in their organization activities.

(Continued next week).

Guaranteed in Writing to Burn Kerosene Under All Conditions

The OilPull Fuel System - another Proof of OilPull Quality

WHAT are the reasons behind the remarkable 10-year OilPull record of performance?

One of these reasons is to be found in the OilPull fuel system—it is the most efficient and economical fuel system yet devised for tractor use.

This system, patented and owned by the Advance-Rumely Company, enables the OilPull to operate on all grades of kerosene, under all conditions and at all loads to its full rated brake horsepower. But more than that—the Company absolutely guarantees this in writing—with no reservations and with no time limit.

But the success of the OilPull as a cheap fuel tractor is due to more than just its carburetor or the details of its fuel system. The successful oil burning tractor must be made, not "made over." A converted gasoline motor does not make an economical kerosene burning tractor.

The method of handling kerosene necessitates entirely different construction of the entire machine. The OilPull was originally designed and is built from the ground up

to use kerosene for fuel—the motor, carburetor, cooling system—every part is built especially for that purpose.

The result is that no matter whether the OilPull is being used in drawbar or belt work, running at full load or light load, in wet weather or dry, coldest winter or hottest summer, any time, any place—cheap kerosene, is its fuel.

The OilPull has proved time and time again in public contests, its ability to plow an acre at the lowest cost and to use the least fuel per horsepower. Not one of the 15,000 OilPull owners but who will attest to the satisfaction and superiority of the OilPull as a cheap fuel burner.

And this OilPull oil fuel system merely typifies the high quality of OilPull construction throughout—is but one of the many reasons why thinking farmers place full confidence in the ability of the OilPull to give them dependable, economical service.

There are four sizes of the guaranteed, oil burning, oil cooled OilPull—12-20, 16-30, 20-40 and 30-60 H.P. 29 factory branches and 3,000 authorized dealers guarantee near-at-hand service. The OilPull catalog on request.

ADVANCE-RUMELY THRESHER CO., Inc.

La Porte, Indiana

Battle Creek, Mich.

ADVANCE-RUMELY

Ground Grain Best for Stock

Profitable grinding calls for a mill that will crush ear corn in shuck, or grind any grain—a mill economical in power, built for service.

STOVER FEED MILLS

Save 25% of feed costs. 1/4 to 40 h. p. Capacity 3 to 150 bushels per hour.

FREE FEEDING BOOKLET

Write for copy TODAY.

STOVER MFG. & ENG. CO.

157 Ideal Av., Freeport, Ill.

Stover Samson Windmills, Engines, since 1865. Free Catalog.

Farms and Farm Lands For Sale

120 ACRES \$15,000.00
Buildings Worth \$12,000.00

Only \$3000.00 cash is required to get possession of this exceptionally well located farm only one mile from stone road, weigh station, elevator and schools. Milk collected at door. Good neighborhood, prosperous neighbors all around. Entire acreage is tillable except 16 acres of timber. All drained. Fenced with woven wire. 83-foot drilled well with windmill, 18 Acres of wheat, 24 acres of new seeding, 30 acres fall plowed. Buildings consist of almost new 12-room house, nicely finished large front and rear porches, well painted full basement and new furnace. Another 6-room house built for son and family which also has basement. Cistern, pump, house well painted; new gambrel roofed barn 36x70 with 16-foot posts, cement foundations and floors, stable room for 6 horses, 20 head of cattle; new tool shed 18x26 containing cement watering trough, poultry house 12x18; corn crib 10x16, silo 12x31; garage; a number of small hog houses. This is a beautiful farm and should be seen to be appreciated. Act quick as this too good to last. Personal property can be purchased if so desired.

BROWN & GRANT

Michigan.

\$5000 Down Secures 230 Acre Farm, with

11 horses, 24 cows, bull, wagons, harness, hay loader, grain binder, corn binder, manure spreader, gas engine, full list machinery and implements. 150 acres in fields producing heavy crops; 80 acres in woodland and fine pasture for 50 head; 150 apple trees other fruit. 8 room house, large stock barn, silo, hog, poultry houses, other bldgs. To settle at once owner makes low price \$13,500, for everything, easy terms. Details Catalogue 23 States; copy free. STROUT FARM AGENCY, 814 B C Ford Bldg., Detroit, Michigan

FOR SALE

Stock or Dairy Farm of 640 acres located in Oscoda Co. 2 miles from good shipping point 1 mile from the Mackinaw Trail 200 acres cleared 200 more can be easily cleared, well fenced with woven, 2 barns one 34 x60 and one 36x64 both have full basements. 2-12x40 silos, fair house, good well, windmill, every 80 of this has a spring creek, terms inquire of the owner.

ROSEL BLYM, Reed City, Mich.

GLADWIN COUNTY FARMS

WHY RENT? \$800 down, will buy 80 acres 3 miles from Beaverton, Mich. 20 acres improved, fine dark loam, clay subsoil, 1/2 mile to school, good roads, R. F. D. and Tel. some buildings, price \$55 per acre, 6% int. New farm list soon ready.

U. G. REYNOLDS, Owner, Gladwin, Mich.

NORTHERN OHIO FARMS

We have over 300 fine farm homes close to the great markets of Cleveland and Akron, very reasonably priced. Write for our Spring Catalogue. Address all communications to our Medina Office.

THE CODDING-BAGLEY-CASE COMPANY

Akron, Ohio. Medina, Ohio.

FARMS FARMS

The best Farm buys in Michigan can be found just east from Grand Rapids at Lowell. Send for our complete list of places from 5 to 150 acres. All highly developed farms. Fred A. Godfrey, Lowell, Mich.

FARMS and HOMES

Where life is worth living, moderate prices—genial climate—productive lands. For information write STATE BOARD OF AGRICULTURE, Dover, Del.

For Sale 135 acre farm, productive soil, timber, splendid location, close in, elegant modern buildings, well fenced, 80 ton silo. Deal with owner, selling reasons sickness. A bargain \$140 per acre. Forrest Flebush, Nashville, Mich.

NINE MONTHS TO PAY

Immediate possession on our liberal Easy Monthly Payment plan—the most liberal terms ever offered on a high grade bicycle. FACTORY TO RIDER prices save you money. We make our bicycles in our own new model factory and sell direct to you. We put real quality in them and our bicycles must satisfy you.

44 STYLES, colors, and sizes to choose from in our famous RANGER line. Send for big, beautiful catalog.

Many parents advance the first payment and energetic boys by odd jobs—paper routes, delivery for stores, etc., make the bicycle earn money to meet the small payments.

DELIVERED FREE on Approval and 30 DAYS TRIAL. Select the bicycle you want and terms that suit you—cash or easy payments.

TIRES wheels and parts for all bicycles—at half usual prices. SEND NO MONEY but write today for the big new catalog, prices and terms.

MEAD CYCLE COMPANY

Dept. W77 Chicago

Big Calves at Small Cost
Ryde's Cream
alf Meal
the Milkless
Way to Profit

FREE Write for booklet "Milkless Calves" Tells how to raise calves without milk, also gives names of our nearest dealer who will make you a money-back offer on your first calf. Book Free and postpaid.

RYDE & CO. 5432 West Twelfth St. CHICAGO, ILL.

South Michigan Farm
Of 57 acres at Milan Mich. good soil near good schools and churches and two R. F.'s. New wire fenced. Fair buildings. Within 40 miles of Toledo and Detroit Markets. Address Box L 214 Michigan Farmer Detroit, Michigan.

Something Worth Knowing

About Batteries

Inside the Still Better Willard Battery are four important things, *hard rubber jars; plates; battery solution, and Threaded Rubber Insulation.* Each cell consists of a jar with plates, solution and insulation sealed up inside of it.

The hard rubber jar *insulates* each cell from the other cells in the battery.

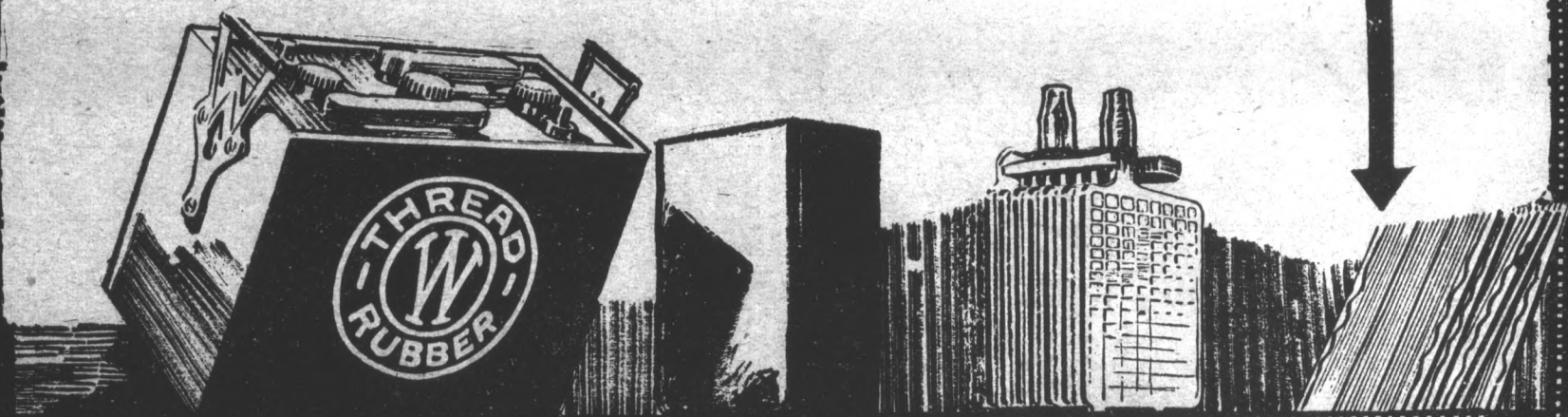
The Solution is a mixture of sulphuric acid and water. The acid does not have to be renewed, but you have to renew the water by adding a little every two weeks or so, to keep the level above the tops of the plates and to take care of the evaporation.

The Plates are of two kinds, positive and negative. Chemical action between them and the Solution makes the electric current which operates starter, and lights, and furnishes the spark.

The Insulation between positive and negative plates is the all important item. Ordinary insulation almost always wears out before any other part of the battery. Threaded Rubber Insulation lasts as long as the plates and does not have to be renewed. That is why it has been termed one of the greatest of the many remarkable battery improvements of the Willard organization. Ask the nearest Willard Service Station to tell you more about it.

Willard Service.

**Threaded
Rubber
Insulation**



WILLARD STORAGE BATTERY

Willard Threaded Rubber Insulation



Placing the reinforcing steel of the door opening.

A Natco Silo

**Costs a Little More—
Lasts a LOT Longer**

It does cost more to build with everlasting Natco Hollow Tile than with materials that soon decay, but it's far cheaper in the long run. A Natco Silo will not rot, burn, burst or blow down. It has no hoops to tighten, needs no painting and seldom any repairs. You can pass a Natco Silo to your children practically as good as new. Or the farm will bring more should you wish to sell.

Farmers who figure costs closely are using Natco Hollow Tile for silos, dairy barns, hog houses, dwellings, etc. Our book "Natco on the Farm" describes and pictures many such uses. Send for it today—no charge. Ask your building supply dealer to quote you on Natco Hollow Tile.

National Fire Proofing Company
1303 Fulton Building
Pittsburgh, Pa.

23 Factories assure a wide and economical distribution



Foundation and bottom courses of a Natco Silo. Note the still air spaces and the steel reinforcing bands.

Give Them Martin's Calf Feed



Start the calves right and keep them coming right along thriftily. No scours. No setback when feeding separated milk. Takes the place of whole milk as soon as calves learn to drink.

SAVES THE CALVES

by giving them the ideal feed. Supplies just the elements needed by the young animals. Saves valuable milk. Martin's Calf Feed carries 26% protein and 6% fat—a calf ration never excelled. For 20 years proved to be the best feed for calves, little pigs and all young stock. Big calves, too, grow bigger when Martin's Calf Feed is added to their skim milk, whey, or water.

Leading dairymen declare that the elements missing from skim milk and whey must be supplied "by the addition of some feed high in protein and fat". Martin's Calf Feed is the special feed that does this.

Butter fat is too expensive to feed to calves, but we must raise more calves and raise them right. Martin's Calf Feed has raised thousands of sturdy, hearty calves throughout the country during the past 20 years. Prove it out with your own calves.

Martin's Calf Feed comes in 25, 50 and 100 pound bags, ready to mix. We also manufacture Martin's Pig Meal, Egg Mash, Poultry Charcoal, Fly Oil, Sprayers, Stock Dip and Scour Remedy.

Write today for free literature—give your dealer's name.
MARTIN CALF FEED CO.
Dept. 40 MINERAL POINT, WIS.

AGRICULTURAL GYPSUM

Gypsum has great value as a soil builder. Its application to clover, alfalfa and other legumes causes an enormous increase in the size of the root systems and tops of these crops. It produces many more nitrogen fixing nodules on the roots. This, in some cases, means ten or twelve times as much nitrogen fixed per acre, thus furnishing much more nitrogen for the farm and for later crops. That's why

A Gypsum Test Strip on Your Fields will Prove Its Worth in Greater Yields

In early Spring, just as growth starts, sow a strip across your alfalfa or clover field or across your white clover blue grass lawn and let it tell its own story. Rate of application 200 to 400 pounds per acre. Get a supply of Agricultural Gypsum from your nearest building supply dealer. Write us for free information on various uses of Agricultural Gypsum as an efficient and economical soil builder.

GYPSUM INDUSTRIES ASSOCIATION, Dept. P — 111 W. Monroe St., CHICAGO

MICHIGAN LIVE STOCK INSURANCE COMPANY

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

Our Service Department

NOTICE AGAINST HUNTING.

Please inform me what constitutes legal posting of notices against trespassing. I have on the road fence printed notices against trespassing. Must I have them on all sides of the farm?
B. M.

The statute (Laws 1917, No. 317), declares: "No person shall hunt with firearms or dogs, or in any other manner on enclosed lands of another, or upon any farm or farm woodlots connected therewith, when notices have been posted on such lands by the owner or lessee thereof, forbidding hunting thereon. * * * Any person or persons violating any of the provisions of this act shall be deemed guilty of a misdemeanor, and upon conviction thereof for the first offense shall be punished by a fine of not less than ten dollars and not exceeding one hundred dollars, together with the costs of prosecution, or by imprisonment in the county jail or Detroit House of Correction, not exceeding ninety days, or by both such fine and imprisonment, in the discretion of the court," etc.

There is nothing in the statute to define the character of the notice that shall be posted. It would have to be readable and posted in a reasonably conspicuous place on the premises, the more conspicuous the better; but it is not necessary that more than one notice be posted.
J. R. R.

A LEGAL FENCE.

What is a lawful fence? Can it be made of barb or woven wire? Must it hold small pigs?
J. D.

The fence may be of barb or woven wire, wood, stone, or other material, four feet and a half high and so built as to turn the stock ordinarily kept on a farm. There is no decision that it must be built tight enough to turn small pigs, so far as we are aware.
J. R. R.

FERTILIZER ANALYSIS.

In the Michigan Farmer of January 10, your article on sandy land farming was fine. My farm is medium sand loam and I would like to know what kind of fertilizer would give the best results for oats and corn. Please tell me in what rotation the ingredients of fertilizers are named in the printed analysis, such as 2-12-0, etc. Last season I used a fertilizer of one nitrogen, eight phosphoric acid and one potash, which I think gave good results on the corn and oat crops.
St. Joseph Co.

Speaking in a general way, sandy land is more apt to be deficient in potash than clay land, and while clay land might not respond to an application of potash, sandy land would, but as a general thing, most soils in Michigan need phosphorus more than they do potash or nitrogen.

A fertilizer formula reading 2-12-0 means two per cent nitrogen, twelve per cent phosphoric acid, no potash. One reading 2-10-4 means two per cent nitrogen, ten per cent phosphoric acid and four per cent potash. My advice would be not to buy fertilizer containing only one per cent of potash and nitrogen. There isn't enough of these ingredients to pay for the time and trouble in applying. A 2-10-4 or a 2-12-2 would be more apt to give you returns for the money. I would experiment carefully with acid phosphate alone, say 0-16-0. That means there is no nitrogen or potash, simply phosphoric acid.
C. C. L.

HAY SUBSTITUTES.

The problem of meadows in this section is a serious one. Most of the seedings were lost and most of the ground

is unfit to be cropped any more. May we ask for your advice as to what is best to put on this ground to make a crop of hay, at the same time not depleting the soil any more than is necessary? We had thought of oats and vetch, cutting it green and not letting mature. Also soudan grass has been suggested. Can the farmers seed clover and alsike in oats and vetch sowed and cut for hay? Also, can they do the same thing in soudan grass? What suggestions have you to offer as to the best crop to raise for hay at the same time not depleting the soil, and if need be, get a catch of clover and alsike besides. We will appreciate any suggestions.
Newaygo Co. F. C. P. C.

All over western Michigan we have practically the same condition. Nearly everybody lost their seeding. In my own case I lost practically eighty acres of clover seeding. One really does not know what to do. It is a great loss. I did not plow up any of the meadows last fall and shall hold them over another year. I am well aware that I will stand the chance of getting a good crop of hay. It will undoubtedly be light, but with the amount of help at command, this seems to be the most practical way. This spring we will seed the oats and pea ground and see if we can get a catch for a meadow next year.

Oats and vetch, or oats and Canada field peas will make as good a substitute for clover hay as anything I know of. You can sow the winter vetch with oats in the spring and it will produce a good hay crop. The oats and Canada field peas should be sown as early as possible and harvest when oats are in milk and made into hay as you would clover hay. This makes an excellent feed and with a favorable year one can realize a good yield, even equal to the best clover.

Soudan grass belongs to the sorghum family. It is a wonderful grower, will produce an enormous amount under proper conditions. Soudan grass is not very good for the land and does not furnish as much protein in the ration as does the vetch or Canada field peas. Clover can be seeded with oats and peas, and do well if you cut the oats and peas early for hay. Soy beans are another crop that should be tried, perhaps in a small way. Of course, with soy beans you can sow them with a grain drill broadcast as you would oats, and harvest them for hay. You will get a bigger crop probably to put them in rows twenty-eight inches apart and cultivate them the same as for corn and they can be harvested for hay in the same way. If anything happens so that you cannot get in the peas and oats, or the oats and vetch early enough, you still have a chance of growing a crop of hungarian grass which can be sown as late as July 1, and under favorable conditions will make a good crop of hay. This makes a splendid feed for all kinds of animals.
C. C. L.

VENDOR'S LIABILITY FOR TAXES.

Last September I sold a place, deed drawn, \$500 cash and balance on delivery of possession March 1, 1920. The buyer has paid the balance and insists that I pay the taxes for 1919. Am I liable?
C. B.

One giving a deed to land assumes no liability to the purchaser in the absence of covenants in the deed. The only effect of the deed is to pass the title the grantor has, if any. But if in the deed he covenants that the premises are free from incumbrances, that covenant in September is broken by the lien of the taxes levied the prior June. The taxes become an incumbrance as soon as the board of review has met in June.
J. R. R.



Put it in Your Barn **NOW**

HOW many farmers have been unfortunate enough to hear "Sorry — but I'm all sold out." In these days, the dealer, in spite of his best efforts, cannot always foresee the demand nor keep ahead of rapidly changing conditions. If you wait until spring to get your fertilizer, it may be too late—and crops planted without fertilizer are likely to prove unprofitable. Of course, you want "A A Quality," as you always have. Don't be disappointed. Be on the safe side—see the local agent now about your supply of

A. A. C. Fertilizers

The coal shortage, transportation and labor difficulties and reduced production of many essential materials—all point to a fertilizer shortage in the spring—for the big rush is still to come.

The demand for fertilizer is unusually heavy. And the supply is limited. Even with our exceptional facilities—late orders will have to take their turn. There was a net shortage of 38,267 box cars for the week ending Jan. 7, reported by the U. S. Railroad Administration. We urge you as strongly as we know how to take no chances, but order at once. If your dealer has A. A. C. Fertilizer in stock, *go get it and put it in your own barn now.* If he is sold out, give him your order at once for the quickest possible shipment.

If you have not received a copy of our 63 page book "How to Get the Most out of Fertilizers" write for it today. Should there be no A. A. C. agent in your vicinity write for the name of our nearest agent or ask for the agency yourself.



THE AMERICAN AGRICULTURAL CHEMICAL CO.

ATLANTA
BOSTON
BALTIMORE
BUFFALO

CHARLESTON
CINCINNATI
CLEVELAND
COLUMBIA

DETROIT
GREENSBORO
HENDERSON
JACKSONVILLE

LOS ANGELES
MONTGOMERY
NEW YORK
PHILADELPHIA

RUTLAND
SPARTANBURG
ST. LOUIS
SAVANNAH, ETC.

Please Address Office Nearest To You

Why Apples Fall

If your apples drop off the trees before they are ready to pick—if a windstorm in the fall shakes a large part of your apple crop to the ground, it is a severe disappointment and a heavy money loss. Apples fall either because the fruit is unsound or because there is not strength enough in the twig to hold them on.

This loss is usually unnecessary. It can be eliminated almost entirely. Sound fruit, free from insect damage and disease, that stays on the tree until harvest time is the result of spraying with

Pyrox

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

PYROX does more than kill the codling moth and other leaf-eating worms and bugs. It does more than prevent rot, scabs and other fungous diseases. For the beneficial effect that it has on the foliage of the tree—making the leaves a rich, healthy green color—gives strength to the twig, causing the apples to hang on in spite of even very strong and severe windstorms.

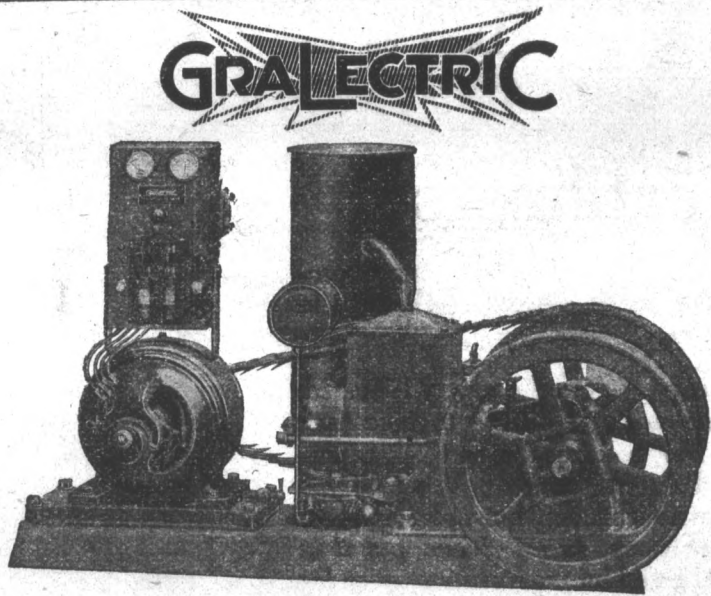
Apple trees sprayed with PYROX carry their fruit right up to the time to pick; the apples color up on the trees; they are free from insect damage and fungous blemishes. Spray your apples this year with PYROX. Your crop will be bigger, and because they are so smooth and sound the apples will practically sell themselves.

PYROX is easy to use—just measure out the right amount and mix with cold water. It is a smooth, creamy paste, free from grit and lumps, and will go through the finest nozzle. It eliminates the worry and work of preparing separate chemicals.

Be sure to arrange for your supply of PYROX early. Have your local dealer reserve what you will need. Write today for your copy of the new Pyrox book.

BOWKER INSECTICIDE COMPANY

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



THIS is the Lighting Plant you have been waiting for. Lights or power in your home any time, day or night, cheaper than you would pay in the city.

No tiresome cranking with the Graelectric, simply press the starting button and the plant is in operation. No expert required. Graelectric Lighting Plants are so simple and dependable that they can be installed and operated by anyone.

Note specifications—Westinghouse Generators, Switchboards, Instruments—Willard Storage Batteries—Gray Motors.

Throw away your smoky flickering oil or gas lamps and install the Graelectric in your country home, then simply press a switch and obtain a flood of strong, brilliant, steady light, plenty of electricity for fans, irons, motors, etc., the Graelectric Plant will pay for itself the first year.

Graelectric Lighting Plants and Gray Motors are fully guaranteed, write for prices. We can save you money. Reliable Agents wanted. A few counties still open.

GRAY MOTOR COMPANY,

2231 MACK AVENUE,
DETROIT, MICHIGAN

FARMERS' WEEK AT THE COLLEGE.

(Continued from page 227).

of Ohio alone forty million dollars of farm fertility was wasted each year. He pointed out through his travels in Japan and China that the opposite conditions took place. In these countries even the city sewage is carried miles to be used as a fertilizer.

Soil fertility is a serious problem that confronts every Michigan farmer. Swamp lands are present on a great number of our Michigan farms and they represent a neglected source of wealth to the owners.

Dean Ernest W. Groves, of the New Hampshire State College, discussed "Social Discontent on the Farm," before the Wednesday afternoon session of Farmers' Week at the Michigan Agricultural College. Taking the place of Dr. Frank W. Gunsaulus, who was kept from appearing on the program by illness, Mr. Groves carried his audience of more than two thousand farm delegates, through a thoughtful analysis of the social problems confronting the rural people of America. The whole world is teeming with unrest and discontent, declared Dean Groves. Questions already acute before the war have been intensified during the last four years, with the result that all classes of society are now restlessly searching for new and changed conditions.

In spite of all drawbacks there are many undeniable advantages in the present state of unrest. From it will come changes for the better. The country man and the city man hold different beliefs in their views of life, because of the fact that they live in entirely different surroundings. The city man deals with individuals. He is constantly mixed up with class struggles, and is engaged in a war to the end with his fellowmen. The man of the farm, on the other hand, sees things from the side of nature. He has less of contact with the individual, and is naturally less affected by the turmoils of society. Even the farmer of today, however, is by no means contented. He is growing more restless daily, with the inevitable result that farm life is due for many troubles and unfortunate changes, unless something is done to remove the rural man's cause for discontent.

Summing up the causes for restlessness and dissatisfaction among farmers of the country, Dean Groves gave the following:

1. The producer of agricultural products is not as prosperous as other classes of society, in spite of the fact that he should stand high in industry.
2. Social customs work against the enjoyment of life on the farm, for the farm youth feels that the clothes and amusements of the city are attractive.
3. The continuous flow of farm help to the city is hurting the position of agriculture.
4. Farmers are becoming skeptical of governmental functions themselves, feeling that legislation is being controlled by class pressure of which they have no part.

If the present tendency for the population of America to herd together in the cities goes on for another twenty-five years, war will be the inevitable outcome. It may be a class war or it may be an international war, but war of some sort is certain to follow this unnatural trend of population, if it is not checked. We must and shall bring about conditions so that men and women will be satisfied on the farm. Only in this way can the future of America be safeguarded. The farmer stands on the frontier of civilization. He is the backbone of the nation. If the farmer, who is naturally conservative, becomes restless, the rest of the country must tremble with fear for the future.

That America discovered, in the re-

cent world-war, the quality of her youth, the strength of her educational system, and the fact that democracy will work, was the contention of W. D. Henderson, Director of Extension Work at the University of Michigan, in speaking before the Wednesday evening session of Farmers' Week.

"The difference between the old world and the new is not a geographical one," said Mr. Henderson. "It is a chronological one, for the new world began in August, 1914. Never again will we return to the conditions which existed before the late war broke out. The ideas all the nations of the world held toward America have been changed by the war, and our ideas of them have likewise undergone reconstruction. The English no longer think us boastful. The French have ceased rating us as a materialistic nation, and Germany has learned that we are not a country of fools.

That England and America should stand shoulder to shoulder in the future, was the opinion of Professor Henderson. Between them they can prevent great wars of the future. No nation is now willing to start trouble without asking, "What will the British navy do?" and "What will America do?"

"Great things we discovered in the recent war include knowledge of the wonderful manhood of America's youth. The efficiency of our educational system also proved itself, while the world was given a living demonstration that democracy will work under adversity."

Governor Lowden's Address.

In his speech to the farmers Thursday evening, Governor Lowden, of Illinois, showed an intimacy with the work of farming that found a decidedly sympathetic response in his big audience. He spent considerable time in discussing the importance of the farmer in the country's economic scheme, and the serious effects of the increase in farm tenancy. He advocated partnership between owner and tenant, rather than a relation based upon leases and declared that many farm owners could dispose of their farms and procure landed successors in tillage if such a plan were carried out.

"One of the things which is depressing in this country at the present time is the increase in farm tenancy," he said. "It is not a wholesome sign and our agriculture will fail unless we devise means by which the young man with brains and muscle can go to farming, with a reasonable expectation that he shall some day own his own farm. I believe that can be accomplished, and accomplished without any revolutionary methods being employed. I think that the farm bureau will help us towards this. I think we will have to change some of the farm leases that we have used in the past. We surely must get away from the idea that you can sell your farm to one man for a year and then sell it to another man for a year and keep that up indefinitely without both tenant and farm becoming bankrupt. I don't think you will get rid of farm tenancy in a moment. I do not indulge in any illusions about that—but in some way we will have to give the farm tenant a feeling of interest in the farm. If we do not, he will not cultivate it right. We must have an affection for that which we handle, and we do not have an affection for a farm that belongs to someone else who can put us out on March 1 next, if he so desires. I think we will more and more have to make partnership contracts rather than leases of farms.

The old form of leases means constant depreciation of the land.

Explains Illinois Budget.

The governor devoted considerable time to an explanation of the work accomplished by his administration in Illinois, where, by the installation of an

(Continued on page 240).

DREW

Stanchions

You Can Get An Extra Profit From Your Cows

- Every milk cow in your herd costs you a certain amount for feed regardless of how much milk she gives.
- Every man you hire costs you so much per day regardless of how much work he does.
- Why be satisfied with your present profits from your dairy herd when DREW FIXTURES will give you greater profits from each cow with reduced labor costs?
- DREW STANCHIONS give perfect freedom and comfort to the cow. That means natural, pasture-like contentment that causes the cow to give her greatest yield of milk.

The Perfect Stanchion

All improvements in convenience and animal comfort known to dairymen and experts are embodied in Drew Stanchions. Many of these are Exclusive Drew ideas. Unusual strength and long service are obtained by use of special, high-carbon steel tubing, perfectly rounded on our high-power bending machines.

No Weak Points

Drew Stanchions are so ingenious in design and superior in construction that they last indefinitely and are trouble-proof. Everything that adds to the convenience of operation and free movement of the cow, including all emergencies, have been provided for. Many joints are eliminated. Opening arms are connected with remarkably large and strong castings of special Drew design. Drew Stanchions are quickly installed and are designed upon the unit system thus enabling you to plan for an increase in the size of your herd.

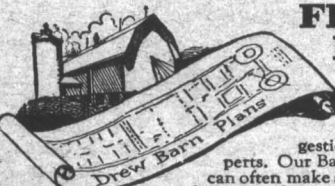
Advantages Over Any Other

Following is a letter typical of hundreds received from Satisfied Users of Drew Fixtures:

DREW CARRIER CO., Waterloo, Wis.
Gentlemen:—I am sending photographs of my new dairy barn which I erected last Summer, showing you the way I installed the fixtures I bought from you. Thought you might like to see it. The longer I use the stanchions the more I see the great advantage they have over every other kind I have ever seen. The ease and comfort they give the cows, as well as their strength, make them worth the attention of any dairyman looking for the best and most practical outfit. The Double Sure Stop, too, is something anyone will appreciate when handling a large number of cows. Everything is fine and I like the way you have treated me.
Good luck and lots of it.
F. E. GLEASON, Pine Grove Stock and Dairy Farm.

Every DREW fixture is a perfected product that has been developed during 20 years of Drew experience in building improved dairy barn equipment. Three things are uppermost in designing and building Drew Fixtures: First—maximum of comfort and health to the animal—thus raising the quantity of milk produced. Second—the reduction of barn-labor to the lowest possible point. This means easier work and lowered costs to the dairy farmer. Third—a standard of designing, materials and manufacturing that insures a long life to every product bearing the name of DREW. The sum total of this Drew Policy means EXTRA PROFITS from every Drew-Equipped dairy barn. All Drew Fixtures have many Exclusive Improved Features and yet they cost no more than others.

FREE Barn Floor Plans and Drew Expert Service



You are not obligated in any way by asking for the suggestions and sketches of Drew Experts. Our Barn Floor Plans are Free. We can often make suggestions that will save you much time and money. Let us help you on any problem concerning dairying or the care of your stock. We design and plan your barn complete or give you expert advice on remodeling or altering. Write us whether you expect to make a purchase or not.

DREW CARRIER COMPANY
Established 1899 Waterloo, Wisconsin

DREW BARN
Fixtures
MODERN STOCK HOUSING
EVERYTHING FOR THE DAIRY BARN

Mail This Coupon

DREW CARRIER CO., Waterloo, Wis.

Send the Drew Idea Book No. M.F.-7, without obligation or cost to me. I want to know about.... Stanchions.... Stalls.... Carriers.... Drinking Bowls.... Steel Pens.... Bull Staff.... Barn Plans for.... New Building.... Remodeling—date

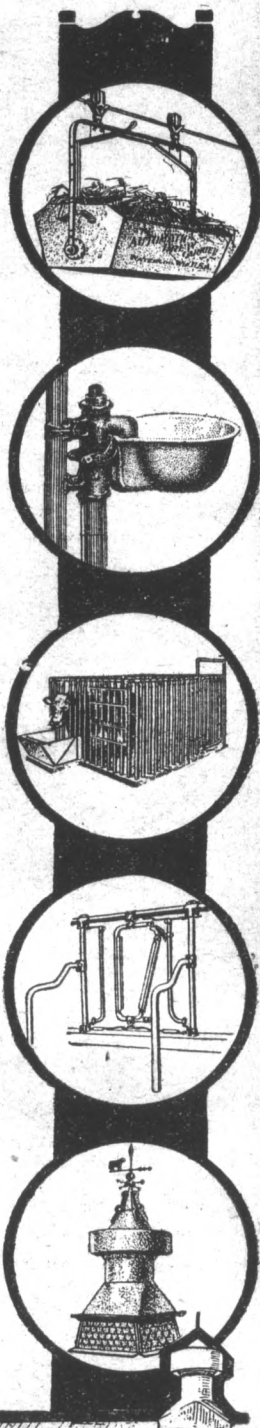
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THE DREW LINE

Complete Dairy Barn
Plans and Equipment

Stalls
Stanchions
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Water Bowls
Bull Pens
Cow Pens
Calf Pens
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Feed Carriers
Bull Staffs
Ventilators
Feed Trucks
Hay Tools
Door Hangers
Etc., Etc.



"I Plowed 9.28 Acres from noon until 8:00 P.M."

"The day this snapshot was taken, I plowed 9.28 acres from 12 o'clock noon until 8 P. M. The field was 290 rods long and I plowed nine rounds. This Fall I pulled a 26-inch separator, threshed about 1,000 acres of grain. One day we threshed 800 bushels of wheat in less than eight hours. I think the LAUSON is a good machine."

CLAUDE KAMP
WOLVERTON, MINN.

The John Lauson Mfg. Co.,
New Holstein, Wis.

Gentlemen:-

Your favor of the 28th ult. received and am enclosing kodak pictures together with some negatives I happen to have on hand, also a snapshot of myself plowing with the tractor. The day in April 1919 this snapshot was taken I plowed 9.28 Acres from 12 o'clock N. until 8.00 P. M. The field was 290 rods long and I plowed 9 rounds. I pulled a 26" Case Separator this fall, threshed about 1000 Acres of grain, it handled the Case nicely, one day we threshed 800 Bu. of wheat in less than 8 hrs.

I think the Lauson is a good machine if properly taken care of.

Yours respectfully,
CLAUDE KAMP.

This is what Claude Kamp of Wolverton, Minn., says after owning his tractor for two seasons.

Year after year LAUSON TRACTORS have gained favor with the better class of business farmers—men who consider service and satisfaction rather than price. You will usually find LAUSON owners the leading and most prosperous farmers in the locality.

Write for more information about the "Pattern Tractor"

The John Lauson Mfg. Co.
43 Monroe Street
New Holstein Wisconsin



Only Thrifty Stock Pays Big Profit



WHETHER it's cattle, hogs, sheep or horses, the more vigorous you keep them the more money you are sure to make from them. For it's the healthy, vigorous cows that produce the great quantities of the best milk. It's the sound, good-conditioned steers that put on the pounds of beef. It's the well, sturdy horses that can do the big day's work.

You'll make sure of thrifty stock by giving them

Pratts Animal Regulator

AMERICA'S original and guaranteed stock tonic and conditioner. It sharpens the appetite. It improves the digestion. It regulates the bowels. It makes rich, red blood. It makes the stock more thrifty and vigorous—and more profits for you—every time.

"Your Money Back if YOU Are Not Satisfied"

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Write for Pratts NEW Stock Book—Free

PRATT FOOD COMPANY
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Packed in bags, pails, and handy packages.



Seed Oats Choice Swedish Select and Big Four Seed Oats testing 40 to 43 pounds. Price \$1.50 per bu., bags extra at 20c each. THE HORN BROS. CO. MONROEVILLE, OHIO.

Wanted Competent farmer with family for general farm near Detroit. Reply Box No. B 27, Michigan Farmer.

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

FARMERS' WEEK AT THE COLLEGE.

(Continued from page 238).

effective budget and state central purchasing agent system, the consolidation of control of state institutions and departments by groups and other modern business methods, the state taxes have been going down for the last three years, despite the war and high prices. He also devoted considerable time to the reorganized agricultural department of Illinois, which, he said, in the past had been of value largely as a political organization but was now doing real work for the farmers.

Few single agencies, the governor declared, had done so much for the farmer as the farm bureaus. These have been organized into a state farm bureau in Illinois, and Michigan has now adopted a farm bureau system of organization modeled on the same plan. The Michigan Farm Bureau, like the Illinois Farm Bureau, is not political but it is planning to emulate the Illinois example of having a definite legislative program without reference to political personalities.

Maple Syrup Makers Meet.

The retiring president, A. B. Cook called the meeting to order at ten o'clock February 4 and in a few words greeted the association and told them the needs which had arisen during the year and which were now placing themselves for attention. The secretary, F. H. Sanford, was then called on for a progressive report of this association. He told of the activities since the organization and covered briefly the things which had been accomplished by the association. Notably, these accomplishments were first: The establishment of our recognized grades of syrup, three in number, which have since 1916 become well recognized and established over the state; second, the drive to increase the price of syrup to the producer, this drive was carried on for the years 1917-1918 and 1919 until the present time most of the makers have a partial or total market for their product.

He then proceeded to outline the needs of the association for the next two or three years. In the first place, he spoke of the very large acreage of maple timber in the state which was not being tapped for one reason or another, and pointed out the necessity for the development of this by saying that it would not come until there was a decided move on the part of the members of the association to place maple flavor in the form of maple syrup and sugar. This may be done only by a closer associated action of the members through the establishment of a central canning and marketing plant. At this time there are too many profits between the producer and the consumer. Following this report, the association acted favorably by the appointment of a committee of ten men to proceed with the plans for organization of a central canning and marketing plant. The personnel of this committee is as follows: A. B. Cook, Owosso, chairman; Benj. Wilson, Scotville; Charles Dean, Vermontville; A. B. Graham, Adrian; B. N. McIntosh, Elk Rapids; J. B. Horton, Fruitridge; H. H. Stroud, Hopkins; C. F. Hart, Williamston; W. L. Huber, Charlotte, and F. H. Sanford, East Lansing, Michigan, secretary.

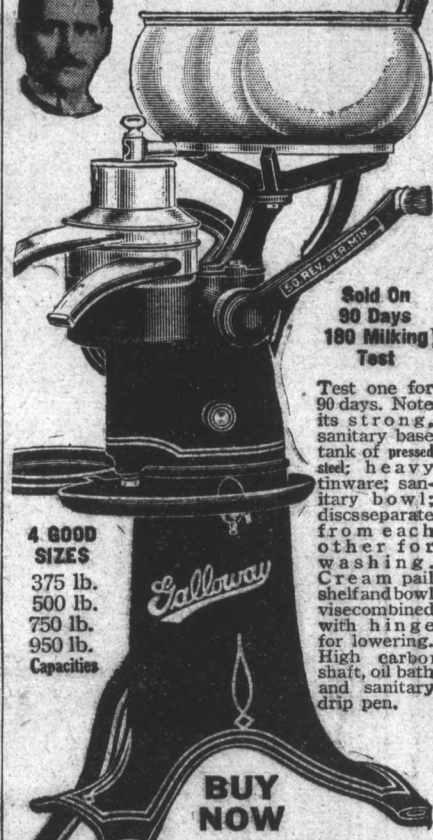
A discussion on the advisability of placing exhibits at the two state fairs was gone into and the committee, consisting of G. B. Horton, Fruitridge, and F. H. Sanford, East Lansing, appointed to act, with power. Papers were read and discussions were entered into on the development of quality and increase of quantity of syrup through the efforts of the association. These papers were by H. H. Stroud, Hopkins, and W. L. Huber, of Charlotte; favorable discussions followed.

(Continued next week).

GALLOWAY'S 30 DAY ADVANCE SALE

SEPARATORS 1920 MODEL

Right now—get your Separator order in and take advantage of Galloway's money saving offer. Don't put it off! The Great Galloway Factories have ready for rush shipment a limited number of new 1920 model Separators. This offer is good for 30 days. So write at once.



Sold On 90 Days 180 Milking Test

Test one for 90 days. Note its strong, sanitary base tank of pressed steel; heavy tinware; sanitary bowl; discseparator from each other for washing. Cream pail shelf and bowl viscombined with hinge for lowering. High carbon shaft, oil bath and sanitary drip pen.

4 GOOD SIZES
375 lb.
500 lb.
750 lb.
950 lb.
Capacities

BUY NOW

Get Prompt Delivery

Skims Close Year Round

The new 1920 Galloway Sanitary Separator will skim as close when your cows are on dry feed as when the cows are pasturing. In any weather your separator should skim to capacity, and particularly in the Spring and Summer when the grass is green and the milk flow is heavy you want a Separator like the Galloway. Then time counts.

FREE Book—Write

Send for Galloway's big new Separator Book and low 30 day price offer. See how much you save when you buy at this sale direct from Galloway. Send coupon today.



WM. GALLOWAY, Pres.
The William Galloway Co.
123 Galloway Station
WATERLOO, IOWA

From FACTORY to YOU

Avoid delays and avoid paying an extra profit, by getting

Vapor Tight Piston Rings

straight from our factory. We manufacture all sizes—and sell direct to users, at factory prices. Two VT Rings to a piston prevent any leaking in cylinders—and produce the maximum compression.

Order NOW—giving cylinder diameter and exact width and depth of grooves in pistons; or write for our new descriptive Circular—we send it FREE.

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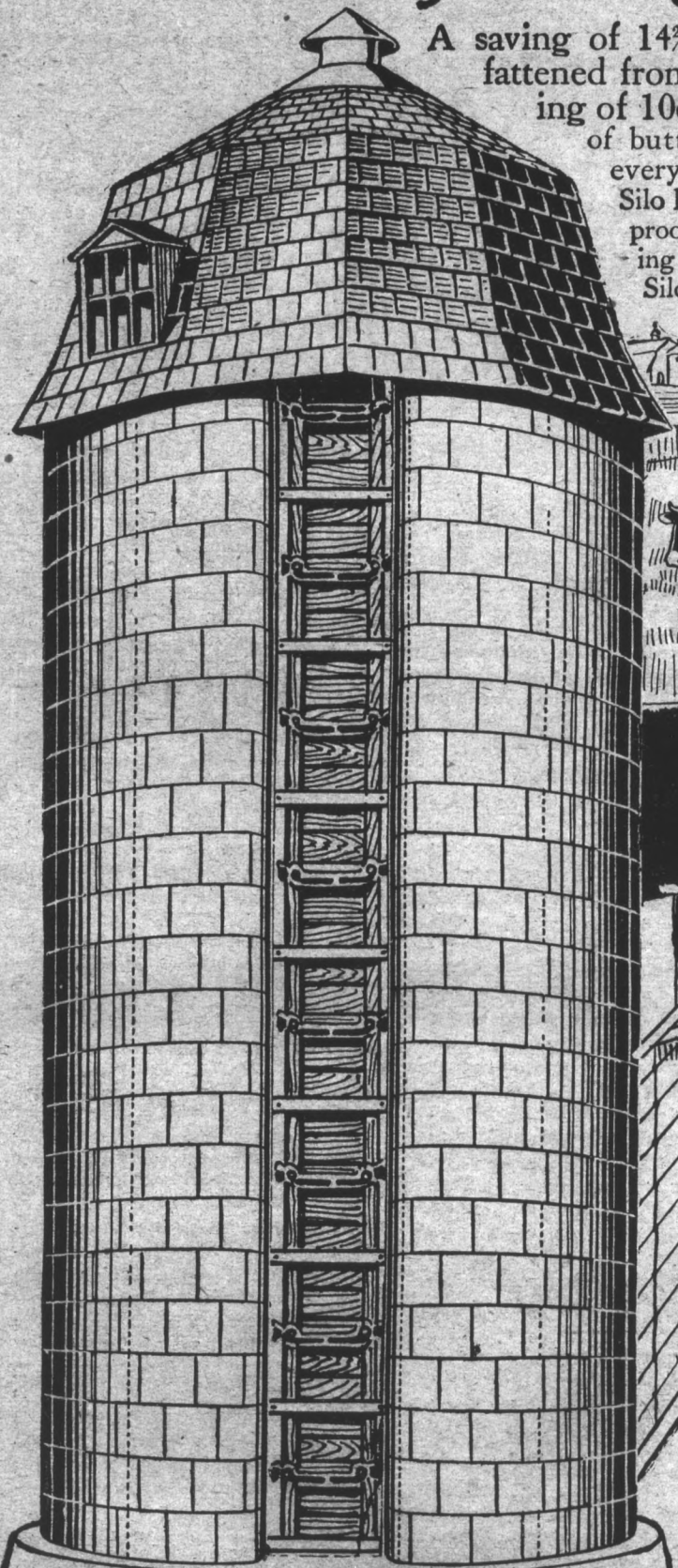
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Kalamazoo

Tile and Wood Silos

The Gateway To Big Farm Profits

A saving of 14% acres on every carload of steers fattened from the KALAMAZOO Silo. A saving of 10c on the production of every pound of butter, 40c on 100 lbs. of milk, and \$1.50 on every 100 lbs. of beef produced by use of the Silo last year, are only a few of the many positive proofs produced by government authorities during the food shortage, showing the KALAMAZOO Silo to be the real Gateway to Big Farm Profits.



GLAZED TILE



WOOD STAVE

The Silos of Proved Value

The first patent ever issued on a Silo was awarded the KALAMAZOO 29 years ago. Ceaseless vigilance by our expert Silo engineers has secured every Silo improvement worthy of KALAMAZOO adoption. If it is worth having, the KALAMAZOO has it. You buy positive service, not a mere experiment, when you buy a KALAMAZOO, whether it be of Glazed Tile or Wood Stave. KALAMAZOO science and brains and skill have concentrated on this one feature—the SAVING quality of the KALAMAZOO Silo. It is 100% RIGHT.

The Superior Glazed Tile Kalamazoo

Every block with three "dead air" spaces. A nearly perfect non-conductor of heat and cold. Every mortar joint made air-tight by our special interlocking and "keying" construction, making the mortar and the block dove-tail together. The strongest joint known. The only REAL Silo Block joint.

Glazed Tile blocks are absolutely moisture-proof. Keep out the moisture, wind, heat and cold. Keep in the natural juices of the silage. Walls reinforced with flat, galvanized hoops that lie flat in cemented groove at top of every third tier of blocks. A silo that will not decay, warp, twist, collapse or blow down. Fire-proof, frost-proof, needs no paint or repairs. Will last for generations.

Wood Stave Silos

Choice of four of the most enduring and wear-resisting woods. Staves machined with deep grooves and long tongues, insuring not only great rigidity during all seasons of the year, but forming a perfectly air-tight joint. End joints of staves air-tight by "splines" accurately fitted. Both wood and tile Silos fitted with continuous door frames, made of heavy, galvanized steel. Insures perfect fitting of doors, saving of ensilage and best of satisfaction.

Order Today--Pay Later

Our easy payment plan allows you the advantage of the early buyer and the cream of our Service. We can ship the tile or the staves for the Silo now and you can put it up at spare times. Save delay, avoid freight tie-ups, play safe and save your ENTIRE crop for 1920 with a KALAMAZOO.

Write Today for Catalog and Terms

Let us tell you the whole story of KALAMAZOO greatness in our finely illustrated Catalog. You cannot afford to buy ANY Silo until you investigate the KALAMAZOO, the world's first and the world's standard today. Also Kalamazoo Ensilage Cutters. Special inducements to dealers. Write for particulars. Send us your name today. KALAMAZOO TANK & SILO CO., Dept. 2235 Kalamazoo, Mich.

Start Your Son In Business

Keep Him
On the
Farm!

WE HAVE started hundreds of men—farmers and farmers' sons—in the big-money business of ditching. No end to the work to be had. No real limit to the profits!

Right in your locality—spare time or full time—you can do what others are doing everywhere. That means net earnings of five thousand dollars a year or more. It means a business of your own *with work always waiting*. It means interesting work that is easy and requires no experience.

We will show you how to do this with a

"A Perfect Trench at One Cut" BUCKEYE Traction Ditcher

This ditcher cuts through frost and hardpan. It gives you 100 to 150 rods of ditch each day—every foot clean, smooth, true to grade and ready for tile. Furnishes its own power. Operates well in swampy land.

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Write us today. Tell us the soil conditions in your vicinity and average depth of ditching. We will then send you a free copy of our big book, "Dollars in Ditches." And our service engineers will tell you the exact size ditcher you need. They will show you how to get started *right*—show you how others make big money—and how you can make it too.

Hundreds of Letters Like This

"I excavated a trench 16,000 feet long, average depth 25 inches. I received 1c per lineal foot, or \$160 for the job and operated the machine just 48 hours. The manager of that company had a length of 2,200 feet which he said would hold me down for the day. I just laughed at him, tightened the governor to gain speed and in 2 1/2 hours had the job done. Average of 800 feet per hour for the 2 1/2 hours at 1c per foot is \$8.00 per hour."

JOHN C. OFFER, SANDUSKY, O.

Write today for full details. No obligation.

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Ditcher Co.**

364 Crystal Ave., Findlay, O.

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Special Book of
Plants that Grow

WRITE NOW!

Order your 1920 ornamental fruits and trees and plants now. Your order reserved at present prices, and shipped in time for spring planting. For 75 years we have been known for "Plants That Grow," and fair dealing. Express or freight paid anywhere east of Miss. River on order of \$3 or more.

Peter Bohlender & Son
SPRING HILL NURSERIES
TIPPECANOE CITY (MIAMI COUNTY) OHIO

GOOD SEEDS

GOOD AS CAN BE GROWN
Prices Below All Others.

I will give a lot of new sorts free with every order I fill. Buy and test. Return if not O. K.—money refunded.

Big Catalog FREE

Over 700 illustrations of vegetables and flowers. Send yours and your neighbors' addresses.
R. H. SHUMWAY, Rockford, Ill.

STRAWBERRY PLANTS THAT GROW

For thirty consecutive years this booklet has been distributed among an ever widening circle of friends and customers. It fully describes the best Fall-Bearing and June Varieties of Strawberries, including "THE EATON", a new variety we are now introducing. We think it is superior to any Strawberry ever grown, and will soon be classed among the Standard Varieties. You must try a few this Spring without fail. We also list a full assortment of Raspberries, Blackberries, and other Small Fruits. Send for your copy of Catalog, Today.

C. E. WHITTEN & SON,

Box 14, Bridgman, Mich.



BALDWIN OF BRIDGMAN.

Any one who knows will tell you that Michigan is a great Fruit Growing state. All varieties grown in any of our Northern States do remarkably well in Michigan. Climatic and soil conditions are ideal—Berry Plants grown in Michigan are best—better still when grown on New Ground—Baldwin grows them that way.

Nothing better than berries and small fruits to preserve health and maintain happiness during these reconstruction days. Our plants are true to name. All free from diseases. All northern grown on new rich ground, producing strong, healthy, large, heavily rooted plants. Millions of them, as good as ever were grown, offered our customers this year. We have had a wonderfully successful growing season.

Baldwin's Berry Plants

produced by Baldwin himself, are sure growers. Every grower or prospective customer, large or small, may have our big handsomely illustrated and thoroughly descriptive Berry Book. It contains valuable information, showing how to plant and produce successfully, delicious fruit from Baldwin's Berry Plants. It explains how to have the earliest berries in the Spring and the latest berries in the Fall. For home garden or market purposes, for pleasure or for profit. Baldwin will show you the way. Start right. Write tonight.

O. A. D. BALDWIN
R. R. 16
Bridgman, Mich.



EVERBEARING STRAWBERRY

Our free Catalog describes and illustrates a full line of choice small fruit plants.

SEND FOR IT
J. N. BOKELY, R. 1, Bridgman, Mich.

TREATING GREEN FENCE POSTS.

Can I treat green sawed fence posts successfully with a creosote preparation? I was wondering if the creosote would hold the sap in the wood and make it rot. Is creosote better to treat posts with than coal tar?

L. J. McF.

Green fence posts, either sawed or round, will not take creosote. It is not at all a matter of the creosote holding the sap in, but rather the opposite of the sap holding the creosote out.

All fence posts should be well air-seasoned in open crib stacks where both air and sun can play around them for several months before they are given any kind of treatment. They should have all bark removed.

The moisture content of timber should be reduced to the lowest possible amount before it is either painted or preserved, because moisture in the cells provides encouragement to the organisms that produce decay.

Creosote is the best of the coal tar products for general fence post preservation work. Coal tar forms a thick sheet over the outside of the wood, but does not penetrate into the cells. It therefore becomes a surface protector but in no way a preserver of the woody structure. And when cold will crack and knock off leaving the wood beneath exposed to infection.

For most effective treatment with creosote, the post should be plunged into the hot bath and allowed to remain for several hours.

Farmers' Bulletin 744 by the United States Department of Agriculture, Washington, D. C., covers the subject in all the processes.—F. H. S.

LIME FOR GRAPES.

Is ground limestone good for a grape vineyard?

SUBSCRIBER.

Ground limestone can be used with a profit on a vineyard, provided the land is naturally deficient in lime, as most of our land is. Due to the fact that our vineyards are cultivated every year there is a very rapid leaching of this material. Probably at least five to seven hundred pounds per acre will be lost every year. This will necessarily have to be replaced. It will also be found profitable to use stable manure reinforced with phosphates. If stable manure is not used, supply the phosphates together with about seventy-five pounds per acre of nitrate of soda during May when the new growth is well started. It will also be found profitable to sow crimson clover the latter part of July or the fore part of August, or rye and vetch the last of August to be plowed under the following May as a green manure crop. This will aid materially in keeping up the organic matter in the soil, which in turn will increase the water-holding capacity of this land. The moisture content of the soil has a direct bearing on the results you will get from the use of all kinds of fertilizers.—D. W.

FEEDING VALUE OF TANKAGE.

Will you kindly explain fully what tankage is, and what is its feeding value for hogs and cattle?

Montcalm Co.

E. K. H.

Tankage is the waste product of slaughter houses which is composed of dried blood, scraps of meat, lungs, some livers and any other offal or waste product that is not suitable to be used for human food. This is all cooked under steam pressure, the grease removed and the meat scraps ground in form of meal and then placed on the market. High-grade tankage contains sixty per cent protein. The grain food which contains the largest per cent of proteins is cottonseed meal and the best of that only contains forty per cent, consequently tankage is a valuable food to feed in connection with corn for growing fattening pigs. Many of our best hog feeders feed tankage and corn and put each in a

self-feeder, the hogs will eat about the right proportion to make a balanced ration. A good many experiments have been made in feeding hogs and nothing yet has been found to produce a greater or more economical gain than corn and tankage.

Tankage is not nearly so good to feed to cattle, because they do not like it and will not eat it unless they are compelled to do so.

C. C. L.

POTASSIUM PERMANGANATE FOR COLDS.

I have seen in your paper several times the advice to give chickens potassium permanganate for colds. Will you please give directions for dose? How much to five quarts of water? Please reply at once, as I have lost some, and am greatly worried over my flock.

Saginaw Co.

Mrs. G. F.

In using potassium permanganate in the drinking water as a preventive of colds it pays to make up a stock solution and whenever the birds are watered enough of the solution is added to the water to give it a deep purple color. About an ounce of potassium permanganate to four gallons of water is usually recommended. But in making up a stock solution it is only necessary to dissolve a couple ounces in about two quarts of water and then a little can be added to each dish of drinking water just before placing it in the poultry house. The hens do not like drinking water which is colored as well as clear water and many of them will not drink it until they become very thirsty. Its value is in preventing the spread of colds in a flock where some of the birds have been afflicted. When a large number of hens all drink from the same pail the danger of a rapid spread of an epidemic is very apparent. The use of the disinfectant in the water is of great value in reducing the danger of colds spreading in a flock where the trouble has already appeared. We do not believe in using permanganate of potassium in the water for a flock if they are free from colds. It may act as a preventive but its use hardly seems necessary and it often reduces the amount of water that the birds will drink.

R. G. K.

COLONY BROODER HOUSE.

Have seen the picture of a colony house in the Michigan Farmer and intend to have one built. How large a house do I need for 200 chicks, or possibly 250, if I had an unusually good hatch?

Wayne Co.

B. M.

A colony house eight feet deep and ten feet wide will be large enough for a coal-burning brooder stove that will protect about 200 or 250 chicks. The stove can be placed slightly to one corner of the house away from the window so there will be a cooler place near the window where the chicks can scratch. They must have a chance to get away from the heat of the stove in order to develop strength and vigor. Double colony houses are sometimes used for this purpose. One room is heated and the other cold for an exercise room. Colony houses larger than eight by ten are difficult to move. It pays to build any kind of a colony house on strong skids to make moving easy. Have the skids high enough so rats and weasels cannot hide under the house. Build a strong floor in the house as a double insurance against pests.

An eight by ten house will be large enough for all the chicks until time to cull out the broilers. Shortly before that time the stove can be removed and portable roosts installed in the house. After the broilers are sold the house will usually be large enough to protect all of the pullets at roosting time until they are ready to be removed to a laying house in the early fall.

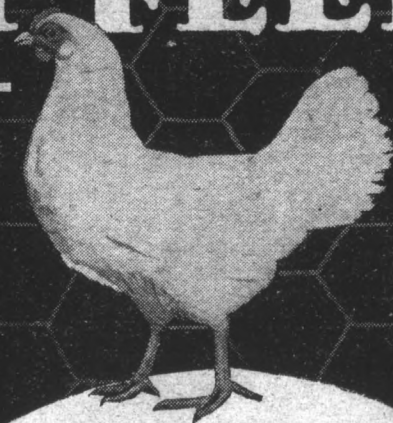
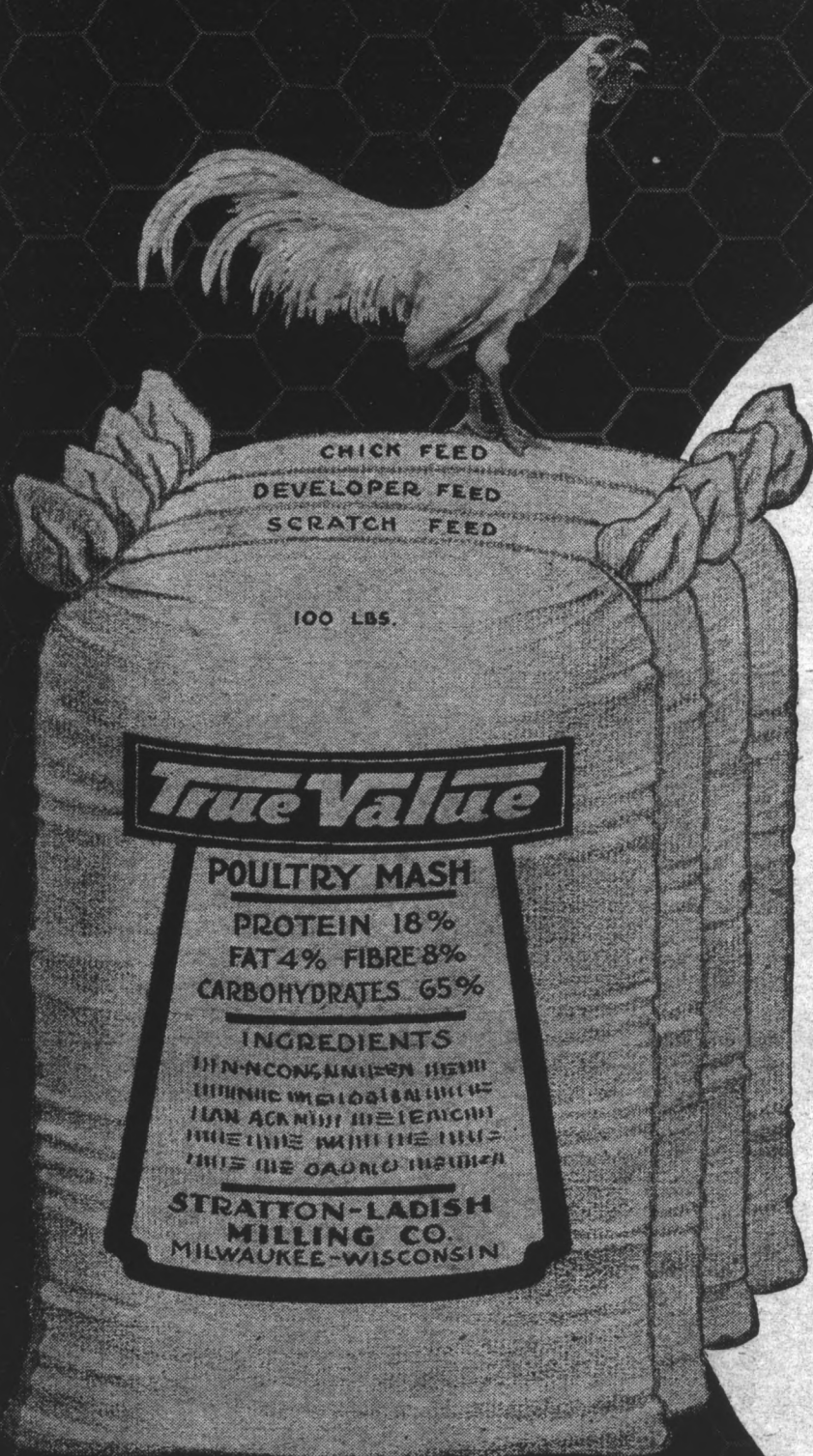
R. G. K.

Strawberry plants, 300 early to late, \$1.00, post-paid. Catalog of plants and trees free. L. G. TINGLE, Box 77, Fittsville, Md.

True Value

POULTRY FEEDS

CHICK - DEVELOPER - SCRATCH - MASH



A Big Egg Harvest

The flock that lays through the winter months brings the harvest of profits. Wise poultrymen know that there is but one way to secure such a flock. Fowls must be bred, selected and fed for egg production.

True Value Poultry Feeds

solve the feeding problem. Each one of these highest quality poultry feeds is prepared, balanced and exactly proportioned for its especial purpose.

TRUE VALUE CHICK FEED meets the exact needs of the little chicks up to six or eight weeks. **TRUE VALUE DEVELOPER FEED** brings them through to early maturity in the fall. They begin to lay early.

TRUE VALUE SCRATCH FEED scattered in the litter and **TRUE VALUE POULTRY MASH** kept in the feeding hoppers all through the winter, complete the feeding program—The **TRUE VALUE** program that insures the egg harvest.

For egg production hens must be given feeding elements that go into the composition of yolks, whites and shells in proper proportion. If one element is lacking, there will be no eggs. This is why an exactly balanced ration is absolutely necessary.

TRUE VALUE SCRATCH FEED is made up of pure, clean products: wheat, corn, barley, Kafir corn (Milo maize), buckwheat, oats and sunflower seed—no weed seeds, dirt or any foreign matter. It is all egg making material in correct percentage.

TRUE VALUE POULTRY MASH has a high protein content and is balanced with equal care from wheat bran, wheat middlings, corn meal, linseed meal, alfalfa meal, gluten feed, ground oats and meat meal.

There never was a feeding program worked out more carefully for the winter egg harvest than this **TRUE VALUE SUCCESSION**. We have proved it.

Ask your dealer for **True Value Poultry Feeds**. If he hasn't them yet, write for advice and information about how to get them at once.

Address Dept. C

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MILWAUKEE WISCONSIN

Feed fresh feed— ground daily

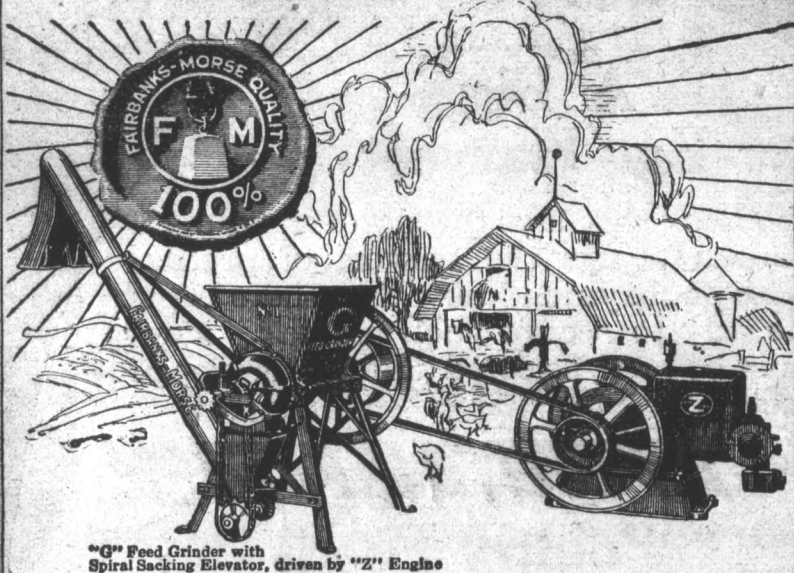
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Send for the FREE "HOLDEN" Litmus Soil Papers. If the test paper turns "pink" after being covered with the soil—it is a sure sign your soil is sour.

LIME SWEETENS SOUR SOIL
Soil must be sweet to raise big crops. Each season's crop removes plant food and lime from the soil. Spread lime to sweeten it.

HOLDEN

LIME and PHOSPHATE DISTRIBUTOR

Attaches quickly to any wagon. No holes to bore. Slips between cleats of endgates. Handles wet or dry limerock or phosphate. Patented Auger Force Feed spreads 16½ ft. wide, TWICE AS WIDE AS ANY OTHER. Handle material only once, from car to field.

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Bowl is a sanitary marvel and embodies all our latest improvements. Our Absolute Guarantee Protects You. Besides wonderfully low prices and generous trial terms, our offer includes our—

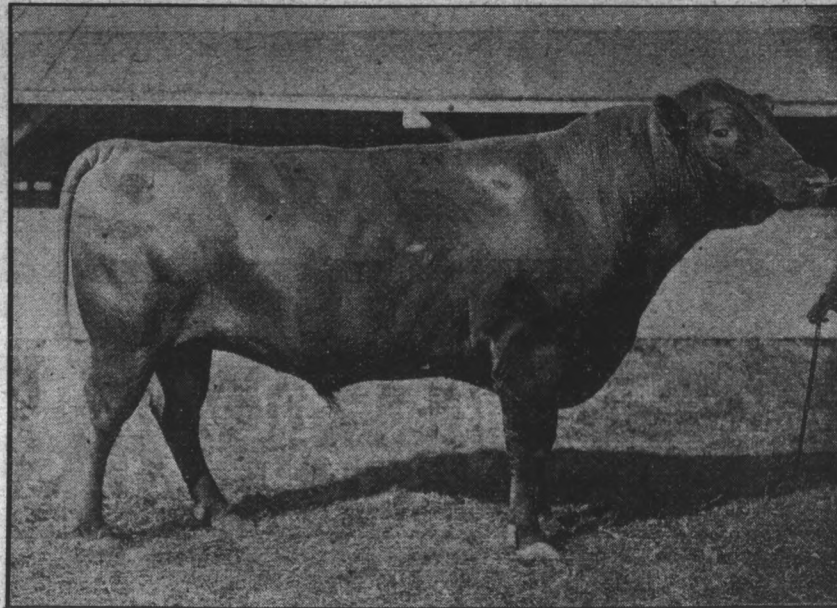
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Grand Champion Red Polled Bull, Michigan State Fair. Owned by W. W. Kennedy, Jackson County, Michigan.

ARRANGEMENTS FOR A COW STABLE.

I am making plans to build a stable for cattle and young stock. I want to use concrete blocks, using about thirty feet of the side of my hay and grain barn. My present stable is sixteen feet off the end of my barn and the proposed structure is to take in this sixteen feet and fourteen feet. I want this wide enough to accommodate two rows of cattle and long enough for about thirty head. Would you advise me to have the stable built so that the two rows of cattle would stand facing each other?

Saginaw Co.

H. M. M.

One can suggest only in a very general way arrangements for a cow stable. Perhaps there is no best way. That is, no one way would be absolutely superior to another. One way would have certain advantages and another way would also have advantages and one must also make his plans to suit to his location and his conditions and also his ideas.

Personally I would prefer to have the cows face out and have alleys wide enough between the two rows so that one could drive through with manure spreader or manure truck and load the manure directly on to the truck so that it can immediately be hauled out to the field. This plan reduces to a minimum the cost and labor of handling the manure, which is one of the most expensive propositions on a dairy farm.

I prefer to have the cows face away from each other, because I think you can give them better air to breathe. I don't like the idea of cows breathing directly into each others faces. If you put in the King system of ventilation and have the cows faced out, they breathe the fresh air from outside directly as it is passed into the feeding alley.

The feeding alley should be wide

enough so that you can run an ensilage truck down the alley, in feeding ensilage. Have a building wide enough to properly install the above plan. It should be at least thirty-six feet wide. This may be rather wide for a lean-to roof, but it can be done. This plan would not be quite as handy to feed ensilage from your silo because for the one row of cattle the ensilage would have to be trucked across one end of the barn, but if you put in a milking machine it is much handier to milk with cows arranged this way than to have them face each other.

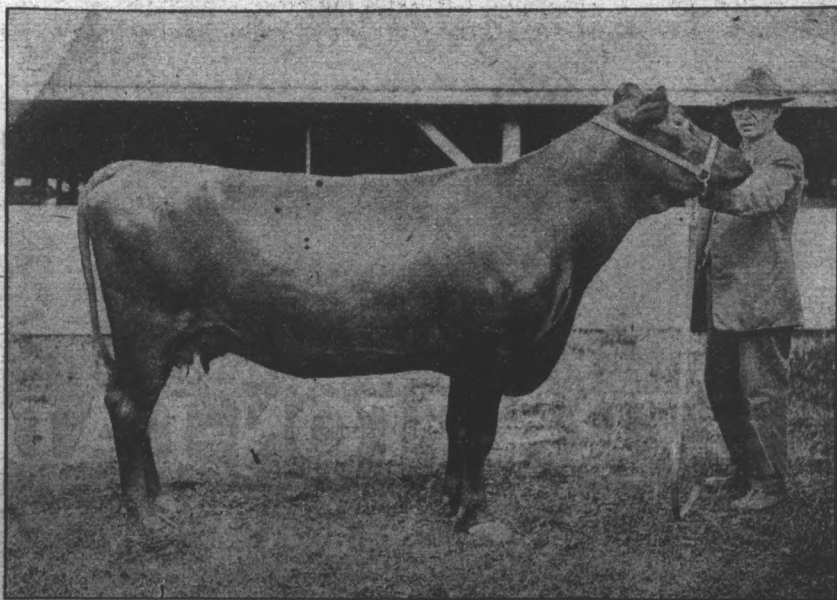
If possible I would have stanchions, so that the mangers can be moved to lengthen or shorten the stalls to conform to the size of the animals. The cows ought to be lined up to the gutter and not to the manger, if you want to keep them clean.

A stable eight feet in the clear will be sufficient. I would have the posts on the back side of the stable at least twelve feet long so as to have plenty of capacity for straw, when you blow the straw from the threshing machine in such a mow there is little chance to pack it and it will fill up pretty fast. You ought to provide plenty of room for it, and it will cost but little extra at time of building.

C. C. L.

The sugar crop of British Guiana is now estimated to be twenty per cent less than that of last year. The production of 1918 was 107,560 tons. If this forecast is correct the sugar available for export will not exceed 75,500 tons.

Maple sugar and syrup production in Quebec in 1919 was 12,157,498 pounds, against 10,173,622 pounds in 1918. The production of maple syrup in 1919 was 1,765,371 gallons, against 2,314,420 gallons in 1918.



Grand Champion Red Polled Cow, Michigan State Fair. Owned by W. W. Kennedy, Jackson County, Michigan.

The Right Fertilizer For Your Farm

Your experiment station will tell you that a fertilizer is valuable only for the plant food it contains, and the higher the analysis, the cheaper the plant food per pound. The ton price of fertilizers means nothing without the analysis.

Our problems are similar—your expense is the same per acre for plowing, seed, cultivation, etc., whether you harvest a big crop or a small crop. Our expense (which is in the price the farmer pays for fertilizer) is the same for labor, repairs, freight, bags, etc., whether the ton contains a large amount or a small amount of plant food.

The larger your yield, the lower your cost of production per pound. The more plant food we put in a ton the lower our cost for each pound. You Get The Advantage of Our Saving.

High analysis fertilizers are always made from high grade plant food materials. Swift's Red Steer Fertilizers, containing 14% or more of plant food, are the most economical for you to buy.

Swift & Company's reputation for making every product the best of its kind is back of every bag on which the Red Steer appears. This reputation is worth much to you, yet it costs you nothing.

Buy Swift's Fertilizers and Haul Now

Swift & Company, Dept. 42

Baltimore, Md.; Harrison Station, Newark, N. J.; Cleveland, O.; Chicago, Ill.; National Stock Yards, Ill.; So. St. Joseph, Mo.; So. St. Paul, Minn.

Just what you want

The most productive fertilizer at the lowest cost per pound of plant food.

Ammonia to promote a quick start, produce leaves and stalks and give vigor to the plants.

Phosphoric acid to encourage root growth, give strength to the plants and hasten maturity.

Potash to stiffen straw and stalk and promote cellular growth.

The largest yields per acre and per man.

Greater returns on your investment in land, buildings, and machinery—your investment is the same for a large or a small crop.

Certain delivery. Our many up-to-date plants to draw from offset possible local strikes and car or labor shortages.

The best investment you can make.

You get it in Swift's Red Steer Fertilizers containing 14% or more of plant food

"IT PAYS TO USE THEM"

Make It Easy for The Boys

In barns that are James equipped, the work is not too great even for children's strength. JAMES Equipment makes barn work easy.

Cleaning The Barn

The easy running James Carriers turn the disagreeable, dirty task of cleaning out the barn into a near-pleasure. They make a boy's job of what used to be shirked by all—and are an investment that pay profits of 25% or more a year in labor saved.

James Scrapers make quick work of cleaning cement floors; the James Stanchions, with the James Alignment Device, keep the stalls and cows clean, by aligning the cows at the rear, so that manure falls in the gutter and not on the platform.

Feeding The Cows

The easy way of feeding the cows is the Jamesway—the James Feed Truck or Feed Carrier, and James Feed Mangers. Rolling easily along the track or on the cement floor, the James Carrier or Truck make unnecessary the lifting of heavy baskets filled with feed. With their big, roomy tubs they save much walking to and from the feed rooms, and in a short time pay for themselves in labor saved.

Watering The Cows

What a job this used to be in winter time—keeping a fire going in the old time tank heater, or breaking the ice in the tank so that the cows could drink.

And how they hated to drink—with the north wind howling, the snow or sleet driving, and the drinking water icy cold.

No wonder the milk yield dropped in winter time—for feed that should have gone to make the milk was used to warm the cow, and the water needed to make milk was never drunk.

James Drinking Cups have changed all that. A sanitary cup for each cow provides fresh water day and night. It flows in automatically as fast as the cows drink.

Water—the simplest means of increasing milk yields—is often disregarded by dairymen. Those who realize how greatly milk flow is increased by James Cups are reaping huge profits on their investment.

Reports based on milk records of 28 herds (739 cows) for instance, show an average increase per cow per day of 2.45 lbs. This is 490 lbs. in 200 days, which at \$3.50 per cwt. totals \$17.15; with a saving of \$2.50 per cow in labor and 55c in fuel. That's a profit of 400% the first year.

Other reports and other investigations confirm these figures. Ask us for the proof. Then get James Cups busy right away making these big profits for YOU.

"Airing" The Cows

Pure air is just as necessary to life and production of milk as feed and water.

And a cow needs TWICE the weight of AIR per day that she does of feed and water combined.

Do your cows get enough pure, fresh air?

Food, water and air. The feed costs money—lots of it. But water and air are

free—the only expense is getting them to the cow, and that amounts to very little.

The James Ventilators help get the foul air out of the barn, help bring the fresh air in to the cows. Ask for full information regarding these wonderful ventilators and about the James Ventilating System.

Other Work-Saving James Devices

There are many other James devices that save labor, increase milk yields, help sanitation and improve cow health, such as Cow, Calf and Bull Pens, Feed Mangers, Calf Pail Holders, Sure-Stop Swinging Post, Swinging Cranes, "Safety

First" Bull Staff, Handy Milk Stools, etc.

Also equipment for the hog barn, horse barn and beef barn:

The James Way Sunny Hog Barn provides sunshine and sun warmth on the floor of every pen two-thirds of the sunlit hours. The James Hog Barn Book, sent on request, tells all about it.

Free Dairy Barn Book

The 336 page book—"The Jamesway"—tells all about the James inventions that save so much of labor, prevent spread of disease, promote better cow health, protect against dangerous bulls, make simpler the care of calves and sick cows, and increase milk yields.

Easy Installation

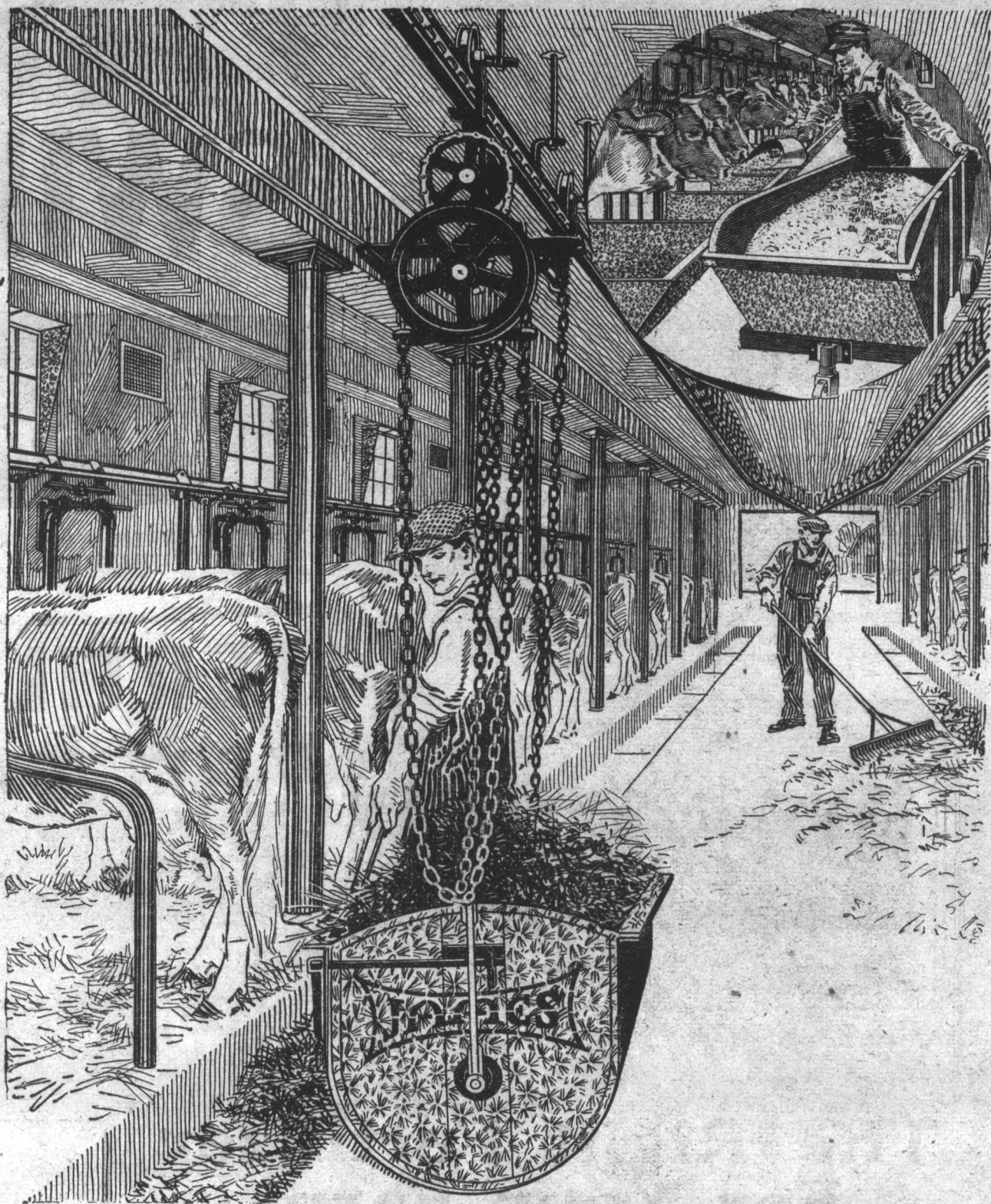
It explains the easy way of putting up carriers, setting up stalls and pens and attaching drinking cups.

Skilled help is not required, because of the ingenious James Anchors and because the equipment is assembled at the factory.

Barn Plan Service

It tells about James Barn Plan Service; the many James barn experts who are at your service—men who know what has been successful and what has not, what not to do as well as what to do in planning convenient, money-saving barns.

Their advice on barn planning, ventilation and other barn problems is free, with no charge for floor plans. Send for the book—a postal card request will bring it—get the full details of how to build a barn, how to ventilate a barn, how to cut the barn work in half, how to make more milk—and more money.



James Mfg. Co., Ft. Atkinson, Wis., Elmira, N.Y., Minneapolis, Minn.

The James way

Labor Saving Equipment for the Dairy Barn

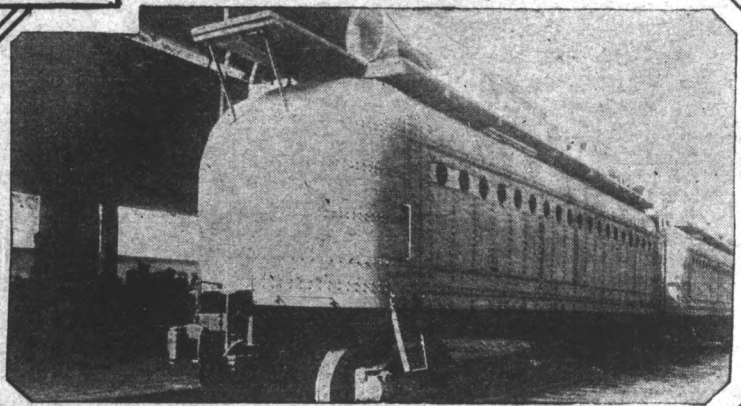
WORLD EVENTS IN PICTURES



Group of Osage Indians in Washington to confer with officials on leases of oil and gas rights on Indian reservations.



America contributes these dainty trimmings of organdie to the list of forthcoming spring fashions.



Steel armored cars built for use in the bandit infested districts of Mexico, by California company.

Group of passengers rescued from the crippled steamer Powhatan by the transport Northern Pacific, off the Atlantic Coast. This was one of several vessels to suffer extensive damage in recent severe ocean storms.



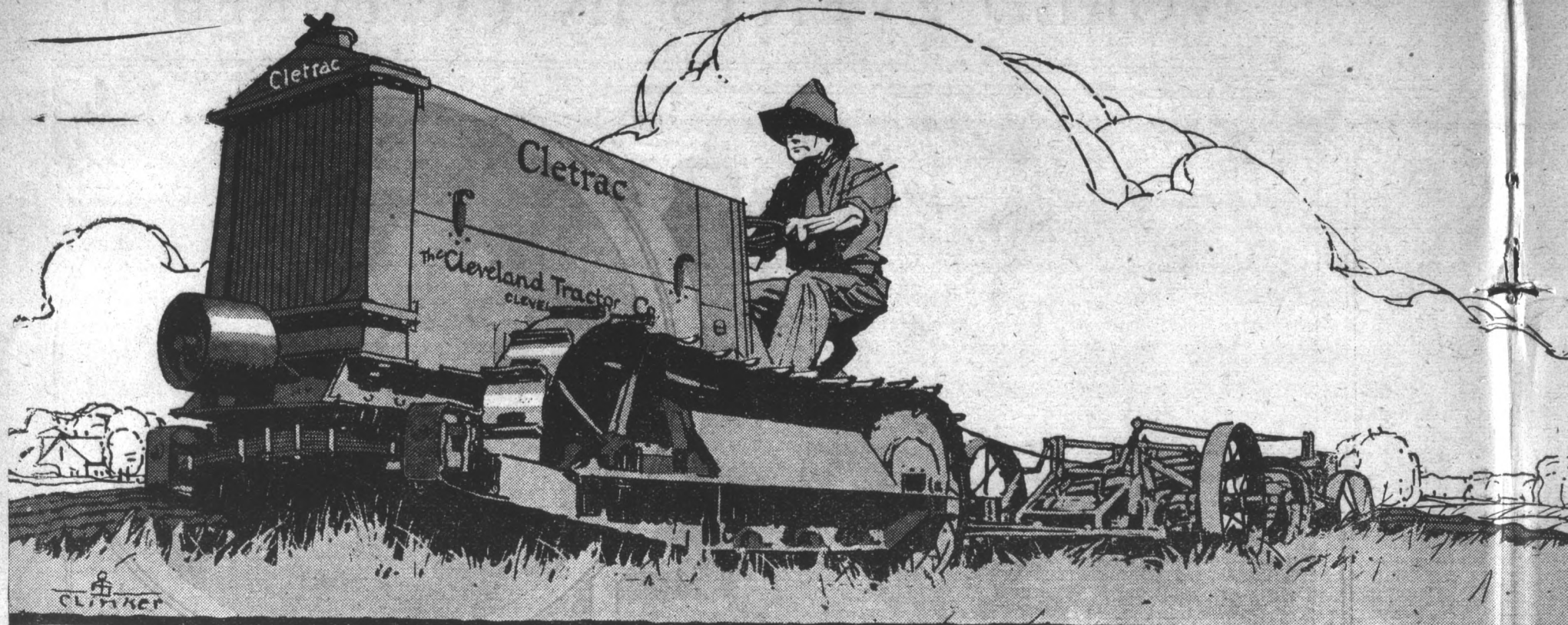
E. T. Meredith of Iowa, prominent publisher, who is selected by President Wilson to succeed Mr. Houston as Secretary of Agriculture, the latter having been transferred to the Secretaryship of the Treasury.



The remarkable make-up of Ralph Ince as "Abraham Lincoln," in "The Land of Opportunity," the first production of a number of photo-plays to promote Americanization work.



The last detachment of the American Expeditionary Force to arrive in this country marching up Fifth Avenue, New York, and their commander, Brig.-General D. O'Connor, shown in the insert



ADDED POWER ♦ SAME WEIGHT ♦

The Cletrac Way Makes Farming Pay

The Cletrac's Day Is Here

The tide has turned. The *big* demand today is for the small tank-type tractor—for the Cletrac—that goes further than the simple job of plowing and takes the place of horses over plowed ground and seedbed, working faster and at lower cost.

It wanted only the marvelous success of the Cletrac in 1919 to make the bulk of farmers *everywhere* put their "OK" on the small tank-type. And now because the Cletrac is the "fashion"—because a greatly increased output, means a lower manufacturing cost—we can offer a better Cletrac and still reduce the cost to you.

With more power and improved construction, 1920 will prove to any farmer, anywhere, that Cletrac farming is *profitable* farming.

The Cletrac is the right size and type for almost any farm, the one tractor adapted to all conditions. It has proved its ability to stand up to its work. And now that the public has recognized its worth, it is out in front to stay.

The quick popularity of the Cletrac is not an accident. Engineers and army experts long ago saw the great advantages of the endless track as a device for turning motor power into drawbar pull. The farming public only waited to see the same principle built into a *serviceable* small tractor. The Cletrac proved to be that tractor. It made lifelong friends from the start.

One Cletrac on the small farm—a "fleet" of them on the big ranch—makes an ideal all-year power plant. The Cletrac is light, but powerful, with plenty of pull for heavy plowing and work in the hills. And it rides the low spots or plowed ground without miring, but still pulls a profitable load.

Turns short and works the corners clean. Compact and low-set, ideal for orchard work. Travels faster and does more thorough plowing. Burns "gas", kerosene or distillate. Does *more kinds of work, more days in the year*, at lower cost. You can't go wrong on it.

The Cleveland Tractor Co.

19021 Euclid Avenue
Cleveland Ohio

*Largest Producers
of Tank-type Tractors
in the World.*

*"Selecting Your Tractor" is a book you should have right away.
The Cletrac dealer has one for you, or we will gladly send one free.*

Cletrac

Name _____
 Post Office _____ State _____
 R.F.D. No. _____ Size of farm _____ Acres _____
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The Tide has turned to the
 Small Tank-type Tractor—

The Cletrac has made so
 many friends that increased
 output lets us lower the price—

LOWER PRICE

from
 \$1585.00
 to \$1395
 f.o.b. Cleveland

In the improved Cletrac you get all the little refinements an honest builder makes with each year of brass-tack experience. And you get certain big features that make it a better performer than ever.

A bigger motor and the added strength to handle the increased power are furnished with no extra weight and no more friction, saving you *all* the power we've added.

The new 8-inch track—one-third wider—means a lighter tread and stronger grip on the ground—makes the Cletrac that much more sure-footed and adds to the life of the tractor itself.

The Cletrac steering device, an exclusive feature, insures positive power to *both* tracks *all* the time and gives full power on the turns, as well as straightaway.

Our new water clarifier takes out all the dust that would grind your pistons and overheat your motor—moistens the air and makes the engine run as smooth at noon as your auto on a dewy night.

Here is a tractor, always a vote-getter, now more powerful, now better built, and costing you less. No wonder the best tractor dealer in your community wants to handle it. A tractor that makes friends for itself makes satisfied customers for him.

Right through the year—hauling manure in the Winter—plowing, harrowing and seeding in the Spring—harvesting, threshing and silo-filling—road-building, ditching and grading—shelling corn and sawing wood—here's a tractor you can depend upon.

It's a tractor that has all-year service built into it, one that cuts farming costs by handling *all* jobs well, not just a few. And over 1200 distributors and dealers, with repair stocks near you, are backing it up to make every Cletrac owner a booster.

There's a good dealer close by who will gladly show you a Cletrac. Talk to him now. Get ready to start Cletrac farming this Spring. Line up with a majority and make power-farming really worth while.

More Kinds of Work
 More Days in the Year

Send in the coupon, or see the Cletrac dealer at once.
 Don't wait until Spring work starts—get ready now.

The Cleveland Tractor Co.

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 TRACTOR

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HALF of life is the pleasure you get out of it. If you haven't plenty of music in your home, then you are not living as well as you should. By adding music you can live better—be happier—and we offer you the chance to obtain the best value through buying direct from our factory.

Cornish

Pianos, Phonographs
and Player Pianos
High Quality Best Value

EVERY Cornish instrument is made of first quality materials by skilled craftsmen, some of whom have been with us over thirty years.

Tone and lasting qualities are in-built and that is why we can offer a

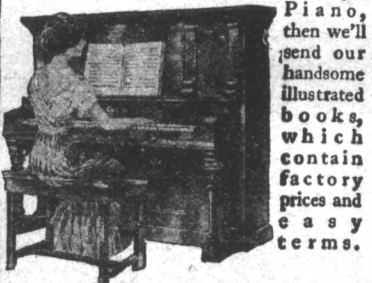
Free Trial

The best way in the world to decide on a musical instrument is right in your own home, where you can submit it to severe tests and prove its tone and quality beyond question. Then you may buy on easy terms.

The Cornish plan is very liberal. Not only do we send any instrument you select for free trial but, if you don't like it, you may send it back at our expense. The trial won't cost you anything.

Send for Book of Beauty

Write today and say whether you are interested in a Phonograph, Piano or Player Piano.



then we'll send our handsome illustrated books, which contain factory prices and easy terms.

Cornish Co. Dept. Washington, M. F. New Jersey

57 Years' Reputation
250,000 Satisfied Customers

25 Cords a Day

Easily Sawn By One Man. Easy to move from cut to cut. Make big profits cutting wood. Cheap and easy to operate.

OTTAWA LOG SAW

Does 10 men's work at one-tenth the cost. Makes work easy. Engine can also be used for running pumps and other machinery. Saw blade easily removed. Write for our low price. Cash or Easy Payments.



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Crooked Trails and Straight

By Wm. MacLeod Raine

Cass sat immovable as the sphinx. He was thinking that he might as well face the charge now as any time. Moreover, he had reasons for wanting to visit the Circle C. They had to do with a tall, slim girl who never looked at him without scorn in her dark, flashing eyes.

"All right. I'll go back with you but not under a gun."

"You'll go the way I say."

"Don't think it. I've said I'll go. That settles it. But I won't stand for any gun-play capture."

"You'll have to stand for it."

Fendrick's face set. "Will I? It's up to you, then. Let's see you make me go."

Sitting there with his gaze steadily on the boy, Cass had Bob at a disadvantage. If the sheep owner had tried to break away into the chaparral, Bob could have blazed away at him, but he could not shoot a man looking at him with cynical, amused eyes. He could understand the point of view of his adversary. If Fendrick rode into the Circle C under compulsion of a gun in the hands of a boy he would never hear the end of the laugh on him.

"You won't try to light out, will you?"

"I've no notion of lighting out."

Bob put up his big blue gun reluctantly. Never before had it been trained on a human being, and it was a wrench to give up the thought of bringing in the enemy as a prisoner. But he saw he could not pull it off. Fendrick had declined to scare, had practically laughed him out of it. The boy had not meant his command as a bluff, but Cass knew him better than he did himself.

They turned toward the Circle C.

"Must have been taking lessons on how to bend a gun. You in training for sheriff, or are you going to take Bucky's place with the rangers?" Fendrick asked with casual impudence, malicious amusement gleaming from his lazy eyes.

Bob, very red about the ears, took refuge in a sulky silence. He was being guyed, and not by an inch did he propose to compromise the Cullison dignity.

"From the way you go at it, I figure you an old hand at the hold-up game. Wonder if you didn't pull off the W. & S. raid yourself."

Bob writhed impotently. At this sort of thing he was no match for the other. Fendrick, now in the best of humors, planted lazily offhand barbs.

Kate was seated on the porch sewing. She rose in surprise when her cousin and the sheepman appeared. They came with jingling spurs across the plaza toward her. Bob was red as a turkey-cock, but Fendrick wore his most devil-may-care insouciance.

"Where's Uncle Luck, sis? I've brought this fellow back with me. Caught him on the mesa," explained the boy sulkily.

Fendrick bowed rather extravagantly and flashed at the girl a smiling double-row of strong white teeth. "He's qualifying for a moving-picture show actor, Miss Cullison. I hadn't the heart to disappoint him when he got that cannon trained on me. So here I am."

Kate looked at him and then let her gaze travel to her cousin. She somehow gave the effect of judging him of negligible value.

"I think he's in his office, Bob. I'll go see."

She went swiftly, and presently her father came out. Kate did not return.

Luck looked straight at Cass with the uncompromising hostility so characteristic of him. Neither of the men spoke. It was Bob who made the necessary

explanations. The sheepman heard them with a polite derision that suggested an impersonal amusement at the situation.

"I've been looking for you." Luck said bluntly, after his nephew had finished.

"So I gathered from our young Jesse James. He intimated it over the long blue barrel of his cannon. Anything particular, or just a pleasant social call?"

"You're in a bad way on this W. & S. robbery. I reckon you would be safer in jail till it's cleared up."

"You still sheriff, Mr. Cullison? Somehow I had got a notion you had quit the job."

"I'm an interested party. There's some new evidence, not manufactured, either."

"Well, well!"

"We'll take the stage into town and see what O'Connor says—that is, if you've got time to go." Luck could be as formal in sarcasm as his neighbor.

"With such good company on the way I'll have to make time."

The stage did not usually leave till about half past one. Presently Kate announced dinner. A little awkwardly Luck invited the sheepman to join them. Fendrick declined. He was a Fletcherite, he informed Cullison ironically, and was in the habit of missing meals occasionally. This would be one of the times.

His host hung in the doorway. Seldom at a loss to express himself, he did not quite know how to put into words what he was thinking. His enemy understood.

"That's all right. You've satisfied the demands of hospitality. Go eat your dinner. I'll be right here on the porch when you get through."

Kate, who was standing beside her father, spoke quietly.

"There's a place for you, Mr. Fendrick. We should be very pleased to have you join us. People who happen to be at the Circle C at dinner time are expected to eat here."

"Come and eat, man. You'll be under no obligations. I reckon you can hate us, just as thoroughly after a square meal as before. Besides, I was your guest for several days."

Fendrick looked at the young mistress of the ranch. He meant to decline once more, but unaccountably found himself accepting instead. Something in her face told him she would rather have it so.

Wherefore Cass found himself with his feet under the table of his foe discussing various topics that had nothing to do with sheep, homestead claims, abductions, or express robberies. He looked at Kate but rarely, yet he was aware of her all the time. At his ranch a Mexican did the cooking in haphazard fashion. The food was ill prepared and worse served. He ate only because it was a necessity, and he made as short a business of it as he could. Here were cut roses on a snowy tablecloth, an air of leisure that implied the object of dinner to be something more than to devour a given quantity of food. Moreover, the food had a flavor that made it palatable. The rib roast was done to a turn, the mashed potatoes whipped to a flaky lightness. The vegetable salad was a triumph, and the rice custard melted in his mouth.

Presently a young man came into the dining-room and sat down beside Kate. He looked the least in the world surprised at sight of the sheepman.

"Mornin', Cass," he nodded.

"Morning, Curly," answered Fendrick. "Didn't know you were riding for the Circle C."

"He's my foreman," Luck explained.

Cass observed that he was quite one of the family. Bob admired him openly and without shame, because he was the best rider in Arizona; Kate seemed to be on the best of terms with him, and Luck treated him with the offhand bluntness he might have used toward a grown son.

If Cass had, in his bitter, sardonic fashion, been interested in Kate before he sat down, the feeling had quickened to something different before he rose. It was not only that she was competent to devise such a meal in the desert. There was something else. She had made a home for her father and cousin at the Circle C. The place radiated love, domesticity, kindly good fellowship. The casual give and take of the friendly talk went straight to the heart of the sheepman. This was living. It came to him poignantly that in his scramble for wealth he had missed that which was of far greater importance.

The stage brought the two men to town shortly after sundown. Luck called up O'Connor, and made an appointment to meet him after supper.

"Back again, Bucky," Fendrick grinned at sight of the ranger. "I hear I'm suspected of being a bad hold-up."

"There's a matter that needs explaining, Cass. According to Blackwell's story, you caught him with the goods at the time of the robbery, and in making his get-away he left the loot with you. What have you done with it?"

"Blackwell told you that, did he?"

"Yes."

"Don't doubt your word for a moment, Bucky, but before I do any talking I'd like to hear him say so. I'll not round on him until I know he's given himself away."

The convict was sent for. He substantiated the ranger reluctantly. He was so hemmed in that he did not know how to play his cards so as to make the most of them. He hated Fendrick. But much as he desired to convict him, he could not escape an uneasy feeling that he was going to be made the victim. For Cass took it with that sarcastic smile of his that mocked them all in turn. The convict trusted none of them. Already he felt the penitentiary walls closing on him. He was like a trapped coyote, ready to snarl and bite at the first hand he could reach. Just now this happened to belong to Fendrick, who had cheated him out of the money he had stolen and had brought this upon him.

Cass heard him out with a lifted upper lip and his most somnolent tiger-cat expression. After Blackwell had finished and been withdrawn from circulation he rolled and lit a cigarette.

"By Mr. Blackwell's say-so I'm the goat. By the way has it ever occurred to you gentlemen that one can't be convicted on the testimony of a single accomplice?" He asked it casually, his chair tipped back, smoke wreaths drifting lazily ceilingward.

"We've got a little circumstantial evidence to add, Cass," Bucky suggested pleasantly.

"Not enough—not nearly enough."

"That will be for a jury to decide,"

Cullison chipped in.

Fendrick shrugged. "I've a notion to let it go to that. But what's the use? Understand this. I wasn't going to give Blackwell away, but since he has talked, I may tell what I know. It's true enough what he says. I did relieve him of the plunder."

"Sorry to hear that, Cass," Bucky commented gravely. "What did you do with it?"

(Continued on page 252).

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CROOKED TRAILS AND STRAIGHT.

(Continued from page 250).

The sheep owner flicked his cigarette ash into the tray, and looked at the lieutenant out of half-shuttered, indolent eyes. "Gave it to you, Bucky."

O'Connor sat up. His blue Irish eyes were dancing. "You're a cool customer, Cass."

"Fact, just the same. Got that letter I handed you the other day?"

The officer produced it from his safe. "Open it."

With a paper knife Bucky ripped the flap and took out a sheet of paper.

"There's something else in there," Fendrick suggested.

The something else proved to be a piece of paper folded tightly, which being opened disclosed a key.

O'Connor read aloud the letter:

To Nicholas Bolt, Sheriff, or Bucky O'Connor, Lieutenant of Rangers:

Having come into possession of a little valise which is not mine, I am getting rid of it in the following manner: I have rented a large safety-deposit box at the Cattlemen's National Bank, and have put into it the valise with the lock still unbroken. The key is inclosed herewith. Shaw, the cashier, will tell you that when this box was rented I gave explicit orders it should be opened only by the men whose names are given in an envelope left with him, not even excepting myself. The valise was deposited at exactly 10:30 A. M. the morning after the robbery, as Mr. Shaw will also testify. I am writing this the evening of the same day.

CASS FENDRICK.

"Don't believe a word of it," Cullison exploded.

"Seeing is believing," the sheepman murmured. He was enjoying greatly the discomfiture of his foe.

"Makes a likely fairy tale. What for would you keep the money and not turn it back?"

"That's an easy one, Luck. He wanted to throw the burden of the robbery on you," Bucky explained.

"Well, I've got to be shown."

In the morning he was shown. Shaw confirmed exactly what Fendrick had said. He produced a sealed envelope. Within this was a sheet of paper, upon which were written two lines.

Box 2143 is to be opened only by Sheriff Bolt or Lieutenant Bucky O'Connor of the Rangers, and before witnesses.

CASS FENDRICK.

From the safety-deposit vault Bucky drew a large package wrapped in yellow paper. He cut the string, tore away the covering, and disclosed a leather satchel. Perry Hawley, the local manager of the Western & Southern Express Company, fitted to this a key and took out a sealed bundle. This he ripped open before them all. Inside was found the sum of twenty thousand dollars in crisp new bills.

CHAPTER XVI.

A Clean Up.

A SLIGHT accident occurred at the jail, one so unimportant that Scanlan the jailer did not think it worth reporting to his chief. Blackwell, while eating, knocked a glass from the table and broke it on the cement floor of his cell. There is a legend to the effect that for want of a nail a battle was lost. By reason of a bit of glass secreted in his bed something quite as important happened to the convict.

From the little table in his room he pried loose one of the corner braces. At night he scraped away at this with his bit of glass until the wood began to take the shape of a revolver. This he carefully blacked with ink brought him by his guard. To the end of his weapon he fitted an iron washer taken from the bedstead. Then he waited for his opportunity.

His chance came through the good nature of Scanlan. The jailer was in the habit of going down town to loaf for an hour or two with old cronies after he had locked up for the night. Blackwell pretended to be out of chew-

ing tobacco and asked the guard to buy him some. About ten o'clock Scanlan returned and brought the tobacco to his prisoner. The moon was shining brightly, and he did not bring a lantern with him. As he passed the plug through the grating Blackwell's fingers closed around his wrist and drew the man close to the iron lattice work. Simultaneously a cold rim was pressed against the temple of the guard.

"Don't move, or I'll fill you full of holes," the convict warned.

Scanlan did not move, not until the man in the cell gave the word. Then he obeyed orders to the letter. His right hand found the bunch of keys, fitted the correct one to the door, and unlocked it according to instructions. Not until he was relieved of his weapon did Blackwell release him. The jailer was backed into the cell, gagged with a piece of torn bedding, and left locked up as securely as the other had been a few minutes earlier.

The convict made his way downstairs, opened the outer door with the bunch of keys he had taken from Scanlan, locked it behind him, and slipped into the first alley that offered refuge. By way of the Mexican quarters he reached the suburbs and open country. Two hours later he stole a horse from an irrigated ranch near town. Within twenty-four hours he had reached the Soapy Stone horse ranch and safety.

After this the plans for the raid on the Texas, Arizona & Pacific Flyer moved swiftly to a head. Soapy Stone and Sam dropped into Saguache inconspicuously one evening. Next day Stone rode down to Tin Cup to look over the ground. Maloney telephoned their movements to the Circle C and to the Hashknife. This brought to Saguache Luck Cullison, Curly Flandrau, and Slat Davis. Bucky O'Connor had been called to Douglas on important business and could not lend his help.

Curly met Sam in front of Chalk-eye's Place. They did the town together in a mild fashion and Flandrau proposed that they save money by taking a common room. To this young Cullison agreed.

Luck, Curly and Dick Maloney had already ridden over the country surrounding the scene of the projected hold-up. They had decided that the robbery would probably take place at the depot, so that the outlaws could get the agent to stop the Flyer without arousing suspicion. In a pocket of the hills back of the station a camp had been selected, its site well back from the trail and so situated that from it one could command a view of Tin Cup.

The owner of the Circle C selected three of his closemouthed riders—Sweeney, Jake and Buck were the ones he chose—to hold the camp with him until after the robbery. The only signal they needed was the stopping of the Flyer at Tin Cup. Then they would come pounding down from the hills in time to catch the robbers before they had got through with their work. Maloney or Curly would be on the train to take a hand in the battle. Caught by surprise, Soapy's gang would surely be trapped.

So they planned it, but it happened that Soapy Stone had made his arrangements differently.

Luck and his riders took their blankets and their traps down to Tin Cup according to agreement, while Davis, Maloney and Flandrau looked after the Saguache end of the business. All of them were very friendly with Sam. The boy, younger than any of them, was flattered that three of the best known riders in the territory should make so much of him. Moreover, Stone had given him instructions to mix with Curly's crowd as much as he could. He had given as a reason that it would divert suspicion, but what he really wanted was to throw the blame of the

hold-up on these friends after Sam was found dead on the scene.

Young Cullison had stopped drinking but he could not keep his nerves from jumping. His companions pretended not to notice how worried he was, but they watched him so closely that he was never out of sight of at least one of them. Soapy had decreed the boy's death by treachery, but his friends were determined to save him and to end forever the reign of Stone as a bad man.

It was one day when the four young cowpunchers were sitting together in Curly's room playing poker that a special delivery letter came to Sam. The others, to cover their excitement, started an argument as to whether five aces (they were playing with the joker) beat a straight flush. Presently Sam spoke, as indifferently as he could.

"Got the offer of a job down the line. Think I'll run down tonight as far as Casa Grande and see what's doing."

"If they need any extra riders here's some more out of a job," Dick told him.

"Heard today of a freighter that wants a mule-skinner. I'm going to see him tomorrow," Slat's chipped in.

"Darn this looking for a job anyhow. It's turble slow work," Curly followed up, yawning. "Well, here's hoping you land yours, Sam."

This was about two o'clock in the afternoon. The game dragged on for a while, but nobody took any interest in it. Sam had to get ready for the work of the night, and the rest were anxious to get out and give him a chance. So presently Dick threw down his cards.

"I've had enough poker for one session. Me, I'm going to drift out and see what's moving in town."

"Think I'll snooze for a while," Sam said, stretching sleepily.

The others trooped out and left him alone. From the room rented by Davis the three watched to see that Sam did not leave without being observed. He did not appear, and about six o'clock Curly went back to his room.

"Time to grub," he sang out.

"That's right," Sam agreed.

They went to the New Orleans Hash House, and presently Davis and Maloney also arrived. They ordered a good dinner and took plenty of time to eat it. Sam was obviously nervous, but eager to cover his uneasiness under a show of good spirits.

Curly finished eating just as Sam's second cup of coffee came. Flandrau, who had purposely chosen a seat in the corner where he was hemmed in by the chairs of the others, began to feel in his vest pockets.

"Darned if I've got a cigar. Sam, you're young and nimble. Go buy me one at the counter."

"Sure." Cullison was away on the instant.

Curly's hand came out of his pocket. In it was a paper. Quickly he shook the contents of the paper into the steaming cup of coffee and stirred the liquid with a spoon.

Sam brought back the cigar and drank his coffee. Without any unnecessary delay they returned to his room. Before the party had climbed the stairs the boy was getting drowsy.

"Dunno what's the matter with me. I'm feeling awful sleepy," he said, sitting on the bed.

"Why don't you take a snooze? You have got lots of time before the train goes."

"No, I don't reckon I better."

He rubbed his eyes, yawned, and slumped down. His lids wavered, shut, jerked open again, and closed slowly.

"Wake me, Curly—time for train."

And with that he was sound asleep. They took off his boots and settled him comfortably. In his pocket they found a black mask big enough to cover his whole face. The registered letter could not be found and they decided he must have destroyed it.

(Continued next week).



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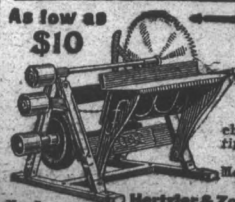
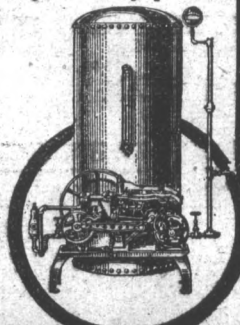
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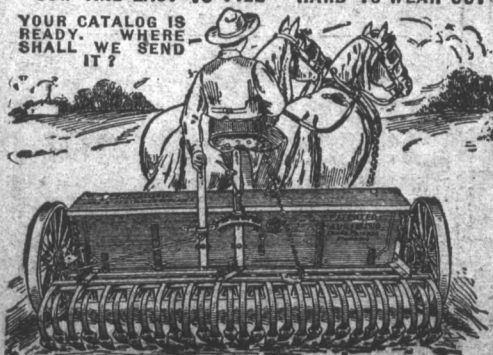
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A Fight To The Finish

By D. L. Runnells

THE leaves had fallen from the trees and the grass had turned brown. The earth's surface had been frozen into a crust. An occasional snowflake came floating down from the steel gray skies and a sharp northerly wind was blowing gently but biting in its fierceness. Evidence of approaching winter was everywhere. The keen atmosphere made the blood flow vigorously through Dale McCarthy's body as he did the few remaining odd jobs about the farm before Old King Winter set in in earnestness and buried the vegetation on earth with a blanket of fleecy snow.

In the distance Dale could see the barren trees of the forest which seemed to beckon him to put aside his work, pick up his rifle and go in pursuit of game. The longer he gazed in that direction the greater its lure seemed to be. Each fall he had harkened to its call; each winter the same impulse to follow the wild animals of the forest had drawn him from his work. This year the attraction seemed to secure a firmer hold upon him than ever before.

He could resist the invitation no longer. He left what little work he had to do undone and went to the house. He packed his usual hunting kit, refilled his ammunition belt, tucked away an extra supply in his pockets and then made off in the direction of the forest and cut-over lands of northern Michigan with a view of reaching an old abandoned lumber camp eight miles away before dark.

The prospect of enjoying another good hunt caused him to forget his weariness and the heavy burden of rifle and pack as he tramped along the road mile after mile in the direction of the forest-clad hills which he knew from previous excursions were infested with all kinds of game. As he reached the foot of the nearest hill with still another mile yet to go, he began to realize he was growing tired. His bones and muscles ached. The weight of his pack became noticeable. The perspiration was pouring from his brow and his clothing was wet and hung heavily upon him. He decided to rest a few minutes upon a nearby log. But as he resumed his journey, Dale's legs and muscles were stiff and cumbersome. He plodded on slowly, picking his way up the hill.

He reached camp shortly after the sun sunk behind the forest-clad hills in the west. The wind was colder. It blew harder. He walked toward the deserted buildings in the valley, daydreaming as he walked, of the game he would see upon the morrow. He stepped unconsciously up to the door, turned the knob, thrust the door open and walked in. To his utter surprise it was occupied. A man of much the same caliber, with a shaggy, coarse beard, wearing a plaided mackinaw, a brown woolen shirt, and felts and rubbers, stood before him. He was apparently in the woods on the same mission. They stood and stared at one another for several minutes.

"Well, I reckon we're going to have company," remarked the stranger as he broke the silence. He looked the intruder squarely in the eyes before continuing. "My name is Anderson—John Anderson, from Layton's Corners."

Dale stepped forward, lowered his pack upon a nearby bunk, propped his rifle against the wall and then grasped Anderson's hand.

"I am mighty glad to know you," he said. "My name is McCarthy—Dale McCarthy from Harrisburg, on the other side of the hill."

They sat down upon the old frame bunks in the log structure and made known to each other their missions in the wooded hills. Their invasion

was a mutual one—in search of game. As they sat planning for the days to come they ate their cold lunches and drank a cup of coffee which Anderson had prepared in the fireplace. And as they ate they sandwiched a hunting story in here and there. They continued the tales until darkness enveloped the camp, valley and trees. Only the light from their pipes and the burning logs in the fireplace lighted the building. The moon shone faintly through the dirty window. A babbling brook gushing over a stony bed, and little waterfalls could be heard outside. These sounds grew louder in the stillness of the night. The hunters ceased talking and listened to the music of the stream outside, and to the crackling of the fire inside. Drowsiness began to overcome them, so they went to bed.

The wind was howling outside. It would almost talk as it played among the pine trees, causing their boughs and needles to swish and weave and groan under its pressure as it swept over the hill and took a broadside sweep into the valley. And in the east the full moon began to beam over the hill top like a ball of fire. A timber wolf could be heard faintly in the distance. The little brook continued to babble and tumble. As the two hunters lie upon their hard bunk they both realized they were in the land of their dreams. Their thoughts wandered into the hills until sleep, brought on by the weariness of their long jaunt, and the music of the winds playing among the trees, and the babbling stream, overcame them.

Anderson awoke first in the morning. It was just coming daylight. The fire had gone out hours ago. The log shanty was icy cold. He roused Dale. They built a fire, ate breakfast, and then made off into the hills. But their dreams of game aplenty did not come true. They did succeed in bagging a couple of partridge and a few rabbits, but their coveted prize—deer—had not crossed their trail. Tracks in the earth had been noted in one or two places and that was all. They returned to the lumber shanty, more tired than on the previous day, and somewhat discouraged. They did not talk long that evening. Sleep overcame them soon after they retired.

The next three days brought no better luck. On the fourth day as they were returning to camp they were suddenly startled by a violent crash upon their right as a frightened doe dashed through the underbrush at a terrific speed and disappeared into the heart of the forest to safety. Neither Anderson or McCarthy had time to bring his rifle to shoulder, catch aim and fire before the fleet animal had made good her escape and was hidden from view.

But as they plodded toward camp a new hope had been revived in them. They were not so gloomy and pessimistic. Presence of deer in the hills was now certain. Hopes which had almost perished during the poor luck of their first four days in the hills had been suddenly fed up on a much needed stimulant. Despite these hopes the next few days brought despair. They tramped and tramped through the forest, up hills and down, from daylight until dark at night, but no more evidence of deer was obtained. As they started out one bright, clear morning, Dale suggested:

"Let's hunt to the pine grove beyond that hill on which we stopped yesterday. I believe we will find deer there."

"At any rate let's hope so anyway," said Anderson, half discouraged.

They climbed to the summit of the hill and looked down into the valley at the pine grove. It was evident to them

that a small stream was in the valley below, as the rumble of the swift waters could be heard distinctly at that distance. They started slowly down the hill, picking their way through the thick underbrush and jack-pines toward the stream. They came to the grove but there was no sign of deer. They pressed on, following the creek as it meandered around the hills. Its sparkling water was as clear as crystal.

"We have gone about far enough in this direction," said Anderson, in discouraged tones. "It will be dark before we can reach camp. Let's return."

So they turned back, climbed the hill and followed its ridge for a mile or so and then descended into the valley in the direction of the camp. A gentle wind from the northwest was striking them squarely in the face. Suddenly McCarthy came to a halt. His keen ears had caught a sound. They scented danger. Every muscle of his body was at a high tension. Anderson stopped in his tracks and looked in the same direction as his partner. They were motionless as they gazed into the dense underbrush in front of them. The outline of a large buck and a deer came into sight. Then a second buck appeared.

The picture was painted in all the hieroglyphics of wild life. It was growing dusk. The deer were walking out into an open space. It was a picture before them of a young and handsome doe, a buck of many years' experience in woodcraft and leadership, and the strong, impertinent impostor who dared the wrath of his elder for the love and companionship of the doe. The hunters slowly raised their rifles to their shoulders. Every precaution was taken in order that their presence might not be discovered. Before they could fire there was a snort, rush, and a clash of antlers. A bitter fight was on. The angry bucks would separate and then charge again. Their antlers would clash. They would strike one another with their hoofs. The hunters lowered their rifles and stood motionless, awed by the spectacle before them.

Man, once in a lifetime, may see two powerful bucks battle to the death for the love and companionship of a beautiful doe. These disputes are nocturnal affairs, settled when the hush of nightfall envelopes the timberland; when the moon is at its full and the creepy hour of midnight draws near; settled in the silent backwoods where deer herds rule supreme.

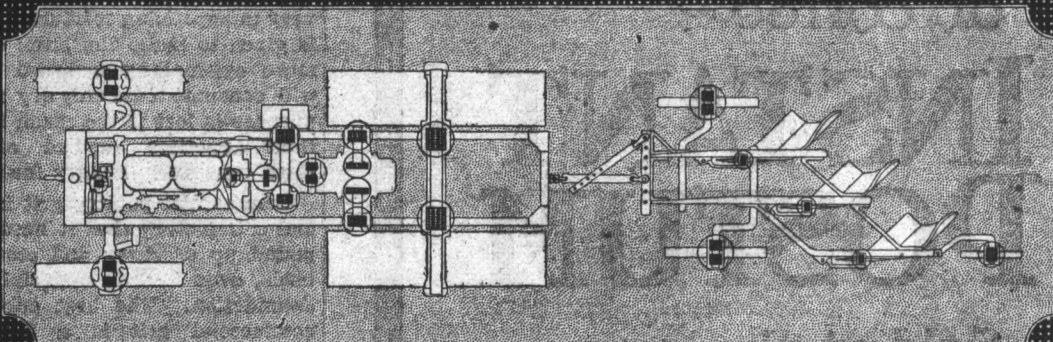
As the battle raged for an hour their antlers became locked. Their shaggy fronts and sides were torn with the mad plunging of knife-like hoofs. Several plots of ground over which they had fought became a wallow of muck, mud and clotted blood. Both bucks were losing life's precious blood. It had been spilled over every inch of the area. It was a bitter fight, such as neither Anderson or McCarthy had ever witnessed.

The end came suddenly when the older buck outgeneraled the impetuous youngster, keeling him one on the flank and then with a lightning thrust, sinking the right front hoof deep into the abdomen of the tricked aggressor. The youngster fell and passed into the land where all wounded deer go. The other was but a ghastly image of his former self. He dropped beside his dead opponent. Their horns were tightly locked. The sturdy old buck tried, and tried vainly, to free himself. Then, exhausted, he gave up to await the end.

As the full moon beamed over the hill top on the east the hunters noted that both bucks were dead, and the doe, which had watched the death battle for her love and companionship from the moment the enraged bucks snorted their challenge, strolled away in answer to the summons of another.

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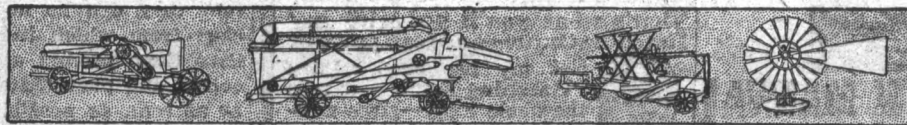
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pages, 215 beautiful pictures. Describes busy Poultry Farm handling 63 pure-bred varieties and BABY CHICKS. Tells how to choose fowls, eggs, incubators, sprouters. Mailed for 10 cents.

Berry's Poultry Farm, Box 136, Clarinda, Iowa

The Farm Flock In February

By R. G. Kirby

THE ideal poultry house in winter is not too cold, due to excess ventilation or too damp because the ventilation is lacking. Poultrymen do not have the best results unless the houses have the right area of curtains and windows to keep them both warm and dry.

If wet mash is used in the poultry ration give only enough for the birds to clean up in about half an hour. If the mash is fed in excessive quantities it stays in the troughs and becomes a very unappetizing mixture. Wet mash is given to make the birds eat a little more egg-making material than they will consume if fed only dry mash. The purpose is lost if the mash takes away their appetites instead of keeping them constantly hungry for more.

Commercial poultry grit is so cheap and satisfactory that it hardly pays to pound up crockery and stone for the birds, even if such material does give satisfaction. The best substitute for commercial grit is a few hundred pounds of fine gravel stored in the fall in a dry room. If the birds have been without grit for several weeks they will eat it like corn. And the necessity of grit in their crops is proven by the craving they have for it.

When buttermilk and sour milk are available for poultry feed the amount of beef scrap in the dry mash can be profitably reduced. Some poultry breeders have good egg records without beef scrap if they have plenty of sour milk. Feed it in crocks on wooden stands to keep out the litter. And keep the crocks clean, as unclean milk is sometimes a cause of digestive disorders.

In buying day-old chicks remember that they can be no better than the eggs from which they were hatched. Give them prompt attention when received and place them in a warm brooder as soon as possible. Do not leave the chick box open so the young birds will have light but nothing to do. It may start the toe-picking habit. Chicks need food and exercise and warmth as soon as they are received from the express office. Carelessness at such a time leads to losses which the buyer cannot honestly blame on the producer of the chicks.

There seems to be a good outlook for the day-old chick business this year and breeders who have them for sale are urging customers to place orders early so they can gauge their business and be able to make prompt shipments. Chicks must be sold soon after they are hatched. The hatchery cannot keep a lot of chicks on hand to fill orders and send them out all the way from one hour to a week old. For the best results they must be shipped as soon after hatching and not fed until the buyer has them in his brooder.

Some time can be saved in feeding corn on the ear if the ears are split on a block instead of shelled. The birds receive some exercise in scratching and pecking at the ears to break loose the kernels. If the flock is tame be careful about giving some bird a nick with the hatchet when she tries to gather the grain before the cob leaves the block. Good hard corn is one of our best, if not the best poultry feed. There is much complaint that it is used too exclusively in feeding some farm flocks but there is nothing like it to furnish heat and energy for the birds during zero weather. It seems to give them vitality and the fat that is needed to keep out the cold.

A city friend recently said: "The hen never lived that produced an egg worth eight cents, even in the winter." Farmers know something about cost of winter eggs. City buyers know they are scarce and worth the money or

they would not pay the prices that eggs have brought this winter. Farmers do not usually set the price on their eggs unless they are for hatching purposes. Poultrymen with figures of their own can prove that eggs are easily worth eight cents each in the winter if the cost of production is to be considered. There is one fortunate thing about the egg business. The producer does not even need to consider a customer who kicks on the price of eggs because there are so many buyers who are pleased to get them at the present prices.

A few trapnests used from December 1 until March 1 will undoubtedly locate the majority of the profitable producers in a farm flock of poultry. Trap-nesting throughout the year may be all right for professional poultrymen but it takes too much time for the farmer and his wife. On many farms the poultry business belongs to the wife, but often the housework takes as much or more time than running the farm and she cannot afford to be constantly visiting the poultry house. The purchase of males from high-producing hens, and a little trap-nesting in the winter will often produce a remarkable improvement in the egg yield of the flock.

After trying out lard the cracklings are often used for poultry feed. But they are very rich and may throw the birds off feed if they are used too abundantly. Better mix the cracklings in a bran mash and feed them sparingly over a period of several days. This seems to reduce the chances of digestive disorders. All sudden changes in feeding are to be avoided if the birds are expected to do their best.

Now is the time that many breeders are looking for cockerels. But it is getting to a date when they will be scarce and the breeding pens should be mated to obtain eggs for early hatching.

A POULTRY LIBRARY PRACTICAL.

THE farmer who expects to keep more poultry or try for better results with his present flock, should begin to build up a small library of poultry books of practical value. First, it should contain a good book on poultry diseases which can be used as a ready reference. Some trouble may appear in the flock at any time. If the cause and remedy for that trouble can be immediately determined it will save much worry and expense.

A book telling of the history and management of the favorite breed will be both interesting and instructive. It will help pave the way toward better breeding methods. The farmer who expects to show any of his birds in competition will wish to own a copy of the Standard of Perfection; it will prove of value in the improvement of the flock.

A few books on practical poultry management will be of value to supplement the articles of poultry experiences in the farm journals. It pays to keep a scrap book carefully indexed and in this book the farmer can place any clippings of practical value. An article with a drawing and photo of a colony house may seem suitable for a trial next spring. The article in the scrap book will be handy for reference.

The poultry department of a farm journal contains many hints which can be used to advantage on the poultry farm. Their immediate use may not be possible, but sometime in the future they may not be found when needed. Some farmers save and bind farm journals with the index furnished by the publisher. In addition they make an index for the articles in any

special department in which they are interested. The poultryman can make out his own index briefly for all the articles containing information of value in the poultry department. This makes it as handy as a book for ready reference. We have found many articles in farm journals which we consider better on the subject discussed than chapters on the same subject in some of our best books.

In getting together a poultry library we must bear in mind that methods are changing rapidly. The war has almost revolutionized feeding methods. The book that was up-to-date last year may not be suitable for the conditions now. However, the bulk of the poultry information is standard and the poultryman who gathers together a collection of valuable information has a source of great stimulation to his business. The information gathered from the books must be salted with common sense and reinforced with practical experience to prove valuable in our everyday work. R. G. KIRBY.

VENTILATING POULTRY HOUSES.

I am writing to find out if you can advise me concerning a hen house that I built this fall. I am sending you a rough sketch so that you may more readily understand the plan. It is 16x30, built of good sheeting and covered with three-ply granite felt roofing, both roof and sides, and is real warm and light. We like the plan very much, but the ventilation is not what it ought to be, and this is a point on which I would like some advice. During cold days it is very frosty on walls and roof, and when it warms up it thaws and drops down very badly, making litter damp. We are housing about 140 hens in the house, keep door shut and also glass windows. I put a ventilator in made of twelve-inch boards, as you will note by sketch, and let it extend to within about eighteen inches of the floor, but was not satisfied with it, so cut a 12x12-inch hole in side of ventilator near roof, hoping it would help correct trouble, but it is not satisfactory yet. Ventilator extends about two and one-half feet above top of roof.

Montcalm Co. J. S.

The usual rule in constructing windows and curtains for poultry houses is to allow one square foot of glass to four square feet of floor space. The muslin curtains should be twice the area of the glass. This usually prevents dampness in a house if the other conditions are right even if no other system of ventilation is used. Of course, under certain weather conditions it is difficult to keep all dampness from a poultry house but it has been found that the conditions are not too damp to be healthful in an open-front house that contains a sufficient amount of open-front.

If the litter becomes damp it should be removed as this will help to make the house damp. Some poultry house floors are damp and it is very difficult to keep the litter in good condition. Some cement floors are cold and damp, especially if they are not properly constructed on a well-drained site. Possibly the condition of the house can be improved by always leaving the curtains open except during severe storms from the south. A larger area of the cloth curtains will also be desirable.

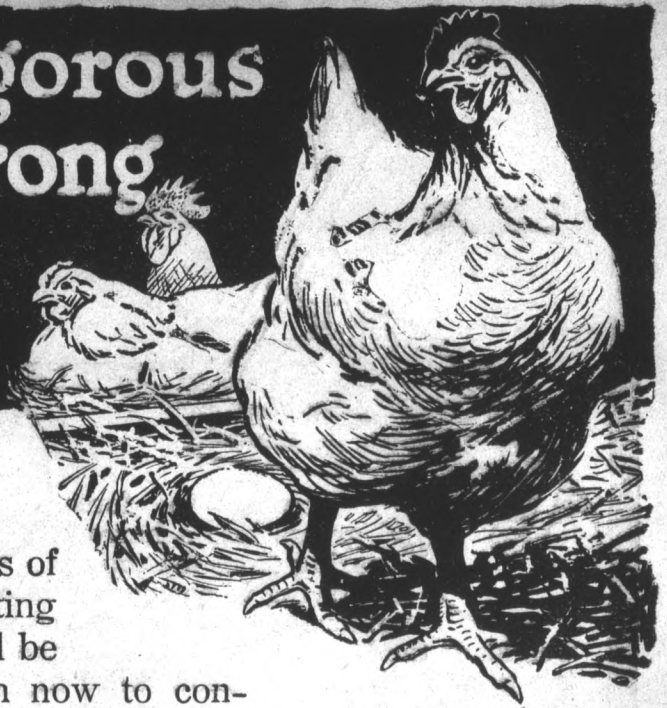
R. G. K.

FEEDING A DOE.

Could you tell me what is good to feed a doe rabbit with little ones? Oakland Co. G. L.

Fresh green food and bread and milk are good feeds for the nurse doe. Carrots are delicacies for rabbits and seem to help keep them in health. When feeding her litter the doe needs more than the usual quantity of food. The amount can be determined by studying the apparent requirements of the individual as appetites vary. The doe will do well on a great variety of feeds, but bread and milk seems to be the most beneficial and should form a large part of the ration for the first two or three weeks. R. G. K.

Healthy and Vigorous Fowls Mean Strong Livable Chicks



Mating Time

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Dr. Hess Poultry Pan-a-ce-a

increases the vitality of the parent stock, gives you fertile eggs, insures a hatch of good, strong, vigorous chicks.

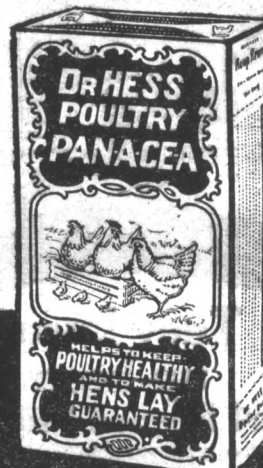
Speed up egg production during winter with Dr. Hess Poultry Pan-a-ce-a. It contains tonics that promote a hen's digestion, tonics that tone up the dormant egg organs—so that the proper amount of food goes to egg production—and not all to flesh and fat and laziness—when it's action and eggs you want.

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Find Out What An Incubator Is Made of Before You Buy

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For only \$16.25 you can get these two unbeatable machines, delivered, freight paid out of the Rockies. You take no risk—money back if not satisfied. You can order direct from this ad. Ask the publisher about us.

Both Machines \$16.25

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180 Egg Incubator and 180 Chick Brooder both for only \$20.00

Wisconsin has hot water

heat, double walls, air space between double

glass doors, copper tanks and boilers, self regulating. Nursery under egg tray. Made

of finest, select, clear CALIFORNIA REDWOOD, not pine, paper or other flimsy material. Incubator finished

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shipped complete with thermometers, egg tester, lamps, everything but the oil. This is the best

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buy until you get our new 1920 catalog, fully describing this prize winning outfit. WRITE

FOR IT TODAY. You can't make a mistake in buying a Wisconsin. On the market 16 years.

WISCONSIN INCUBATOR COMPANY, Box 82 Racine, Wis.



Send for our Free Catalog and we will send you a sample of the material used in Wisconsin Incubators and Brooders. Then you will know which machines are built best, which will last longest and which will give you the most value for your money. One good hatch will pay for a Wisconsin outfit and more. Why take chances? We give you 30 Days' Trial

MONEY BACK IF NOT SATISFIED

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Guaranteed to 1,500 miles. Eggs for Hatching. Bar. Rocks, S. C. W. Leg., S. C. & R. C. Reds, W. Wyand., Buff & W. Orp. Catalog free.

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Baby Chicks Bred-to-Lay and Exhibition S. C. W. Leghorns, stock that produced the winners in the state demonstration farm work. Winners at Detroit, Toledo and Oil City, Pa. Shows. \$10.50 per 50, \$20 per 100, \$35 per 500. Safe delivery postage paid. Sunnybrook Poultry Farm, Hillsdale, Mich.

ANCONAS Now is the time to place your order for HATCHING EGGS. Write for prices C. & M. WHITTIER Hand Station, Michigan

Barred Rocks. Choice Cockerel and quick maturing heavy laying strain. Cockerel \$4.00 to \$8.00. Pullets \$3.00 to \$5.00. Pens \$15.00 to \$25.00. H. J. PATON, Route 3, Box 115, Ypsilanti, Mich.

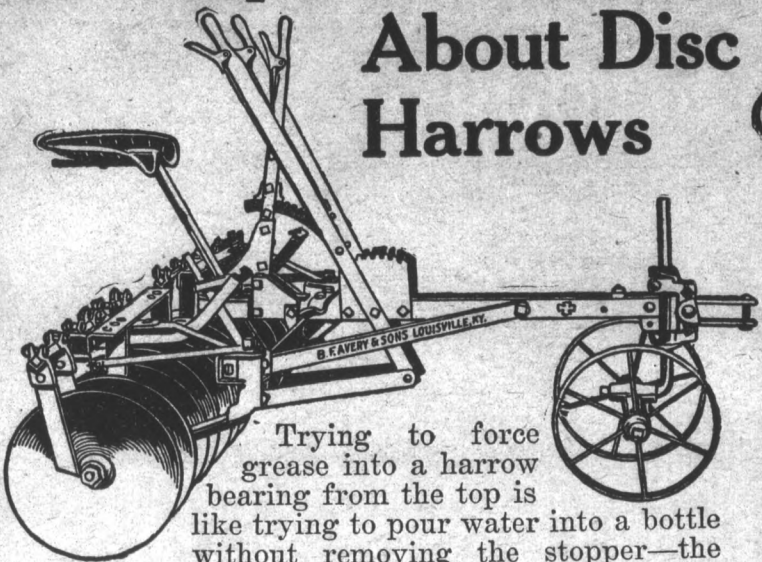
Baby chicks: Standard Bred S. C. White and Brown Also English White Leghorns. Bred to lay large white eggs. Safe arrival guaranteed, shipped up to your door by parcel post. Free catalogue with list. WOLVERINE HATCHERY, R. 2, Zeeland, Mich.

Baby Chicks Importer and breeder of Barron White Leghorns, White and Barred Rocks and S. C. Rhode Island Reds. Book orders early. I have taken over the Folly Cove Farms and stock business. Brummer's Poultry Farm, Holland, Mich., R.R. No. 8

BABY CHICKS S. C. White Leghorns \$20.00 per 100, eggs \$2.00 per 15. Order early. Hillside Poultry Farm, Hillsdale, Mich.

Poultry Ads. Continued on Page

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B. F. Avery's Volcano Disc Harrow

is made so grease enters the bearings from the bottom.

The third lever enables you to tilt the gangs so all the discs enter to the same depth when working along ridges or in dead furrows. Tongue is flexibly connected to the frame—no neck weight when the harrow is used without tongue truck. Lever ratchets are solid steel.

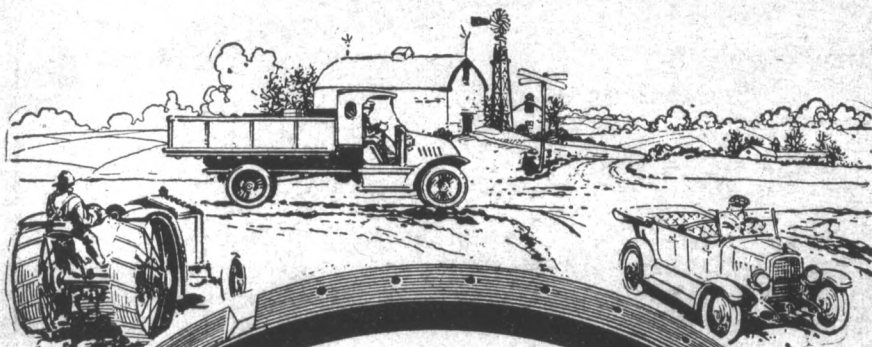
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They make sure that every ounce of power that your engine is capable of developing is yours. They make certain that you are not wasting fuel; that gasoline is not getting down into the crank case and destroying the lubricating qualities of the oil.

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Our Boys' and Girls' Page

How I Made My First Crop of Corn

By Lester Janson, Delton, Michigan

LAST year I became a member of the corn club by attending a corn club meeting at the school house and am at it again, trying to get a better stand this year.

This year I didn't have as many bushels of corn, but the corn is ripe this year, and does not take so much for it sells higher.

The object of the corn club is to teach the boys the value of a farm and to make the most from the least ground and to help lick the kaiser, which we have done.

The kernel of corn is planted in the ground and in three or four days the corn sprouts, and receives nourishment from the soil and food which is stored in the kernel. In eight or ten days, it comes over the surface and gets nourishment from the air. Then the corn keeps growing (if the weather permits) until an ear is formed with the silk at the tip of it. My corn was tossed out July 12, 1918.

A good way to test seed corn, (the method which I used), is to take a shallow box and fill it with sand; mark off this into squares by the use of strings and nails. Number the corn and the row respectively, keep the box where it will not be too cold for the corn to sprout, and water it frequently. In doing it this way, throw out the ears that did not mature at least three or four kernels.

The soil should be loose, when the corn is planted (have at least three harrowings) so the corn will not have a hard struggle for existence. After plowing, (May 5), I harrowed it three times so as to have a nice dust-mulch when corn was planted. Then I marked it, which did not take long, for I had a very fast horse to walk behind.

In about eight days after planting, (May 24), I replanted where the corn did not grow. Then, instead of cultivating it right away, I spiked it. The first cultivation was on June 5, which helped it along as much as could be expected without having our wanting rains. My corn had to be crossed by thirteen loads of hay. The second and third cultivations did not do much good. The fourth cultivation, July 3, did more good than the preceding cultivations because of the nice rain of June 30.

My corn, unlike a great many fields of corn, was not bothered with cut-worms or diseases. We had only one bad wind-storm, but the corn was not discouraged from this, and gave new hope for fast growing.

We had four corn club meetings, three of which I attended; one at Frank Brown's, one at Lu Shulter's, one at Carl Brown's and Donald Hall's, as I will mention in the order named:

At Frank Brown's we listened to what he had to say about corn, bean and potato raising. At this meeting officers were elected, I being elected vice-president.

June 24 I went to Camp Custer and saw some corn that was knee-high, but it was hit by the unexpected frost.

My corn probably would have withstood the long hot weather spell, had I had more manure on it; but I have often heard that a little manure does more good than too much.

We played the Rutland Corn Club boys two games of ball, of which we won one game.

Our second meeting was at Shulter's. Lloyd Lindsey and myself were chosen

to select a name for our club. My choice being one of the following three: The Winners, the Champions, The Best Ever.

Our third meeting was at Carl Brown's. Each one of the members present had to tell about his acre for roll-call; mine being as good as the rest.

I received my corn project August 29. My corn would not have amounted to much if we had not had the rain of August 30.

I started husking my corn September 25, and finished October 10. I selected my seed corn while husking, there being three-quarters of a bushel. There wasn't over a bushel of corn which did not ripen. A good way to store seed corn is to put it in a dry room, having wires from which the corn may hang untouched by the other ears. Do not have the place too warm so as to kill germination, or too cold, because if it frosted it might not grow. This year all seed corn should be carefully taken care of for it is very expensive feed to waste.

My common corn was fed to father's pigs. I finished husking my prize acre on the tenth of October, there being sixty-eight and a half bushels of common corn and three-quarters of a bushel of seed corn. My fodder is worth \$11.44.

The corn may be used in many different ways, namely, for hog feed, for fattening, or it may be cut up for the chickens to keep them warm during the winter, or it may be ground into corn meal. The best can be used for baking purposes and the rest for cattle and hog feed.

The cornstalks may be run through an ensilage cutter into the silo, and fed as ensilage, or given as a rough feed, in the stalks, to cows and steers.

The first exhibit was at the Warner Church, November 31, 1918. At this exhibit there were corn, potatoes and canned fruits. My corn won first prize this year. Ha! Ha! I wasn't a bit sorry.

The club work has encouraged me to like farm life more than ever before because you knew whatever profit was made was your own, and that is something. My work this year has helped me more than ever before, because I know more about the work.

If I was to do my work over again, I would make many improvements in it, some being, using more manure on the land, plow and get my corn in earlier so as to give it time to get ahead of the drought if any happens to be at a time when the corn needs it most.

I had sixty-nine and three-fourths bushels of corn all told, with sixty-eight and a half bushels of common corn worth \$70.80. My seed corn, three-fourths of a bushel, amounted to \$4.50. My fodder, forty-four shocks in all, amounted to \$11.44. The corn shelled out 59.55 bushels out of 69.25 bushels.

I am very proud of my acre this year, which is more than I could say last year. Out of my seed corn you will find that there is one good-sized ear, and full of germination, but there are a few kernels with the yellow dent part off. That you probably will notice when you first see it, but it was caused by rough handling.

The honor of having the best corn at the local exhibit is nothing, for the county and state exhibit will tell whether your name is Adam or not.



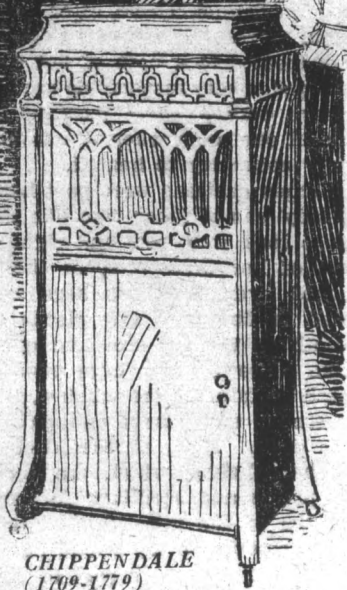
The Secret of the Homiest Home

DO you know the secret of the home where "company" always enjoys itself,—the home which people always speak of as having "nice things"?

Lady Randolph Churchill put her finger on the secret. Lady Churchill is a very wonderful woman—now past 50 years old—and she owns the best furnished home in England. This is what she wrote:

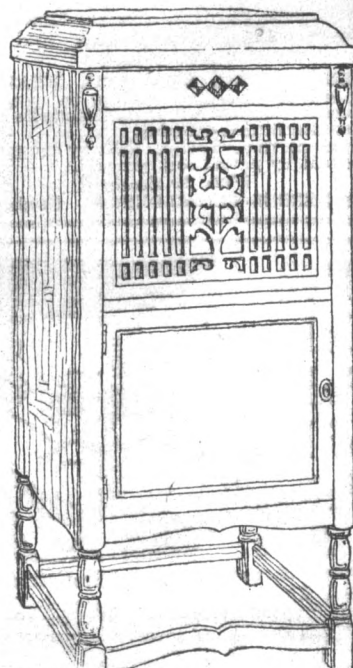
"What an extraordinary man Mr. Edison is. He perfects his phonograph to a point where its realism is astounding. Then he determines

to make each Edison Phonograph, even the least costly, an attractive piece of furniture. Instead of the usual dentist-like looking cabinets, his designers have succeeded in putting the character and feeling of the best periods into his phonograph cases. These graceful and artistic productions will be hailed with delight by all who can afford them, and will cause Mr. Edison's new phonograph to be received in many houses where less worthy machines have not been welcomed heretofore."



CHIPPENDALE
(1709-1779)

The French-Gothic lines of the posts, and the French-Gothic grille with its Chinese cord-cut frieze combine to give an effect of stately beauty.



JACOBEOAN
(1603-1649)
This cabinet reflects the Jacobean tendency to simple, classic design.

The NEW EDISON

"The Phonograph with a Soul"

gives you both of the great arts which make your house a cultured home—gives you all that is in music and furniture

MUSIC is RE-CREATED by the New Edison with perfect realism. This is no mere claim. Edison is a straight-from-the-shoulder American. He doesn't ask you to take anything on his "say so," any more than he'd take a scientific discovery on your "say so."

Edison actually proves the New Edison's realism. Before 3 million people he has made comparisons between the vocal and instrumental art of 50 different

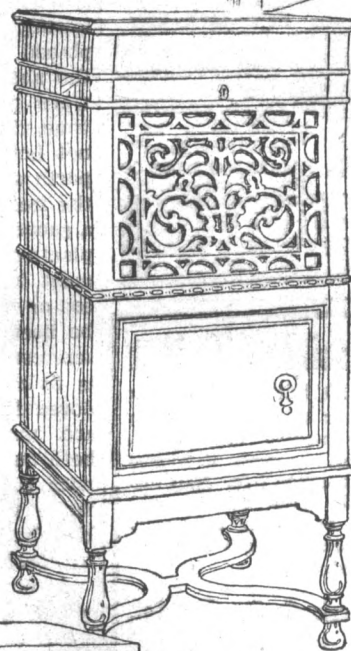
artists, and the RE-CREATION of their art. These 3 million people all admitted that they could hear no difference between the performance of the living artist and its RE-CREATION by the New Edison.

The furniture art of the New Edison is its own proof. Perhaps you are wondering since when did Edison turn furniture designer. He didn't. He knew that the marvelous furniture designs created in the Golden Age of Furniture still stand as the highest type of furniture art. So he did the common-sense thing. He had his designers adapt the master-

pieces of this period. They did the job so well that even Lady Churchill and Miss de Wolfe were surprised and delighted.

Edison not only made every New Edison a period cabinet—but he brought the prices down to where you know you're getting real value for every cent.

The New Edison is the delight of every one who likes music, and the ambition of every one who appreciates a fine home. It makes evenings-at-home triply enjoyable for both your family and your friends.



WILLIAM AND MARY
(1689-1702)
The legs, stretcher, pendant pull, and grille are typical of the taste and delicacy of this period.



Miss
Elsie de Wolfe

who designs and furnishes the interiors of the finest homes in America, says:

"THE period cabinets which Mr. Edison has adopted for his phonographs are in pleasant contrast to the rather grotesque cases one so frequently sees. From the diminutive Heppelwhite to the costly replicas of historic pieces, the superior furniture value of Edison cabinets can scarcely fail to impress the lover of good furniture."

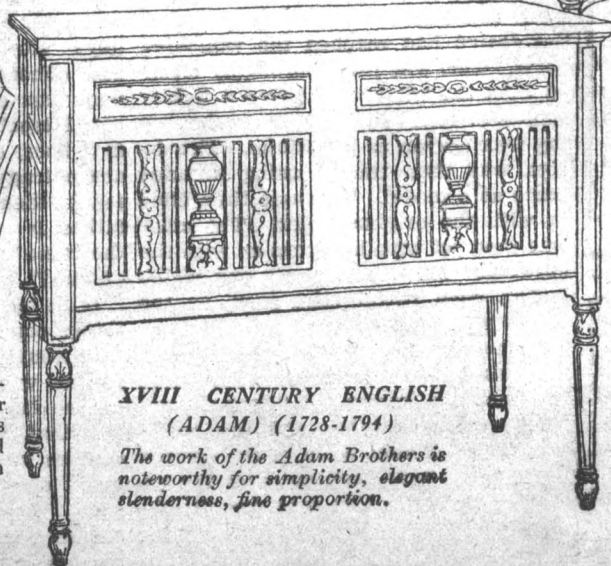


Lady
Randolph Churchill

who is considered the greatest furniture authority in England, says:

"HIS (Edison's) designers have succeeded in putting the character and feeling of the best periods into his phonograph cases. These graceful and artistic productions will be hailed with delight by all."

(Her letter in its entirety is printed in the text above.)



XVIII CENTURY ENGLISH
(ADAM) (1728-1794)

The work of the Adam Brothers is noteworthy for simplicity, elegant slenderness, fine proportion.

Write today for your copy of "Edison and Music"

ONE of Thomas A. Edison's right-hand men has written a book about Edison. The book paints a fascinating word picture of Mr. Edison. It also contains 17 exquisite plates and invaluable information about Historic Furniture. We have issued a special paper-covered edition for free distribution.

Address Thomas A. Edison, Inc., Orange, N. J.

CAREFUL FARMERS

use

GOMBAULT'S CAUSTIC BALSAM

See what one of them says:

WORTH TEN TIMES ITS COST

In looking over my paper I noticed an advertisement of your Gombault's Caustic Balsam which reminded me I should write to you, it being no more than fair to tell you of the remarkable benefits I have obtained from its use.

About six months ago I had a horse so lame with a spavin that he stood on three legs in his stall and I could not drive him at all; in fact he was entirely useless. A friend of mine advised me to try a bottle of Gombault's Caustic Balsam, which I did; and after two thorough applications he was entirely cured. To-day he is as sound as he ever was and since that I have used it for human ailments with equally good results. I would gladly recommend it to anyone needing a good liniment. I would not be without it for ten times its cost.

Wishing you much success I am

Yours Truly,

WILLIAM SCHRADER,

Knowlesville, N. Y.

R. L. Box 89.

As a LINIMENT for the HUMAN BODY there is nothing that equals Gombault's Caustic Balsam for

Sore Throat, Chest Cold, Backache, Neuralgia, Sprains, Strains, Lumbago, Sore Lungs, Rheumatism and all Stiff Joints.

PENETRATING. SOOTHING. HEALING. It is also cheaper according to cost, because it requires very little Caustic Balsam and that little is effective.

Price \$1.75 per bottle. Sold by druggists, or sent by parcel post prepaid.

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The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

"I've Taken a Fall Out of High Prices"

Says



"The Old Stove Master"
I'm right at it again, Friend, hammering down the cost of stoves and furnaces with my wholesale direct-to-you from my factory prices.

Write—Get My Book
See what you can save. Satisfied customers everywhere. Quick shipment. Cash or easy payments. Unconditional guarantee—also get my offer on Phonograph, Cream Separators, Paints, Roofing, etc.

Ask for Catalog No. 113

"The Old Stove Master"KALAMAZOO STOVE CO.
Mira. Kalamazoo, Mich.

"A Kalamazoo Direct to You"
Trade Mark Registered

Coates Inside Toilet

Only \$17.50 Direct To You

GIVES your home or cottage the coziest modern convenience. Costs less than 5c a week. Catalogue and full information free. Mail this ad and \$17.50. Get a "Coates" on 10 day's trial. Same-day shipments.

Money back if not satisfied.

Coates Sanitary Mfg. Co.,

134 S. Division Ave.,

Grand Rapids, Mich.

High-Test Chemical, \$1.50 per Gallon**"DIRECT TO YOU"**

Double the strength of ordinary chemical. 16 charges from each gallon. Works equally well in any style toilet. Guaranteed satisfactory. Address:—

SANITARY PRODUCTS CO.,
501 Division Ave. S., Grand Rapids, Mich.**HOOSIER STOVES & RANGES FREE**

To try in your home 30 days free no matter where you live. Show your friends, send it back at our expense if you do not want to keep it. Million members of families enjoying the comforts and pleasures of

"Hoosier" Stoves & Ranges, perfect bakers and heaters, beautifully finished, smooth latest design, guaranteed for years. Write for our big free book showing photographs, describing large assortment of sizes and designs of Steel and Cast Iron Ranges, Cooks, Soft and Hard Coal Heaters, to select from explaining our free trial. Send postal today.

HOOSIER STOVE CO.
131 State St., Marion, Ind.

MOLASSES Richest Food Lowest Cost
Write for Special Price
CHICAGO MOLASSES COMPANY, 1131 East 77th Street, Chicago, Ill.

Woman's Interests**Renovating the Household Furnishings**

THINGS will wear out, or what the brown silk draperies for the large window and sash door had been discovered in an old chest. The material was a very heavy weight, double-faced canton flannel. These, after some hesitation, as results seemed so doubtful, were treated to a bath of hot dye and emerged a very respectable brown. They have served their purpose of shutting off one room when it was not absolutely necessary to heat it.

The kitchen curtains were past hope but my lady was of those who like the kitchen to look well, too, and rightly, for most of her time is spent there. She looked over the piece bags and succeeded in finding a few pieces of cheesecloth of varying size and quality. One piece proved large enough for a sash curtain for the window, but there were no more large enough for the sash door. Now, as the kitchen window has shelves which are occupied by plants and seedlings for several months of the year, this curtain had to be removed so my friend determined to treat the upper part of this window and the door exactly alike. This was to be in a way to let in all the light possible and yet have a little drapery. Four pieces were found which were, or could be, cut down to a size 9x31 inches without too much waste, and two others, one 11x16 inches and the other 19x24 inches. All these pieces were hemmed, dyed tan with soap dye, slightly starched and ironed. Then the pattern seen in the figure was traced just above the hem. This was outlined in dark brown wax crayon and the center filled with orange. The color was set as described before. The long pieces were arranged on either end of a curtain rod, with the short pieces in the center. The larger was used for the window. When in place at the window this just met the sash curtain, which through the colder months was left in place. Plants occupied the place at the meeting of the two sashes. This pattern, of course, could be carried out in any color to days twenty years or more ago were

They were first dyed a soft tan with one of the numerous soap dyes now on the market, the outline of the faded pattern was traced on the curtains, using the unfaded third as a guide. With wax crayons, school variety, the pattern was filled in, using yellow, orange, greens and browns. This is a very easy medium to use in decorating. The design could have been worked out in any one color desired, if one were afraid to try the color combinations mentioned. As each piece was finished the color was set in the following manner: Newspapers were placed on the ironing board to protect the sheet from stain and the curtains were placed on this, one piece at a time, right side up. Then, with an iron, not hot enough to scorch, the colored parts were gone over carefully, setting the iron down, allowing it to stand for a second or two, then taking it up and placing it on another section. There must be no rubbing during this process or the colors will smear. It would be best for a beginner to try this on some small piece first. When the work is finished the curtains may be laundered in the usual way as the colors are unusually durable withstanding both sun and water. A pattern colored with this medium is still bright after many years' use in a light which has bleached its brown linen background to nearly white.

Attention was next given to the rug, which was of the grass variety and so worn and faded that in many places the design had reached the vanishing point. This was first thoroughly cleaned then the whole was given a lightly rubbed-in coat of the original color, using wax crayon as a medium. The design was then traced, using unfaded parts as a model. This was then filled in with the original color. The color was then set with hot irons as with the curtains. The result was a rug which looked even better than new, as the colors were not so crude.

If the rug fibre had been badly worn it would have been better to have used the medium known as "Easy Dyes." These come in tubes and are easily prepared. A light wash of the desired color could have been put over the entire rug. When this was dry the design could have been filled with the color mixed with a little starch prepared as for the laundry.

The living-room came in next for its share of attention. Some years before,

Several brown willow easy chairs had the cushions badly worn. These were recovered with imitation Spanish leather, a material which is comparatively inexpensive, harmonizes well with nearly all color schemes, and has the added merit of being a dust catcher as so many of our pretty upholstery fabrics are.

An archway connected the dining-room and living-room. As neither room is large it had been left without draperies. But with the winter of 1917-18 in mind, with its scarcity of coal and the difficulty in keeping warm, even when the supply was plentiful, the mistress decided upon portieres so that at least one room might be kept warm. But of what? Nothing new was the rule. Two faded, disreputable looking curtains which had seen their best

"Papa Does It"

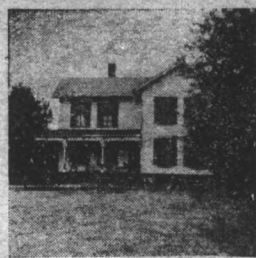
HOW can I bring up my children to do right when their father does not do as he should?" asks many an anxious mother. "How can I teach them the evils of drunkenness, when he breaks the law to get whiskey? How can I make them see the bad effects of smoking, when he always has a pipe in his mouth? How can I teach them politeness when he is a boor, or table manners, when his are outrageous? In short, how can I teach them uprightness, when their father is without principle, unless at the same time I teach them disrespect of him?"

It is a sad state of affairs when things come to such a pass in a home. One would almost feel like asking the mother why she ever married such an excuse for a man, were it not for the fact that we have so many mismatched couples in our midst; were it not that every day girls are deceived by false show. Knowing this we can but feel sorrow for the woman who must endure life with a boor, and see miniatures of him growing up around her, whom she seems powerless to change. "Papa does it." How many mothers afraid they will learn to think disre-

are told that when they correct a child for something radically wrong. And what shall the mother do? Shall she cling to the old standard of ethics, never to hint to a child his father is anything short of perfect, and let him do the thing he should not, just because "papa" does? Or shall she make herself a new standard, and be brave enough to tell the child he must do what is right, even if she must tell him his father is doing wrong?

Isn't the latter course the only right and just one? Why should children be allowed to come up without proper training because their father chooses to ignore the rules of right conduct? Why should they be allowed to think wrong is right, simply because their father does the wrong? Why should they be taught to think any man can do no wrong, even though that man is their father? They are going to be terribly disillusioned some day if they are given this idea. Isn't it better to start them right?

No mother has the right to refrain from giving her children a start towards the best, simply because she is afraid they will learn to think disre-



spectfully of their father. If he is not worthy of respect they will quickly learn it. Indeed, the woman who takes this course is not fully shouldering her responsibilities. It is her duty to teach her children the things right thinking people demand of them, even if she must tell them the brutal truth of her own mis-marriage.

Some time the children are to go into the world and learn what is demanded of true men and women. What will they think then of the mother who failed to do her duty? In their minds

she will be on a par with the father she taught them to respect. But if she has trained them aright they will have only love and pity for her, for they will understand at what a cost she taught them.

Child training is not just for the day. It is for the future—the eternal future. The mother's one thought should be not "What is easiest for me now?" but "What will be best for my child fifty years from now?"

DEBORAH.

The Child and The Dark

By Mark Meredith

THERE are some children, as every mother knows, who are absolutely terrified in the dark. They may not be at all cowardly children, but if you notice, you will find probably that the fear is owing to one or two causes, either they are specially imaginative children, or they have been frightened in some way which gives them an unnatural terror of the darkness.

These two causes should be treated in very different ways.

Take the case of the imaginative child. When one really thinks about it, what is more natural than that such a child should be afraid of the darkness? The unknown has its fears for most of us, and for the imaginative most of all. And to a child, how many things in this strange world in which it finds itself are unknown. It has to explore everything itself and it never knows what will be the next surprise. The darkness must necessarily be mysterious to it. What may come out of the darkness to its bedside? Some strange, dreadful monster like the scarecrow that frightened it is in the field, or perhaps that great spider that frightened Miss Muffet so much—it seemed to do it on purpose—or the three bears might come all round the bed, for they came all round Little Goldie Locks' bed; it said so in the story. Such thoughts are quite natural; and even more terrifying ideas than these occur to the imaginative child, for it is quite capable of drawing on that imagination until it actually sees these things and to add to the horror, by hearing the scarecrow speak, or the bear's claws scratching on the floor; the furniture of the room will take the shape of strange creatures who stand silently round watching unceasingly; in fact, there is no end to such night terrors when they once begin.

Now how can all this be ended? The best thing a mother can do is to welcome that imagination in the child as her ally. Let her try to plant in the child's mind the seeds of love and trust. Teach the little one to see the good in everything. Don't let it fear or despise ugliness and deformity, but pity it. Let it understand that such things as fire and water and darkness are beautiful and useful and our friends; that animals are here to be loved and to love us, and that if they scratch and bite it is generally because they have been badly treated, even lions and tigers do not kill for cruelty but for food. Along such lines the child's imagination will take the right attitude to things, and wonders will have been accomplished.

For the same reason choose a child's reading from the first along these lines—no fairy stories of cruelty and horrors. Such stories are too common—but beautiful fairy stories of pretty fairies and good spirits and lovely deeds. And above all, teach it to love nature.

The case of the child who has been frightened is different. Though what has been said of the imaginative child does apply, it is not enough. Find out

what frightened the child and put an end to that one fear at once. It will probably be found that someone told it some story for the very purpose of terrifying it, a proceeding which is nothing short of criminal.

ASTER CULTURE.

Will you kindly give me a little advice on growing asters?

SUBSCRIBER.

In reply to above inquiry regarding the cultivation of asters, will say that aster growing has assumed considerable proportions for the past four or five years. The work is carried on something like this:

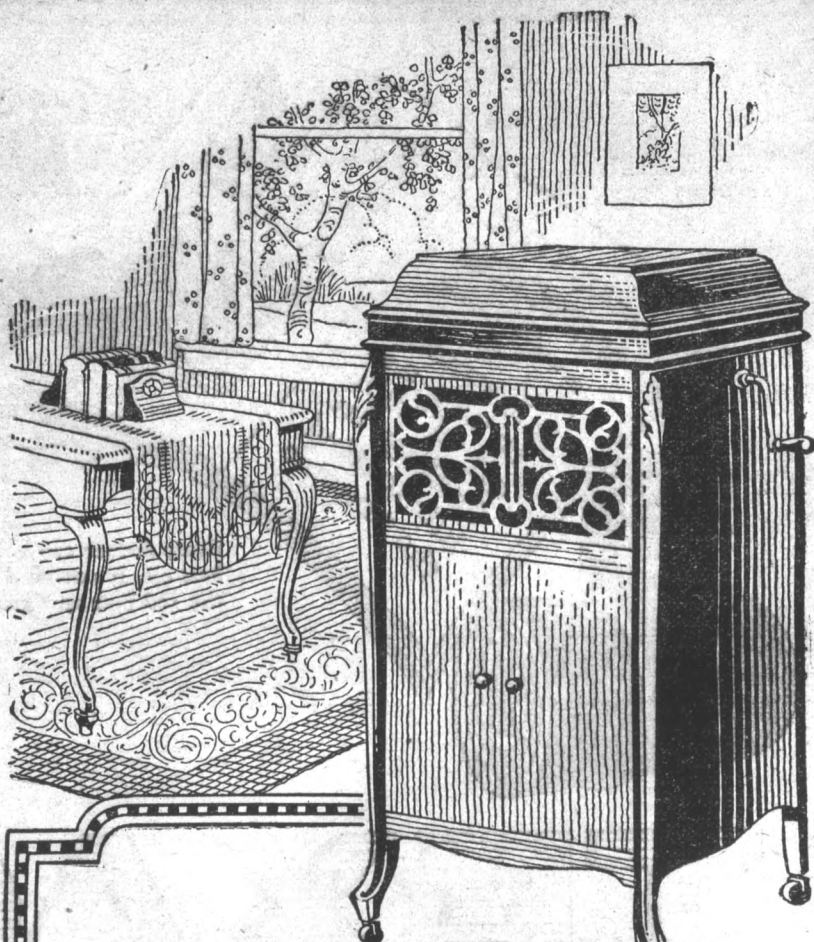
A piece of land suitable for wheat growing is selected, it is plowed in the spring, disked and harrowed as soon as weather conditions will allow and marked so as to make the rows about sixteen inches apart and the plants are put out eight to ten inches apart in the row from the fifteenth to the twentieth of May for the earliest ones, the later varieties following two or three weeks later.

The seed is sown preferably in a hotbed about the twentieth of April. The seedlings kept growing slowly until time to plant out. Some people prefer to transplant them much as we do cabbage plants, thus making the plants stocky and more easily transplanted, should the weather be dry at the time of planting out. It is necessary to keep the plants cool in the hotbed, taking the sash off entirely on all mild days, covering them only when there is a possibility of a slight frost. Keep the plants short-stemmed and hardy.

Two colors are preferred: pink and white. The leading seedsmen have special strains they advertise for this purpose. There is not such a wide difference, however, in their selection. Their principal properties are: Length of stem with a single terminal bud, and the two colors as already mentioned.

They are cultivated much as onions are, preferably by hand, because the horse is very apt to mutilate a great many of the plants by stepping on them.

In all the largest cities wholesale flower dealers are very anxious to contract with aster growers for the sale of these flowers, providing they come up to a certain standard. That standard is size of flowers, length of stem, and color. It is considered among the growers of asters that the process is such a simple and satisfactory one that even the uninitiated succeed as well as those with a wider experience. The chief difficulty lies, and it is a difficulty, in keeping the plants free from stem rot. It is no uncommon sight to see an aster patch rendered useless by this so-called uncontrollable aster trouble. The disease affects the stem about one inch or two inches from the surface of the ground and no remedy so far has been discovered of either checking or controlling it. The safest and simplest way to avoid it is to keep planting on new lands, that is to say, on lands where asters have not been grown before.—T. G.



PARAMOUNT

the Phonograph that Belongs to a New Era

In most lines of industry there are periods of marked development. Either some established manufacturer strides ahead of the rest or some new entrant steps into the field with new achievements.

The Paramount represents one of those periods of development in the phonograph industry. Comparatively new, it is however, the product of an established manufacturer whose 20-year old history is a record of constant growth and progress.

Has a Remarkable Tone

When you hear the Paramount, you are at once impressed by its clear, full tone, the fine shadings, the mellow quality of the bass tones and the delicate softness when the higher octaves are reached.

So faithful and unusual are these reproductions by the Paramount that you immediately recognize here a difference in tonal quality, a difference that can be explained in only one way—superior mechanical construction.

Special Paramount Features

Your Paramount dealer will gladly explain the many Paramount features of scientific construction—the special Paramount tone arm, which is unobstructed and permits free travel of sound waves; the improved all-wood tone chamber which conforms to the principles of phonograph acoustics; the high grade, quiet running motor equipped with brake and speed regulator. Also your Paramount dealer has some important things to tell you about Paramount cabinet making.

Plays All Records

Your Paramount dealer has a wide selection of Paramount records—all the latest hits. And you can play all other makes of records on the Paramount phonograph. You can choose from the productions of all the world's greatest artists and build up a musical library as complete as you choose to make it.

See your Paramount dealer now. The facilities of the great Paramount organization make possible immediate delivery. Six Paramount models to choose from—all moderately priced.

If you don't know who your Paramount dealer is, write us.

E. R. Godfrey & Sons Co.
Distributors Milwaukee, Wis.

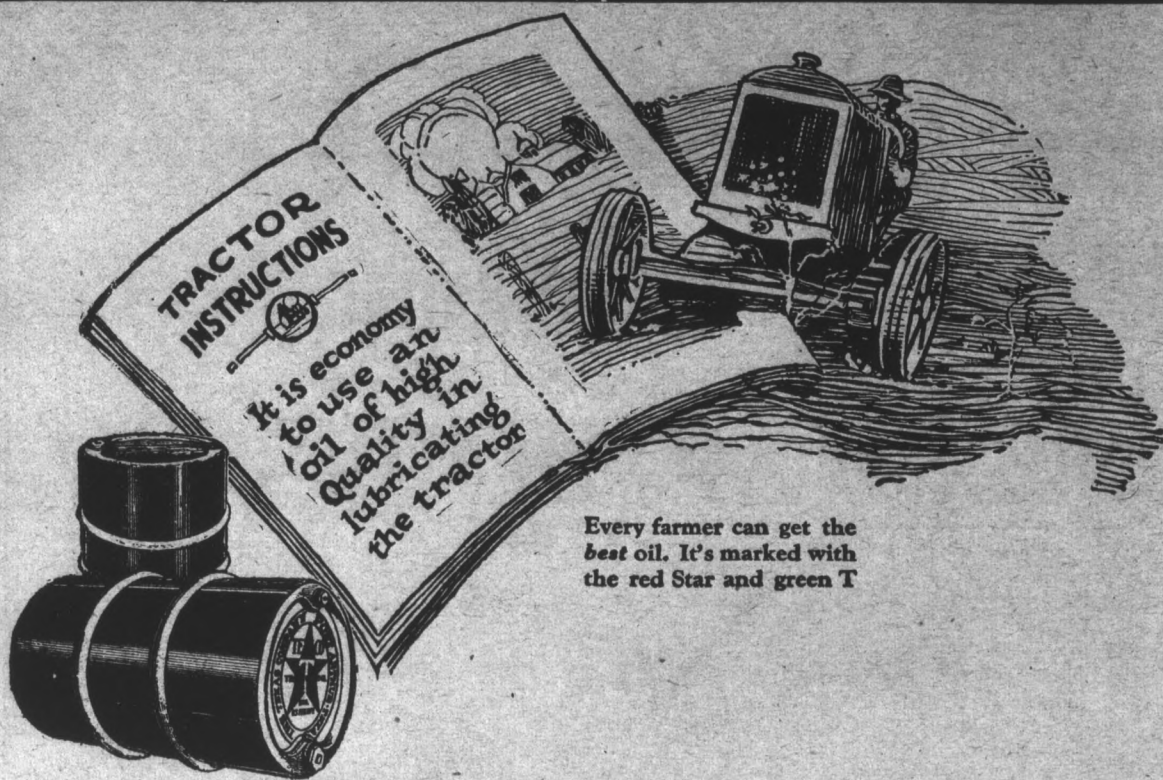


TEXACO MOTOR OIL

THUBAN COMPOUND

HARVESTER OIL

AXLE GREASE



TEXACO

TRACTOR OIL

There is not a single book of instructions on tractor maintenance, issued by the various tractor makers, which does not lay great emphasis on lubrication. For uninterrupted and longtime service in the hands of the farmer, all say practically this: "The first and most important thing in caring for the tractor is to see at all times that all parts are properly lubricated with the very best grease and oil that can be obtained." Now, every farmer can obtain Texaco Tractor Oil. He need only look for the red Star and green T. It marks the quality tractor oil that economically lubricates longer, that keeps the motor working, and lengthens the tractor's life. Texaco Tractor Oil comes in 33 and 55 gallon well-built steel drums, wooden barrels and half-barrels, and five gallon cans.



THE TEXAS COMPANY

Petroleum and Its Products

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FARM LOANS.

(Continued from page 231.)

the Federal Farm Loan System in its ultimate purpose, which is fast being accomplished, is a mutual organization owned by farmer borrowers, operated by farmer borrowers, under the supervision of the government and for their exclusive benefit.

The question of whether or not such an organization is worth while and deserved the fostering care of the government in its initial stages and merits the continued supervision of the government is academic and need not be discussed.

It seems to me that it is well to note in passing this phase of the discussion that the Federal Farm Loan System is not a partisan creation. It received its first government recognition from President Taft; it received in its passage the votes of practically all the members of both houses of congress; the board which administers it is required to be bi-partisan, and the Secretary of the Treasury being the fifth member, the majority of such board is always in political harmony with the administration.

After seeking the source of a demand for legislation, the next pertinent inquiry is, what would be the result? The results of the Federal Farm Loan System to date, as bearing upon farm mortgages, has been to equalize and stabilize the rate. The uniform rate made by the Federal Land Banks throughout the country is five and a half per cent. This effected a reduction of from two and a half to four and a half per cent in many sections of the west and south, and it is especially interesting to note that many of the farm mortgage bankers who were charging eight and ten per cent in those sections because of what they declared an extra hazard are now finding that they can safely loan at six and seven per cent. Rates have been stabilized and have remained practically the same throughout the financial stress of the war, during which we saw wide fluctuations in rates to commercial and industrial institutions, and we have witnessed, for the first time in the history of the country, the remarkable condition that the farmer was able to borrow money cheaper than the railroad. This would seem to be a result worth while to the farmer at least, if not to the farm mortgage banker. This has unquestionably come about largely through the tax exemption feature of the Federal Farm Loan Bonds. What would be the result if that exemption were taken away is, of course, problematical. But as I write, I have before me the April 1 offerings of one of the oldest, best established and most reliable investment banking houses in the country, and note that farm loan bonds are offered to yield slightly under four and a half per cent, while high class railways and industrials, including Anaconda Copper Company, are quoted as yielding from six and a quarter to as high as seven per cent. It would seem safe to assume that if the tax exemptions feature were taken away from farm loan bonds these bonds would have to be sold to yield the investor as good a rate as railroads and industrials, the average of which, from the circular quoted, would be above six and a half per cent. If to this we add the one per cent allowed for the operating expenses of a Federal Land Bank or the two or more per cent charged by the Farm Mortgage Bankers, it is easy to see, in the language of the street, where the farmer would "get off."

It is evident, therefore, that the question is not open to argument from the farmer's standpoint. Is he entitled to the consideration? Certainly not if it is an especial privilege and he alone is the beneficiary. The farmer has never thrived by privileges, does not believe in it and does not ask it.

But what are the facts as to tax

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Don't neglect to send for my New Bargain Fence and Gate Book and see for yourself how you can SAVE BIG MONEY buying DIRECT FROM FACTORY

Don't buy any fence until you get this book and compare my prices on BROWN'S HEAVY ACID TEST GALVANIZED WIRE FENCE—the fence that resists rust longer—that's stiffer and stronger—that outlasts all others.

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I pay the freight and save you 20% to 40%. Over 150 styles. Also Gates, Barb Wire. Write for Bargain Book today. (8) The Brown Fence & Wire Co., Dept. 249 Cleveland, O.

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We want 200,000 muskrats, mink, skunk, racoon, opossum and fox. Write for new price list. All furs are higher and we need the furs. Also large buyers of beef, horse and sheep hides.

JASPER POTTS

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For State Hospital Farm, Traverse City, Mich. Apply in own handwriting stating experience, qualifications and references. Also if married, give data relative to family. Geo. B. Pike, Steward, Traverse City, Mich.

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GET OUT your copy of our Annual Sale Book today you still can order at the low prices. It will pay you to anticipate your future needs. The bargain prices in this Sale apply only on orders mailed on or before

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Raise Five Calves at the Cost of One

International Calf Meal will raise five calves at the cost of raising one calf on new milk. It will save all your cream or butter fat and put your calves into veal condition in a hurry. Hundreds of farmers have proved that

INTERNATIONAL CALF MEAL

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It is a perfect substitute for new milk—a scientifically mixed feed that calves like and thrive on. Easily mixed. One pound equals one gallon new milk in feeding value.

SPECIAL OFFER. For a short time only we will ship prepaid a 100-lb. sack for \$5.50 to any point east of the Rockies. This offer is backed by a \$1,000,000 company. Send no money. Pay when feed arrives. Send a trial order today.

INTERNATIONAL SUGAR FEED CO., Minneapolis, Minn.

Live Salesmen Wanted

exempt securities? Are there other tax exemption privileges for other people than the farmer, and does the two hundred million of farm loan bonds now outstanding and the estimated output of from one hundred to one hundred and fifty million per year enter largely into the volume of securities enjoying tax exemption? No.

The campaign of the farm mortgage bankers lays special stress on what they call the loss to the government because of the accumulation of these two hundred million bonds in the hands of persons of great wealth who thereby escape a surtax. What are the facts? First, there are in existence in excess of four billion dollars of municipal bonds issued by the states and municipalities of the country. These bonds are exempt from every form of federal taxation, and where the "malefactor of great wealth" has one opportunity to buy a farm loan bond and escape surtaxes he has twenty opportunities to buy a municipal bond. In addition to this, there are in circulation nearly two billion of government bonds entirely exempt from taxation, which gives the same party ten opportunities to buy a government bond and escape surtaxes where he has one opportunity to buy a farm loan bond; and as finally quite exploding the theory that the little issues of farm loan bonds have affected the market for Liberty Bonds, the government is at present offering to the public four and a half billion of bonds, all of which may, at the option of the purchaser, become tax free on a three and three-quarter cent basis without the slightest effect upon the market for its previous issues.

The farm mortgage bankers have been entirely silent about this volume of tax-exempt securities, possibly because it doesn't interfere with their business. But these are not the only tax exemption privilege granted by our recent revenue act. The mortgages held by building and loan associations, which at present aggregate in excess of one and three-quarter billion dollars, are by the terms of the revenue act especially exempted from its provisions. The farm mortgage bankers have not criticized this exemption. It doesn't interfere with the farm mortgage business.

Mutual savings banks enjoy a similar exemption under the Federal Revenue Act. These banks hold in excess of two billion of real estate mortgages. Farm mortgage bankers are not complaining of this exemption. It doesn't interfere with their business, and many of the mortgages on which they have charged the borrower eight and ten per cent have been by them turned into the savings banks at six per cent and are enjoying the tax exemption of which they complain.

The stock in Federal Reserve Banks and the income therefrom is exempt from all federal taxation. The farm mortgage bankers are not complaining of this. Most of them are stockholders in national banks and get the six per cent dividends which the Federal Reserve Banks are paying.

The four billion and more of municipal securities exempt from federal taxation represent largely the expense of paving streets, putting in sewer system and general municipal improvements to make life for the city dweller more comfortable and prosperous. The mortgages held by the building and loan associations represent the home building efforts of the city dweller; the tax exemption granted to mutual savings banks inures to the benefit of their depositors, the vast majority of whom are city people. The tax exemption on the stock in Federal Reserve Banks inures to the benefit of the stockholders in national banks who are most exclusively from the cities.

A good cow is a big booster in the dairy. A bigger one is a good man.

1842

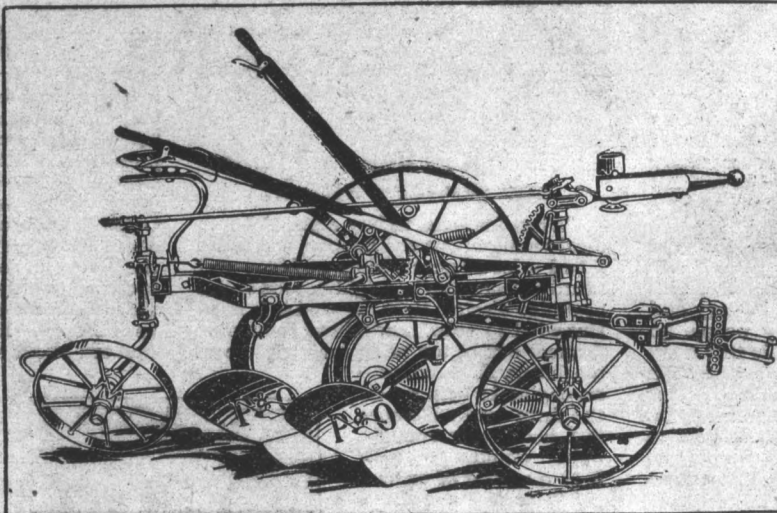


1920

Light-Draft Plows

EVERY detail in the construction of the P&O Line of Light-Draft Plows is worked out on the lines laid down by the founders — making for Simplicity and Strength. The popularity of these famous plows shows that the policy of the founders was right — they "knew how."

Used by
Three
Generations
of American
Farmers



78 Years of
"Knowing
How"
Hammered
into Every
One of Them

P&O Light-Draft Plows cover a wide range of work, not only for all ordinary plowing, but for the unusual and the extraordinary. For Horses: Walking, Sulky and Gang, both moldboard and disk, in all standard sizes and models of bottoms.

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Whether you own or operate a horse-plow farm or a tractor-plow farm, get a P&O Light-Draft Plow, and be a satisfied plowman.



Write for P&O Plow Catalog, or call on the nearest International dealer. Tell us your plowing problems — we believe we can help you.

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POULTRY

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THOROUGHBREDS PAY
Lay 40 to 50 eggs each per year—
Raised as easily as chickens—Only
eat half as much—Very profitable
—Bring \$2.00 per pound alive.

Genuine Wild Mallard Ducks

Lay 50 to 60 eggs per year—Guaranteed to be only from Wild Trapped Mallards.

Giant Bronze Turkeys

Prize Flock, headed by 55 pound tom.

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Fine laying strain of prize birds.

Send for Free Booklet of Instructions and Price List of Eggs.

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America's Largest Game Farm
1778 Penobscot Bldg.
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Chickens Sick?—Use Germozone

Roup, colds, bowel troubles, sore head, limberneck etc. At dealers or postpaid 75 cts. with 5 book Poultry Library. GEO. H. LEE CO., Dept. F-39 OMAHA, NEB.

Barred Rocks egg contest winners, eggs from strain with records to 200 a year. \$2.00 per setting prepaid by P. P. Circular free. FRED ASTLINE, Constantine, Mich.

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500,000 FOR 1920

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

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

This is our 11th season. With the great increased demand for our chicks and the fine reports and praise we receive from our customers, proves that our chicks are from Stock of Good Quality, Bred for Heavy Egg Production and that they are Properly Hatched. Stop your loss by buying our Reliable Chicks.

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

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BABY Chicks S. C. W. Leghorns, White, Buff Barred Rocks, S. C. R. I. Red, Anconas, White Wyandottes, Buff and Brown Leghorns, 25 for \$3.25, 50 for \$11.10 for \$20. Fenton Chicken Hatchery, Fenton, Mich. Box 244.

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

Baby Chix 100,000 Barron Strains, also S. C. Brown Leghorns and Barred Rocks for early delivery. Cat. free. Knolls Hatchery, R. 3, Holland, Mich.

Barred Rock Cockerels 9 ribbons at recent Jackson. Fair. Fine birds \$4 to \$5 each. 240 egg strain. Barred right. SAM STADEL, Chelsea, Mich.

Buff Leghorn and White Leghorn Cockerels, from 200 egg strains. Booking orders for eggs and chicks. DR. WILLIAM SMITH, Petersburg, Mich.

DAY OLD CHICKS

New Spring Catalog

The Day Old Chick business is on. We advise you to write for Catalog now, and then order as early as you can.

The most complete descriptive Catalog we have yet published; its instruction will help you.

Thirteen Heavy Breeds,
Three Especial Egg Breeds.

You will be particularly interested in the extra heavy laying breeds: White Leghorns inspected and certified as heavy producers by the Poultry Extension Specialist of the Agricultural College.

Cockerels—A few very fine R. C. and S. C. Reds; Barred Rocks; White Wyandottes; R. C. Brown Leghorns.

Pullets—20 S. C. Brown Leghorn yearlings.

We solicit your interest in the Homestead Farm plan of Pure Breed Poultry raising.

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OVIE'S BABY CHICKS

Big, Strong, Vigorous Chicks
that will live and grow and be a
pleasure and satisfaction to you.

Make Poultry Profitable

with a thoroughbred flock of Ovie's Day Old Chicks. Hatched in a Mammoth Hatchery under care of expert operators.

14 Leading Varieties

Safe delivery guaranteed by P. P. prepaid. Send for free catalogue today.

OVIE'S HATCHERY CO.

24 State Street MARION, IND.

Fowler's Buff Rocks: Cockerels, cock birds and pullets. Write for prices. R. B. FOWLER, Hartford, Mich.

Additional Stock Ads. on Page 265

"I made one mistake—But this time I think I picked a winner"

(From a letter to the Western Electric Company)

"If I was a mechanic instead of a farmer, I would have bought a Western Electric Outfit in the first place, and not waited till I was several hundred dollars poorer and wiser in the bargain. I am not going to say anything against other plants, because I know that isn't the way you work. I can't even tell the whole truth about your own outfit for fear that people might think you paid me to boost it. You don't have to."

Fl. Lewis

EDITOR'S NOTE: Mr. Lewis is a farmer near West Chester, Pa.

When it comes to electricity I give up

"I believe the wiser a man is, the quicker he will admit how little he knows about electricity. We can see and touch mechanical things, but when somebody gets talking about electricity, he can tell us pretty near what he pleases, and we can't dispute it.

"Take batteries for instance—the most important part of any light plant. We farmers, and even the wiser ones, talk about current flowing into a battery and out of it. But how many people go beyond that? Now look at it this way. If you shoot a stream of water into a bucket fast enough, most of the water will splash out as fast as it splashes in. And if the bucket is an average wooden one, it won't be long before the bottom pushes out. To you men whose batteries are giving trouble, and you who haven't bought yet, I'd suggest first of all that

you consider how the battery is charged by the generator. If the current comes in fast at first and then slows up gradually when the battery fills—as with the Western Electric—that means you'll have long-lived batteries. Otherwise you're 'out of luck,' as my son says since he came back from France.

Power and light, or light and power—which?

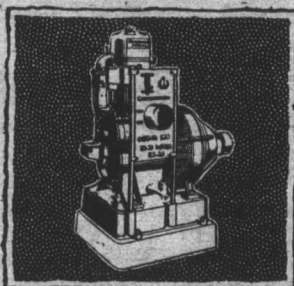
"When I started to buy a plant, I was dead wrong about the lighting end of it. I had a lot of gentle hints at home and heard talk around the neighborhood about how nice electric light is—and it is nice. But what I needed, and what I think nine farmers out of ten need, was a piece of machinery, first and last—an engine to help me do the farm work. Because if I had power enough, light would go with it as a matter of course. "It took me quite a while to wake up to the

fact that it would be an economy to pay a little more for a large outfit that supplied plenty of power, as well as light, rather than to buy a slightly cheaper and much smaller plant that would furnish light only. Right here's the important thing, and the farmer who buys an undersized plant is fooling himself just as I came near doing, because on a farm, power is about the only thing you need except brains, and the only thing that costs nothing when you don't use it.

What I insisted on was an engine that would run

"Of course getting plenty of engine is one thing and whether the engine will run is another. You don't want to buy till you've seen the engine in action, any more than I did. Now I don't know what your experience has been, but mine tells me that for genuine dependability you can't beat a valve in head, 4-cycle kerosene engine—that starts just by pressing a switch and runs in all kinds of weather. These are only some of the points about my new Western Electric Outfit. There are lots others I could talk about for pages yet—like that feature of the throttle governor to give uniform speed under any load you please, and the splash system of oiling that's as certain as it's easy. But I figure you'd rather find out about these points for yourself

than read my remarks. "Please don't get the idea I am trying to convince you that there are no good farm plants except the Western Electric. There probably are. But if you can tell me one that's any better, or made by people who are fairer to a buyer or who have been in the electrical business more than 50 years—I'd like to congratulate you, because you are some little funder."



Maybe some of the information that helped Mr. Lewis decide will help you too in choosing a Power and Light outfit. Just write for booklet MF-1, Western Electric Company, at Chicago.

Western Electric
Power and Light

Makes the Battery last longer

Red Seal Dry Batteries

Spark Strongest—Last Longest



Ask Your Dealer!

Your own good judgment and your power farming interests demand Red Seal Dry Batteries. Order from your dealer.

Red Seal Batteries are the kind thousands of farmers insist upon.

BOOK FREE! Send for book, "How to Run the Gas Engine, Simplified"—you need it. Mention dealer's name; address

MANHATTAN ELECTRICAL SUPPLY CO., Inc.
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DAYS BIG DAIRY PROFITS

Cedar Rapids Speed Governor controls speed of all machinery like separator, churn, fanning mill, washing machine. Changes speed of any or all instantly while in motion. Fine for separators. Steady speed saves vibration and spillage. Insures closer skimming. Costs very little.

CEAR RAPIDS FOUNDRY & MACHINE CO.
Cedar Rapids, Iowa

DICKEY GLAZED TILE SILOS

"The Fruit Jar of the Field"

Save 10% by ordering it now. Pay later when silo arrives. Send for catalog No. 2.

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

BARN PAINT \$1.22 PER GALLON

Get factory prices on all paints. We guarantee quality. We pay the freight.

Franklin Color Works, Dept. 14, Franklin, Ind.

GET Your Cream Separator NOW!

ONLY \$2 DOWN
A Year to Pay

on This Easy, Self-Earning Plan!

You won't feel the cost at all. The machine itself will save its own cost and more before you pay. We ship any size separator you need direct from our factory and give you a whole year to pay our low price of \$38 and up. Read what Alfred Geatches, North Jackson, O., says: "We are getting more than twice the cream we were before. The separator is very easy to clean and runs very easy." Why not get a fully guaranteed New Butterfly Separator for your farm and let it earn its cost by what it saves?

New BUTTERFLY

EASY TO CLEAN

Cream Separators have these exclusive, high-grade features: Frictionless pivot ball bearings bathed in oil—self-draining bowl—self-draining milk tank—easy-cleaning one-piece aluminum skimming device—closed drip-proof bottom—light-running cut steel gears, oil bathed. Guaranteed highest skimming efficiency and durability. We give

30 Days' FREE Trial—Lifetime Guarantee

against all defects in material and workmanship. We ship you the size machine you need and let you use it for 30 days. Then if pleased you can make the rest of the small monthly payments out of the extra profits the separator saves and makes for you. If not pleased, just ship the machine back at our expense and we will refund what you paid. You take no risk. Write for FREE Catalog Folder now.

ALBAUGH-DOVER CO., 2165 Marshall Boulevard, CHICAGO



You Need this Handy Sprayer

Use the Auto-Spray No. 1 to Disinfect incubators and brooders and to clean out lice and mites in the poultry house. Prevent blights and destroy insects in the hot house, cold frame, garden and on the lawn.

Whitewash the cellar, stables and other outbuildings faster and more evenly than with a brush. Wash windows, bugles and motor cars quickly and thoroughly. There are nearly 40 other styles of Auto-Spray—big and little.

Write for free Spraying Calendar and Catalogue.

The E. C. BROWN COMPANY 852 Maple Street, Rochester, N. Y.



THE RAILROADS.

(Continued from page 229).

fact that the wages of the railroad workmen have been raised time after time since the government took over the roads, and in the total it amounts to hundreds of millions a year added to the expense.

What, then, is the cause of the change of sentiment by the public? It may be hazardous to guess, but these influences are believed to be entitled to the credit in the order named.

First. There has been an enormous and persistent propaganda conducted by the companies or those interested in the companies and those sympathizing with their point of view, to discredit the government operation by every possible means, and prevent it having a fair test.

Second. The railroad executives in the employ of the companies when the roads were taken over, and the best equipped men to continue the operation for the government, and in fact, retained by the government for that service, were in many cases interested in seeing the roads returned to the private companies, and were distinctly given to understand, as the whole public was, that the period of government operation was to be short, and in many cases retained their actual relations with their former companies, if not the technical offices they formerly held. Whether true or false, it has been said that many of them hoped to see the roads so unsatisfactorily managed under the government operation that the day of return would soon be reached; and to some extent the wish assisted the fact.

Third. A very potent fact in changing public sentiment, it is believed, has been the discovery that the brotherhoods of railroad men seemed to think that the roads were not to be taken over by the government but by the brotherhoods, to be operated, not for the government nor for the public, but for the profit of the workmen, not for service but for wages; and with this idea in mind these brotherhoods proceeded to make such demands as convinced the majority of the public, that if such was the meaning of the government operation of the roads, the public did not care for any more of it.

There is no doubt that other causes have been in operation, but it is believed that those above recited have been the most potent; and certain it is that from these or other causes a great change of sentiment has come. What will be done remains to be seen; but the roads are now all but delivered back.

And what will be the outcome? Those who think it will mean cheaper or better service are certain to quick disappointment. The owners of the roads are asking a great increase of rates at once as a part of the order for return; and the increase in the rates is only a fraction of the added cost to the public; for the freight will be added to the original cost and the profits figured on the total. The farmer already knows what proportion the original cost bears to the final price. The final price is about three times the original price. The increased freight is part of the original cost, and will be multiplied by three when the consumer pays it.



CLOVERS AND OTHERS SEEDS ADVANCE IN PRICE.

THE average advance in prices for red, alsike, and sweet clover in fourteen markets was about \$2.50 per hundred pounds during the week ending January 24. Other important advances were noted in alfalfa, white and crimson clover, timothy, cowpeas, soy beans, and hairy vetch. The demand for the clovers continued to be good. In the territory west and southwest of Kansas City a serious car shortage has curtailed the movement of sorgo seed and other kinds of seed. Sleet and snow in some sections have affected telegraphic and mail service considerably.

Clovers.

The arrivals of imported clover seed were reported to be small. Crimson clover was quoted about \$1.50 per hundred pounds higher, possibly in sympathy with other clover seed prices because no unusual demand for crimson clover appeared to have developed during the week. Similarly white clover prices advanced. Salt Lake City reported that all of the surplus red clover produced in the far west had been moved and the demand was unusually good for this time of the year.

Grasses.

Kentucky bluegrass and redtop were twenty-five to fifty cents per hundred pounds higher. The other grasses remained unchanged in price, they apparently not having been affected by the buoyancy of prices on clovers, alfalfa and timothy. The latter scored another advance of \$1.00 with an increasing demand noted in most sections where timothy is used extensively.

Millets.

Golden millet was quoted twenty-five to fifty cents higher at Chicago, St. Louis, Kansas City, and at a few other points. Somewhat smaller increases for each of the other kinds of millet were noted in a few cities. There has been a good recent demand for broom-corn millet from poultry-feed manufacturers.

Vetches.

Hairy vetch was up \$2.00 to \$2.50 per hundred pounds in New York, Baltimore and Chicago, although but little change in stocks or demand were noted. Common vetch has remained at the same price as quoted for several weeks.

HAY RECEIPTS CONTINUE LIGHT.

THE shortage of cars throughout the central and eastern portions of the country and the bad condition of the country roads caused by the ice and snow, have curtailed the movement of hay during the past week and prices have made a further advance in most of the large hay markets. Reports from dealers located in the principal hay-producing territory of Michigan indicate that about fifty to sixty per cent of the marketable surplus in that territory has been shipped. The movement at present is principally from the farms, but is light on account of the bad condition of the roads.

Eastern Markets.

Reports from Philadelphia, Boston, and Baltimore indicate that the receipts of hay have been very light. The almost impassable condition of the country roads has prevented any loose hay from reaching these markets and but little hay is being offered "in transit." Prices have advanced from \$1.00 to \$1.50 per ton and there is a strong demand for practically all grades. Clover and heavy clover mixed grades especially are wanted.



20% More Out of Your Corn Crop This Year

You can get 20% more out of this year's corn crop if you will do what thousands of other farmers are doing who are getting this extra profit. *Here's the way you can do it:*

Store your corn in MARTIN STEEL "CORN SAVER" CRIBS instead of the old-fashioned wood crib, and save every kernel instead of letting rats, rain and mould rob you of your profits.

Officials of U. S. Dept. of Agriculture tell us that 20% of the American corn crop is lost every year between the time it is harvested and the time it is consumed. Think of it—one bushel out of every five lost because of rats, fire and waste.

You Can't Afford to Store Corn in Wood Crib

The old-fashioned wood crib is doomed. Figures and statistics prove that they do not serve the purpose for which they are intended—they permit of too big a waste and within a very few years the farmer who stores corn in a wood crib will be looked upon as a "back number." Farmers of the future will no more think of storing high priced corn in wood cribs than they would think of going back to the old-fashioned ox-team. A wood crib will soon be as big a curiosity as the old log cabin of by-gone days.

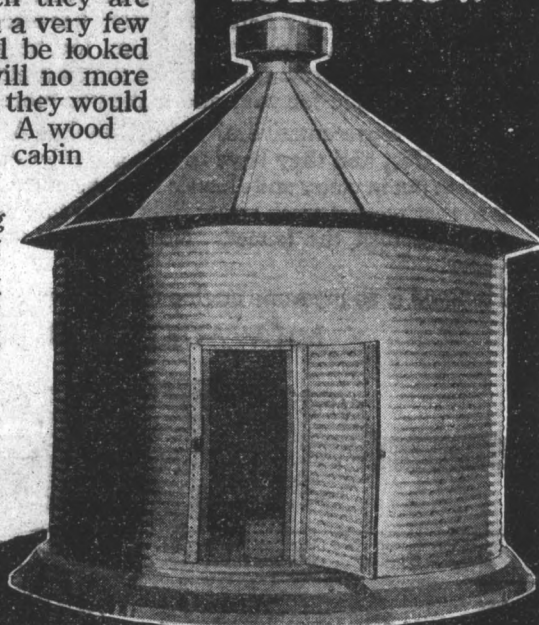
Let us send you our FREE big illustrated catalog that tells you all about the modern money-saving MARTIN STEEL "CORN SAVER" CRIBS—how and why they are better—how the patented ventilating system cures corn perfectly—how they protect corn from rats, mice, etc.—how they can be built easier and cheaper than wood cribs—made in three styles and all sizes from 500 to 10,000 bushel capacity. Read, too, in this catalog, what other farmers say about Martin Crib—get the facts—a post card or letter will bring you our big Free Catalog by return mail and our special low prices. Write today.

Martin Steel Products Co.
Dept. 504, MANSFIELD, O.

Martin STEEL "CORN SAVER" Crib



This FREE BOOK Tells How



More Milk and Easier Milking! —Care of the Udder Insures It.

It is impossible to obtain a maximum milk-flow from an udder that is not entirely healthy both inside and out. The slightest hurt or congestion will interfere with the delicate milk-secreting process, and at once reduce the production of an otherwise healthy cow.

Bag Balm has the soothing, healing, and penetrating qualities needed to make the tissues and surface of the udder soft, smooth and pliable—easy to milk and encouraging production to the last ounce.

A little care pays big returns; keep Bag Balm on hand and insure against milk losses and disagreeable milking. Especially valuable in treating Caked Bag, Cow Pox, Chaps, Bunches, Wounds and any inflammation.

Sold by druggists, feed dealers and general stores, in liberal 60c packages. Be sure to obtain a package at the first opportunity. It's a little wonder-worker in any udder trouble. A great remedy at the calving period, when so many abnormal udder conditions arise.

DAIRY ASSOCIATION CO., Lyndonville, Vt.

BAG BALM

MADE BY THE HOW-KURE PEOPLE

Chicks that Live \$15 per 100 S.C. W. Leghorns
Send for catalog. SNOWFLAKE POULTRY
FARM, R. L. Grand Rapids, Mich.

S. C. B. Orpington Cockerels
Good large utility birds \$4 each, 2 for \$7.
OLYDE GODFREY, Jonesville, Michigan.

John's Big beautiful Barred Rocks are hen hatched grow quick, good layers, sold on approval, mail \$4 to \$8. Circulars photos. John Northon, Chas, Mich.

LOOK: BABY CHICKS AND DUCKS
10 breeds of chicks, 4 breeds of ducks. Utility and Exhibition grades. Postage paid and live delivery guaranteed. Capacity 100,000 weekly Catalog free. Stamps appreciated.
NABOB HATCHERIES, Gambier, Ohio.

S. C. R. I. Reds. Choice cockerel and pullets from pure bred quick maturing heavy laying strain. Cockerels \$4.00 to \$8.00. Pullets \$3.00 to \$5.00. Pens \$15.00 to \$25.00. H. J. PATON, Route 3, Box 115, Ypsilanti, Mich.

R. C. Br. Leghorn Hens and unrelated Cockerels.
Mrs. CLAUDIA BETTS, Hillsdale, Mich.

S. C. R. I. Reds (only) 15 ecls., 3 cocks, a few pullets and trios. Aristocrat Strain. Heavy layers. Can sell you "High class stock at a REASONABLE price." Satisfaction or money back.
BABCOCK & SON, R. 6, Battle Creek, Mich.

Silver, Golden and White Wyandottes. Choice quality cockerels and pullets \$3.00 to \$5.00 each.
O.W. Browning, R. 2, Portland, Mich.

White Wyandottes Choice cockerels and pullets from pure bred quick maturing heavy laying strain. Cockerels \$4.00 to \$8.00. Pullets \$3.00 to \$5.00. Pens \$15.00 to \$25.00.
H. J. PATON, Route 3, Box 115, Ypsilanti, Mich.

White Plymouth Rocks Stock for sale, breeding and quality of the best. Write wants. Richard M. Gorton, Mason, Mich.

White Rocks. Choice Cockerel and pullets from pure bred quick maturing heavy laying strain. Cockerel \$4.00 to \$8.00. Pullets \$3.00 to \$5.00. Pens \$15.00 to \$25.00.
H. J. PATON, Route 3, Box 115, Ypsilanti, Mich.

White Wyandotte: out of choice stock for sale: cocks, cockerels \$2.50 each, send for my circular. **DAVID RAY, Ypsilanti, Mich.**

White Leghorns, Brown Leghorns, Ancona chick \$17 per 100. Live arrival guaranteed. Eggs of all varieties. Catalog free. Triangle, Clinton, Mos



WATER AND ELECTRICAL
EXPERT

"He's the Man Who Fixed My Place Up"

HE put running water and electric lights on my farm: he did a hard job easily, because he's a trained expert. You ought to see him, Joe, because this water and light system will make things pretty handy and comfortable for you, and make you more profits.

He's the representative of the Milwaukee Air Power Pump Co., and they have to take a regular course on how to put in water and electric light systems. He fixes it so that we get fresh water right from the well every time we turn the faucet. No storage tank or stale water.

He fixed it so my same engine runs the water system,

electric lighting plant, feed grinder, washing machine and cream separator. Now I've got hot and cold cistern and well water in my kitchen and bathroom; good fresh drinking water at all times; water for my stock, and electric light in all my buildings.

Running water and electric light, Joe, makes all the family satisfied, and increases my farm profits so much that it has more than paid for the whole system. Joe, if I were you, I'd go talk to this man.

We have a representative in your county. If you don't know him, write us.

MILWAUKEE AIR PUMP CO., 868 3rd St., Milwaukee, Wis.



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OR
BOTH



BREEDERS' DIRECTORY

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

Wildwood Farms Angus

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

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

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

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

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

WILDWOOD FARMS ORION, MICHIGAN

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

WOODCOTE AUGUS

1919 Winnings to Date			
Mich. State Fair	12 1sts	2 cham.	1 gd. ch.
N. Y.	9 1sts	2 "	1 "
West Mich.	11 1sts	3 "	2 "
Saginaw	10 1sts	4 "	2 "

International—2 firsts including the undefeated calf herd for 1919.

Every Animal Bred At
WOODCOTE STOCK FARM, Ionia, Mich.

Registered Aberdeen-Angus. Seven bulls from four to twelve months old. Plenty of size, best of breeding. Prices reasonable. Come and see them. Inquire F. J. WILBER, Olio, Mich.

GUERNSEY BULLS FOR SALE

Atta Boy of Maple Crest born April 1919. Sire Imp. Spotswood Sequel A. R. 19 A. R. daughters Dam imp. Albion price \$175.00. Pride's May King of Avondale born June 1919 Sire Nora's May King of Bailey Falls dam Queens Pride of Harrison A. R. price \$150.00.

Avondale Farms, Wayne, Mich.

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

GUERNSEYS

\$546 was the average price paid for all Guernseys sold at public auction in 1919. This figure indicates the buyers' high estimation of the value of the breed.

Let us tell you why Guernseys lead in popular favor.

The American Guernsey Cattle Club, Box 144, Peterboro, N. H.



GUERNSEY bull calves whose sire's dam made 19,460.20 milk, 909.05 fat. Their mother's sire's dam made 15,108.10 milk, 778.80 fat.

T. V. HICKS, Battle Creek, Mich.

Registered Guernseys
A nicely marked four months old bull calf. F. E. ROBSON, Room 307, M. C. R. R. Depot Building, Detroit, Michigan.

GUERNSEYS

Two fine bull calves for sale, by our A. R. May Rose Herd Sire. Priced to sell. Send for pedigree and description. GILMORE BROTHERS, Camden, Mich.

REG. GUERNSEY'S

The best of breeding—at prices you will pay—for good bulls—and bull calves—we can't beat the best.

J. W. WILLIAMS, No. Adams, Mich.

GUERNSEYS—REGISTERED BULL CALVES
Containing blood of world champions.

HICKS' GUERNSEY FARM, Saginaw, W. S. Mich.

Reg. Guernsey Bull calf 4 months old for \$75, delivered. Sire Deasie's May Rose of Allenwood 33278. His 5 nearest dams average 726 lbs. fat, dam of calf Imp. E. A. BLACK, R. 3, Howard City, Mich.

For Sale Four Reg. Guernsey females all but one due to freshen soon, also bull calf. P. J. ANDERSON Fremont, Michigan.

For Sale A number of Register Guernsey bull calves May Rose breeding. Cheap if taken soon. JOHN EBELS, Holland, Michigan R. 2.

Holstein-Friesian Cattle

Herd Headed by Segis Pontiac De Nijlander

A 32-lb. grandson of Michigan's great 35-lb. champion. His dam, Oak Valley Korndyke Beets Segis Fan, 32.06, is also a Michigan prize winner. Write for calf list. Wah-be-me-me Farms, White Pigeon, Mich.

Facts in BLACK & WHITE

The "Survival of the Fittest" in Dairy Cattle.

Over in Holland, where the foundation stock of our Holstein-Friesian cattle came from, the average yield of a cow is 10,000 pounds of milk in a year. The average of cows in America is only 4,000 pounds, but that average is going up because Holsteins are everywhere showing their elevating influences. Americans are discarding the 4,000 lb. cows that were costly boarders, and are replacing them with Holsteins—cows capable of abundant milk product at the lowest proportionate cost. The dairyman who is looking for profit should get all the Holstein facts from our free booklets. Send today.

THE HOLSTEIN-FRIESIAN ASSOCIATION
164 Hudson Street
Brattleboro, Vermont

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.

GRADE UP YOUR HERD

with a young son of Spring Farm Pontiac Cornucopia 18th, whose five nearest dams have an average record of 36.22 pounds of butter in seven days. Have several priced to sell.

JOSEPH H. BREWER, Grand Rapids, Michigan

HOLSTEINS OF QUALITY

A few richly bred bull calves for sale from dams with records from 20 to 25 lbs. in 7 ds. and from 33 lbs. sire. Shipped to any reliable party on approval. Write me price you wish to pay, and I will describe the best bull that I have for the money.

E. H. HARDY, Rochester, Mich.

THE BOOM IN LAMBS.

PROBABLY no sheepman expected at the opening of the winter feeding season anything like such a remarkable boom in prices as has taken place, with the choicest lambs bringing up to \$21.60 per hundred pounds, while the prime yearlings, wethers and ewes sold proportionately high. Nowhere near such fancy prices were ever recorded in any former month of January in the Chicago sheep market. Of course, conditions were unparalleled, however, for there has been a much increased call for lamb and mutton throughout the country at the very time when supplies were much the smallest ever known. In fact, it comes as a genuine surprise, what a great falling off there was this winter in feeding operations, and in addition to reduced feeding, many owners hurried their flocks to market prematurely. Looking backward, it is seen that the best lambs brought \$16.75 one year ago, \$17.85 two years ago, \$14.40 three years ago, \$11.10 four years ago, and \$6.95 eight years ago. Feeders and breeders are much wanted, but very few are to be had, these selling at extremely high prices. Shearing lambs go highest, scarcely any being offered. It should be understood that if lambs are to be sold at fancy prices, it is absolutely necessary that the owner give them the best of care, including suitable shelter and a variety of feed given unstintingly. For instance, a successful Missouri sheepman marketed a flock of 240 head of fancy lambs which averaged eighty pounds at the top price. He started them in a corn field, later furnishing shelled corn, hominy corn, oats and alfalfa. Choice ninety-seven-pound Ohio yearling wethers sold the other day for \$19.50, being too heavy to suit the popular taste, and prime light yearling lambs sold for \$19.75.

THE HOG OUTLOOK.

THERE have been some sharp breaks recently in prices for hogs offered on the Chicago market, following big advances, and a few days ago there was a sudden break of from thirty to fifty cents per hundred pounds caused by too generous offerings, the packers holding back and allowing something like 25,000 hogs to be left unsold at the close. The packers made the claim that they were losing \$2.00 per head, while eastern shippers were cancelling orders, so that the market was in a demoralized condition. However, such things are likely to happen at any time, and the interesting part of it all is that there is a known shortage of hogs in the country, while the market requirements are extremely large. The winter packing in the Chicago and other western primary markets shows a very large falling off from that of a year ago. The combined receipts of hogs in the leading markets for 1920 to a late date amount to 3,134,000 head, comparing with 4,289,000 head for the same time last year. One strong factor in making high prices is the large demand for hogs in the Chicago market to ship to eastern packing points, most of the eastern farmers having marketed their holdings several weeks ago. They want the better class of hogs mostly, and these are selling at a substantial premium, the range of prices having widened out materially within a short time. Hogs are selling far above the prices paid during the latter half of last year, with recent sales of the best lots as high as \$16 per one hundred pounds, comparing with \$17.70 one year ago, \$15.80 two years ago, \$11.70 three years ago and \$8.00 four years ago. The bulk of the hogs sell within a range of about forty-five cents per hundred pounds, with the highest prices paid for light butcher weights. It is estimated by some investigators that there are nearly five million less hogs in the country than a year ago.—F.



SOY BEANS FOR SILAGE.

In former years I became interested in your experiments with soy beans and corn silage. The high price of protein in dairy feeds again arouses my interest in this subject. Undoubtedly you have in recent years acquired some well established data on this matter. Would the combination add enough value to the silage to warrant the outlay for the beans? Should soy beans be planted at the same time at the same depth, in the same hill as corn? Will the beans and corn mixed, give a fairly even stand when planted with a hand-planter? Can you say approximately, how much seed of soy beans, is required per acre? If there is more than one variety, which is best adapted for sandy soil?

Charlevoix Co. D. H. B.

I have satisfied myself that it is a good plan each year to plant soy beans in with ensilage corn. I haven't had marked success some years, but other years they seem to be a profitable investment, only the expense of the seed is extra in this plan of growing them with corn. Now with our combined pea and corn hopper on corn planters no extra labor is required at all in planting this crop, in cultivating it or in harvesting it, and I am satisfied that the extra amount of roughage has paid me well for the seed. Where you have to plant the soy beans by hand, of course there will be an added expense in planting, but even this will pay you splendidly.

Last year we got a little benefit with the soy beans that we planted in the ensilage corn. I cannot understand why. We got an excellent stand of corn, but the beans did not seem to grow. The year before we had, as I say, quite an addition to the corn crop. It will take from six to eight quarts of the beans per acre and the more evenly you can distribute them the better. I favor using the large yellow variety for ensilage. Some of the earlier sort are liable to get ripe so that they will shatter before you get ready to cut the ensilage, and this large yellow will mature more nearly with ensilage corn. It doesn't matter if they do not get ripe, in fact, it is better that they do not for ensilage.—C. C. L.

BALANCED RATION FOR COWS.

Please tell me how to make a balanced ration for milch cows from the following feeds: Mixed hay composed of timothy, alfalfa and alsike, pure alfalfa, corn fodder, corn, barley and oats.

Clinton Co. K. S.

In order to balance up your feeds you should add some other food in the grain ration, that is richer in proteins than corn, barley and oats. These are all splendid feeds. You could grind them, mixing them equal parts by weight, then feeding your cows two pounds of cottonseed meal and two pounds of oil meal per day, and in addition a sufficient amount of ground corn, barley and oats to give each cow one pound of grain for every three or four pounds of milk she produces in a day.

C. C. L.

CORN SILAGE FOR FEEDING EWES.

Is good field corn ensilage that was medium ripe good to feed to breeding ewes just before lambing time?

St. Joseph Co. C. M. C.

Yes, corn silage is a good food for breeding ewes, giving them only one handful at first and gradually increasing. Of course, don't try to make them live on corn silage. They should have hay or corn fodder or some other dry roughage in connection with the ensilage, but by being careful in getting them to eat the ensilage you will be well pleased with the results you will get when they come to producing their lambs.

C. C. L.

It Has the Strength To Stand Every Strain

DISKING is a big strain on any harrow. And the better the disking the bigger the strain. Even though the harrow must pass over ridges, down into dead furrows and hog wallows, through corn stubble and over hard, lumpy ground, you want to set the discs at the right angle to pulverize properly. That means a strain on main and gang frames. Get a harrow that will stand the strain of doing good work year after year regardless of field conditions.

JOHN DEERE PONY TRACTOR DISC HARROW

This harrow is strong—the gang frames are double bar, securely riveted, with solid steel cross plates and steel end ties. The frames are so strong that they can be weighted down, and they do not warp or twist when the scrapers are used.

There is no springing of main frame of this harrow—the front gangs always come together in the middle, thus taking the end-thrust on the bumpers instead of on the frame.

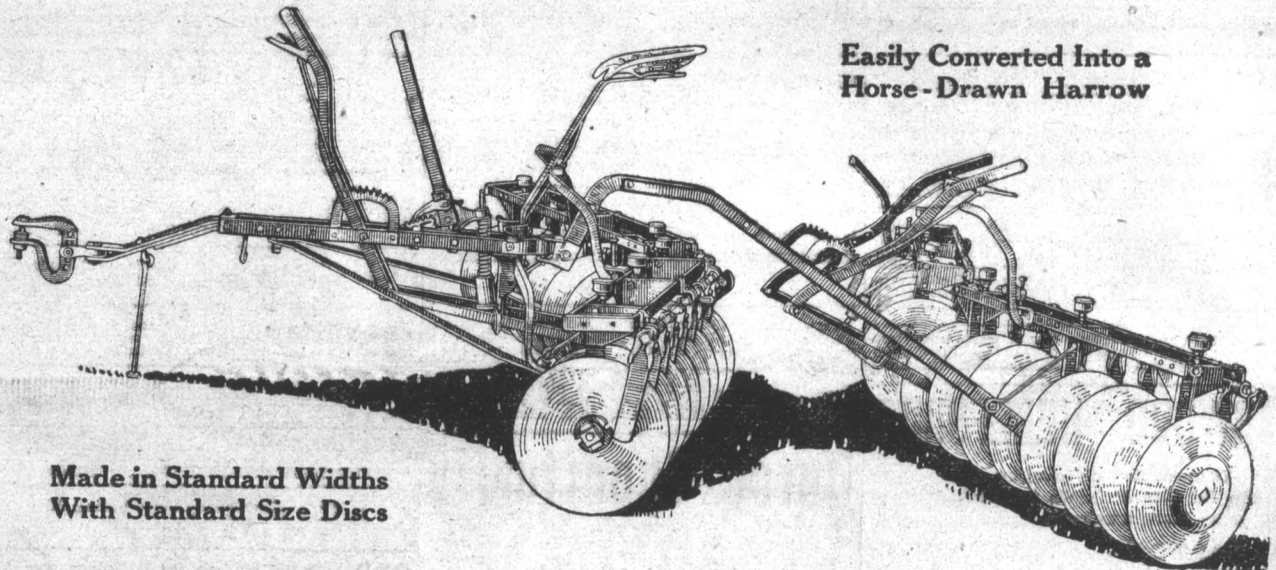
The harrow penetrates and pulverizes as desired because the low tractor hitch and low

coupling between front and rear gangs hold discs to their work.

Light running, with no dragging around corners—the rear gangs trail properly and run steady because the reinforced gooseneck connection is attached ahead of the front gangs.

Can be used with any standard tractor—the hitch is adjustable.

Write today for this Free Book, "Bigger Crops From Better Seed Beds"—32 pages of information valuable to every farmer. Address John Deere, Moline, Ill., and ask for booklet PT-426.



Easily Converted Into a Horse-Drawn Harrow

Made in Standard Widths With Standard Size Discs

JOHN DEERE

THE TRADE MARK OF QUALITY MADE FAMOUS BY GOOD IMPLEMENTS

"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.

\$100 a year get 2 heifers 19 1/2 lb. 2 yr. sister; 27 lb. sire bred to 27 lb. son of Maple Crest Korn, Hang. Only 1 bull calf left.

M. L. Mc. Laulin, Redford, Mich.

GET A BETTER BULL WINNWOOD HERD

BREEDERS OF

Registered Holstein-Friesian Cattle

We have bull calves ready for service and a new crop of baby bulls coming all of Maplecrest breeding. We have one of the largest pure bred herds in Michigan and this will be the last chance to buy sons of Flint Maplecrest Boy, cheap. For his daughters start to freshen this winter and they will all go on yearly tests. We own them all and will develop them. Don't wait, a bankable note is the same as cash to us and our price will be right. Tell us your wants.

JOHN H. WINN, (Inc.)

Lock Box 248,

Roscommon, Mich

A Grand Opportunity

We have for sale one more son (ready for heavy service) of the famous sire "Alcartra Pontiac Butter Boy" (136933) whose daughters sold so well at the Lansing sale, one selling for \$2000 and one a ten months old calf for \$500.

The dam is nearly ready to freshen and we expect her to materially increase her present record of 18.6.

Write for pedigree.

SINDLINGER BROS.

Lake Odessa,

Michigan

LONG DISTANCE

Holstein calves of either sex. Can spare a nicely marked heifer backed by seven dams that average above 1200 lbs. butter and 2400 lbs. milk in one year. Choice Duroc Sows. A. FLEMING, Lake, Mich.

King of the Pontiacs and King Segis

Bull calf born Dec. 10th. 1919. Sire: from son of King of the Pontiac whose dam is 33 lb. daughter of King Segis. Sire's dam Bucca Lassie Jean Butter 33.05 Milk 721.

Dam, Fine large cow now on test making 23 lbs. Price \$150.00 if sold at once.

A. W. COPLAND, Birmingham, Mich. Herd under state and federal supervision.

A BULLY GOOD BULL CALF.

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

Fayette, Ohio.

CLUNY STOCK FARM

A Semi-Official Bred Bull to Head

Your Herd

Maplecrest Application Pontiac No. 132652, heads

Our Herd

His dam's record is 1344.3 lbs. butter, 23,421.2

lbs. milk in 365 days, and 35,103 lbs. butter and

515.6 lbs. milk in 7 days.

One of his sons from our good record dams will

carry these great blood lines into Your Herd.

For Pedigrees and Prices write to

R. BRUCE McPHERSON, Howell, Mich.

Genrida Farm

Offers Bull Calf, born Feb. 21, 1919,

Sire: King Flint, who combines the blood lines of 2

families of 3 generations of 30 lb. cows and 2 genera-

tions of 1200 lbs. yearly record cows. Dam of sire has

35.1 lb. butter, 72.4 lb. milk in 7 days; 1007.76 lbs. butter

and 2149 lbs. milk in 36 days. Dam: Is 17.76 lbs. Jr. 2yr.

daughter of Johan Hengerveld. Led out of a 21.7 lbs.

Jr. 3 yr. grand daughter of King Segis. Write for

photo and pedigree.

Walter T. Hill, Prop. R. 2, Davison, Michigan.

For Sale Seven cows and three heifers, registered.

L. F. STAUTZ, Manchester, Michigan.

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

Reg. Holstein cows and heifers priced reasonable. High class breeding. All bred to 953 lb. and 942 lb. Bull. Some fresh soon. B. B. Reavey, Akron, Mich.

Reg. Holstein Bull Calf born Feb. 1, 1920. Sires 23 lb. dams 18 lb. Price \$100 Reg. and Del. would take Liberty bond. J. R. Hicks, R. 3 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. CLARKE, Vassar, Mich.

The Wildwood Farm

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

Maple Lane Register of Merit Jersey Herd. Bulls ready for service out of R. of M. dams and sired by one of the best grandams of Pegasus 39th of Hood Farm. IRVIN FOX, Allegan, Mich.

MICHIGAN JERSEYS

Michigan is an ideal place for the raising of Jersey Cattle and there are no better cattle for dairying than Jerseys.

Jerseys mature early, live long, produce persistently, give the greatest amount of butter-fat obtainable from every pound of feed. They are hardy and vigorous, always on the job and the greatest mortgage-lifters that ever entered a barn.

Michigan should have more Jerseys and the Jersey breeders of the state are anxious to cooperate with anyone who is interested in successful dairy farming.

MICHIGAN JERSEY CATTLE CLUB

BUTTER BRED JERSEY BULLS FOR SALE

CRYSTAL SPRING STOCK FARM, Silver Creek, Allegan County, Michigan.

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

Registered Jersey bulls ready for service. Some bred heifers, best of breeding. CLARENCE BRISTOL, Fenton, Mich.

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

Bulls ready for service from our herd bull Marguerite Premier, gdson of Pogs 99th of Hood Farm, and cows now on test for R. of M. Smith & Parker, Howell, Mich.

HARWOOD HEREFORDS

Young stock both sexes for sale. "Keep On 508019" heads the herd. Write us your wants. Visitors welcome.

JAY HARWOOD, Ionia, Mich.
Farm six miles south of Ionia.

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

HEREFORDS

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

ALLEN BROS.

PAW PAW, MICHIGAN

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

Hereford Herd Headers only the upper crust retained, undesirable unsexed, not the largest herd, but few as good. Come and see. Farm adjoins town. E. J. Taylor, Fremont, Mich.

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

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

BIDWELL SHORTHORNS

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

BIDWELL STOCK FARM
Box B, Tecumseh, Mich.

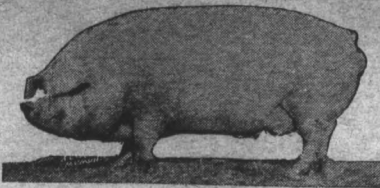
Richland Stock Farms
Home of the Michigan Champions.
Shorthorn Sires in Service:

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

C. H. PRESCOTT & SONS, Tawas City, Mich.

Scotch Shorthorns Imp. Royal Bruce heads a selected herd of females consisting of the Rosewood, Lovely Orangeblossom and Roan Lady and several other good females. Two bulls ready for service for sale also a few females. **CARR BROS. & CO.,** Bad Axe, Mich., Address Norman Car, Secretary.

THE FAMOUS O.I.C. SWINE



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

CRANDELL'S PRIZE HOGS, Cass City, Mich.

O. I. C. SOWS FOR SALE

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

MILKING SHORTHORNS. Clay bull calves. Davidson and Hall, Tecumseh, Mich.

Branch County Farm breeders of American Polled Shorthorns. Herd headed by Grand Champion bull, Sultan's Standard, son of Sultan Creed. For sale choice young bulls & heifers priced to sell. Address G. E. Burdick, Mgr., Coldwater, Mich.

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

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

Milking Shorthorns of best Bates breeding. Nothing for sale at present.
E. H. KURTZ, Mason, Mich.

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

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

Wanted Several Scotch and Scotch topped heifers or young cows that are in calf to good Scotch bulls.
Lawrence P. Otto, Charlotte, Mich.

HOGS

Registered Berkshire Boars: ready for service. A few gilts and sows bred for May and June farrow. Also spring pigs. **CHASE STOCK FARM,** Marlette, Mich.

Berkshires Bred and open gilts serviceable boars, can furnish pairs or trios.
RUSSELL BROS., R. 3, Merrill, 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.

Registered Duroc Boars

We have a choice lot of spring boars, sired by Michigan Cherry Col. No. 18479. Ira Jackson selected this boar to head our herd. Our prices are within every farmer's reach. The Jennings Farms, Bailey, Mich. R. F. D. No. 1.

Walnut Hill Durocs June farrowed boars ready for service from Ira Jackson and sows of all ages for Mar. and Apr. farrow, priced right and registered in buyer's name. Write
JOHN C. DEAN, R. 1, Mason, Mich.

DUROC JERSEYS

CAREY U. EDMUNDS, Hastings, Mich.

DUROC JERSEYS

E. D. HEYDENBERG, Wayland, Mich.

Duroc Jerseys Our herd won 15 firsts, 9 seconds, 3 thirds, 3 fourths, 3 fifths at leading Michigan fairs including State Fairs. We have some choice boars ready for service, reasonable prices. Some bred sows later on.
RUSH BROS., OAKWOOD FARM, Romeo, Mich.

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

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

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

DUROC GILTS. Bred and open. Real ones at fair prices.
BOARDMAN FARMS, Jackson, Michigan.

Chester Whites. spring and fall stock for sale either sex. At Saginaw fair we won highest honors against strong competition.
F. W. ALEXANDER, Vassar, Mich.

Raise Chester Whites

Like This
the original big producers

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

O. I. C. and Chester White Swine

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

O. I. C's. Last spring boars all sold. Have an extra good lot of last spring gilts, good fall pigs not akin. Good stock, registered free. 3/4 mile west of Depot.
OTTO B. SCHULZE, Nashville, Mich.

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

O. I. C's. Big type gilts, fall yrs., tried sows, Mar. Apr. farrow. Summer and fall pigs. I pay exp., reg. free, satisfaction guar'd. G. P. Andrews, Danville, Mich.

O. I. C. Gilts bred for March and April farrow. I pay express and register in buyers name.
H. W. MANN, Danville, Mich.

O. I. C's Service boars, fall pigs no akin also Bull 2 cks. at \$3.00 each.
CLOVER LEAF STOCK FARM, Monroe, Mich.

O. I. C's Have some Choice Spring Gilts, bred for spring farrow.
THAYER BROS., R. 1, Mason, Mich.

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

O. I. C. choice gilts bred for March, April and May farrow and fall boars. Am booking orders for spring pigs. A. J. Barker & Son, Belmont, Mich.

L. T. P. C. I spring boar, (by Long Jones) the best pig you ever saw; price \$100.00; send check with first letter or the other fellow will beat you, if you don't like description will return check. A few good spring boars left at farmer's prices. Gilts will be bred to a grandson of Giant Buster and a Grand Son of Dishers Giant, no better pair of young boars in the state, and Wiley's King Bob.
H. O. SWARTZ, Schoolcraft, Mich.

FOR Sale—Large Type Poland China Gilts, bred for April farrow. Inspection invited. Free delivery from Manchester. A. A. Feldkamp, R. 2, Manchester, Mich.

Poland Chinas sows bred for March and Apr. farrow. Large type with best of breeding.
R. W. MILLS, Saline, Mich.

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

Boars also sows and pigs. Real Big Type Poland B' Chinas. Bred big for years. Sired by Mich. Butler by Giant Buster, litter 14 out of Mou's Miss Queen 2nd, some breeding, also by Butler's Big Joe by Rust's Big Joe, out of a Wonder Queen, nuf said. Write us your wants, we will treat you right, our prices are low.
J. O. BUTLER, Portland, Mich.

LARGE Type P. C. the largest in Mich. Spring boars now ready to ship. Boars for the breeders and boars for the farm ers. Come and see the real large type with quality. Free delivery from Parma furnished visitors. Look up my exhibit at the Great Jackson Co. Fair, Sept. 8th to 12th, expenses paid if not as advertised. W. E. Livingston, Parma, Mich.

MR. P. C. Breeder if you want to get in the King row. Buy a Gilt bred to Big Bob Mastodon, more Grand Champion Blood in his veins than any other Boar in Michigan. C. E. Garnant, Eaton Rapids, Mich.

Big Type P. C. Boars, best breeding, A. A. WOOD & SON, Saline, Mich.

TWO HERD BOARS

for sale. Ask for description of a real boar, live wires. Also have a few fall pigs, pair not akin.
C. A. BOONE, Blanchard, Mich.

BIG Type Poland Chinas. Sired by Smooth Mastodon litter mate to the Ill. Grand Champion. The big boned, deep, long bodied kind at farmer's prices. Wah-be-me-me Farms, White Pigeon, Michigan

Big Type P. C. sows bred to Ls Big Bob & THIRTY Ls Giant, fall pigs, none better, call or write.
E. R. LEONARD, St. Louis, Mich.

Bargains on big type Poland Chinas, both sex, all ages, Shorthorn calves, either sex, and B. P. Rock cockerels.
Robert Neve, Pierson, Mich.

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

HAMPSHIRE

Steuben's Hampshire Farm

A few No. 1 bred Gilts left, a few choice fall boar pigs, can furnish pairs not akin. Booking orders for spring pigs, large type, no better blood lines. Satisfaction guaranteed.

STEBEN'S HAMPSHIRE FARM
ANGOLA, IND.

Pine Grove Hampshires, "Quality First" Michigan Boy, Grand Champion boar of Michigan. Bred and owned by us. Many other prize winners at Michigan State Fair 1919. Hog's for sale all ages, both sex. "Lookout Joe", a \$1000 boar heads our herd.
GEO. COUPAR & SONS, R. 1, Marlette, Mich.

Hampshires Bred gilts now ready to ship, a few 180 lbs. boars left and fall pigs from new blood lines.
JOHN W. SNYDER, R. 4, St. Johns, Mich.

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

Big Type P. C. Gilts bred to Big Orange Model and C. H. Defender. None better in State. Priced to sell.
W. J. Hagelshaw, Augusta, Mich.

BIG Type Poland Chinas. Up-to-date in breeding, with size and quality. We like good ones and believe you do also. Have three choice gilts for sale, bred for April 7, 9, 10, respectively. Their sire at 18 months weighed 840 lbs., not fitted, and stood 40 in. tall, 73 in. long and on a 10 in. bone. They are bred to a great son of Mountain Giant. Write or come and see. You're always welcome. **WESLEY HILE,** R. 6 Ionia, Michigan.

ROYAL BRED GILTS

Dams sired by Michigan Cherry Col. Bred to Jacks Cherry Orion King, No. 189259, Son of the \$10,000 champion, Jacks Orion King 2nd. all high class stock, write for prices. The Jennings Farms, R. 1, Bailey, Mich.

B. T. P. C. spring Boars all sold. One Oct. 21st yearling boar, wgt. 425 lbs., as near perfect as any pig in Michigan. Price \$125. Gilts ready Jan. 1. Bred to a good son of \$10,100 Harrison's Big Rob. Every pig recorded free.
JOHN D. WILEY, Schoolcraft, Mich.

L. T. P. C. Spring gilts ready to ship also fall pigs both sexes. P. R. ALEXANDER, R. F. D. 6, Albion, Mich., Bell phone 843FII.

B. T. P. C. Gilts sired by Big Giant and O's Orange. Bred to O's Orange and Col. Jack Jr. No better breeding to be had. L. L. Chamberlain, Marcellus, Mich.

Tamworths The great bacon breed. Some good registered gilts bred for March farrow, also fall pigs.
W. H. WARNER, Concord, Mich.

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

SHEEP.

Shropshires Registered ram lambs sired by ewes. Butter. Also choice bred ewes.
W. B. McQUILLAN, R. 7, Howell, Mich.

20 choice Reg. Shrop. ewes due to lamb in March also about 15 Reg. ewe lambs unbred. Priced for quick sale.
H. F. MOUSER, R. 6, Ithaca, Mich.

KIDS of Mich. You are the future farmers of the state. I am one of the best sheep breeders in the state. Let's get together that you may start your own flock of registered Shropshires now. A lot of kids have already done so, but I want more. I will buy your ram lambs and cooperate with you in every way. Write me for my proposition and prices. **ROPE-KON FARMS,** S. L. Wing, Prop. Box A, Coldwater, 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, 22 Woodland Ave., Detroit, Mich.

Idle Wild Stock Farms Shropshire yearling rams from prize winning stock. Make your selection early. Cliff Middleton, proprietor, Clayton, Mich. R. 3.

Registered Shropshire bred ewes. 1 to 3 years old. Large, healthy, well fleeced representatives of this flock gave satisfaction in 15 states, last season rams all sold.
C. Lemen, Dexter, Mich.

Cotswolds ewes bred to one of Canada's best rams, start right buy good ones while they can be had.
A. M. BORTEL, Britton, Mich.

HORSES

BELGIAN DRAFT HORSES

We have the best and largest herd in the world to select from, with Grand Champions heading our herd.

We won more premiums at the International Belgian Horse Show, Waterloo, Iowa, 1919 than any other breeder or exhibitor, competing against 25 exhibitors from Iowa, 3 from Indiana, 1 from Illinois and 1 from Canada.

We have sold 4 winners at the International Belgian Horse Show to an Iowa breeder. Those horses winning again at the International Live Stock Show at Chicago the same year.

We are listing mares of Iowa breeders and breeders from other states, to be bred to our **Rubie 8004**, whose offspring won at both Internationals this year, taking some of the highest honors in stallion and mare classes.

We can sell you a carload of stallions and mares or just one of either sex.

We invite your inspection and will meet you at any of the railroad stations if you will write us in time.

Come to Burt, Michigan, via Grand Trunk Railway or to St. Charles, Michigan, via the Michigan Central Railroad.

We are in the market for Registered Belgian Draft Colts

Owosso Sugar Company

Prairie Farm

ALICIA, Saginaw County, MICHIGAN

FOR SALE Imported Black Percheron Stallion 10 years old. Weight 1850. Cheap for quick sale.
LEO McCLELLAN, Atlas, Mich.

Percherons, Holsteins, Angus, Shropshires, Durocs
DORR D. BUELL, Elmira, Michigan.

For Sale Reg. Percheron Stallions and Mares also a few of grade draft colts.
CHAS. A. BRAY, Okemos, Ingham Co., Mich.

For Sale A black registered three year old Percheron Stallion weight 1700 lbs. broke to work. Julian A. Palmer, Camden, Michigan.

Here!-Make This Test Yourself!



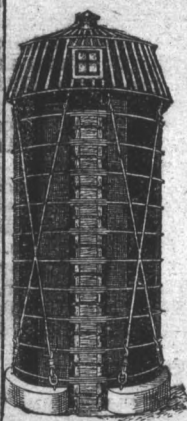
Send for a piece of Champion Creosote Oil-Filled Stave. Turn it tight in a vice. Notice the oil you can force out of it. See for yourself how the Champion heat-and-pressure method of treating staves forces the hot creosote oil into every perishable part. An average of a gallon of oil to the cubic foot of stave. This is what makes the staves of a

Champion Silo

last forever. They are rot-proof, warp-proof and non-swelling. These oil-filled staves are planted in a four foot solid concrete foundation. The cables of the interlocking anchoring system are fastened at the bottom to steel rods which run into the concrete foundation, with an adjustment for tightening or loosening the cables where they join the foundation rod, and run to the top where they encircle two channel steel hoops, one inside and one outside of the staves, securely tying top to base and making one solid unit of the entire silo—a silo that is absolutely storm-proof.

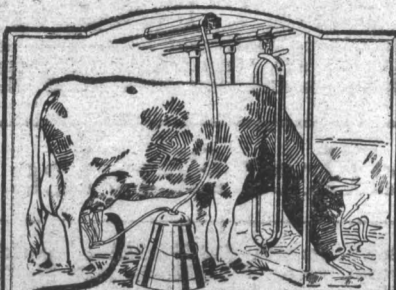
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The most modern improvement in all milker construction. The "See-Thru" is so different from every other cup that truly it has no competition. Made of a clear, transparent material, you can see through it and always know which quarter is milking or dry. Only three parts. Lasts a lifetime. No other milker has it. You need it.

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100 Everbearing Strawberry Plants \$2.00 Post Paid

200 for \$3.85, 300 for \$5.50. American, Progressive, Superb, Francis, Peerless—some each while in supply. When sold out of one or more we will send the others. Catalog Free.
C. N. FLANSBURGH & SON, Jackson, Mich.

NORTHEASTERN DEVELOPMENT BUREAU SEVEN YEARS OLD.

THE annual meeting of the Northeastern Michigan Development Bureau was held in Bay City and was followed by a banquet at the Wenonah Hotel in the evening, attended by about one hundred and sixty guests, who came from all over the district, with a number of others from outside of Northeastern Michigan, including men from Grand Rapids, Lansing, Flint and Pontiac.

At the annual meeting in the afternoon, James L. Snody was re-elected president of the organization; John Yuill, of Vanderbilt, first vice-president; Robert Rayburn, of Alpena, second vice-president, and Marius Hanson, of Grayling, treasurer.

The report of Secretary Marston reviewed the work which has been done during the past year and Treasurer Hanson's report showed that the bureau has been using its money to advantage.

President Snody, in a short address, reviewed the great growth of the district and some of the "special features" of the bureau work which had contributed to that growth. He also outlined some of the things which he would like to accomplish in the future, and among other things advocated the offering of substantial prizes for the best samples of grains and other farm produce to be sent to the bureau and exhibited at its annual meeting. Mr. Snody promised a personal donation of \$25 toward a special prize for the best sample of corn, and suggested that others might do likewise, and the bureau could supplement these donations with other prizes. The one condition he attached to the prizes is to be that the samples submitted should become the property of the bureau, to be used for exhibit purposes.

Regret Saginaw's Defection.

Directors of the association expressed their regret at the failure of Saginaw county to retain its membership in the bureau. "Saginaw is one of the trading centers of the entire northeastern Michigan district and it ought to be deeply interested in the effort of these northern counties to develop their territory and to assist in that work, for what helps one part of the district cannot fail to be of benefit to all of the others," said one of the directors.

NEW YORK PRODUCE MARKET

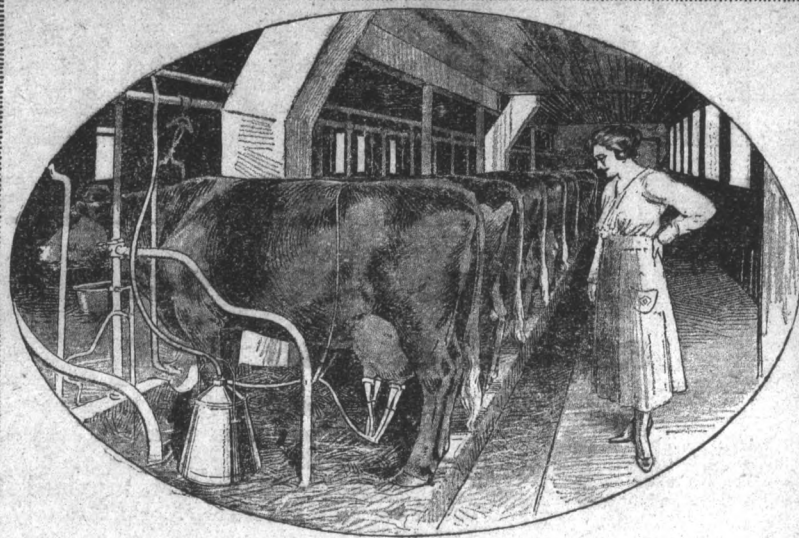
February 7, 1920.

Butter.—Because of a marked shortage of butter, due to the severe snow storm that hit the east on Wednesday and Thursday, the price tendency of butter has been markedly upward. The much advertised Danish butter was available for distribution on Wednesday of this week but as there was a marked shortage of fine butter at that time it had practically no effect on the butter market. Butter prices at present are: Extras 67c; higher scoring than extras 67½@68c; firsts 59@66c; seconds 55@58½c.

Cheese.—Cheese reserves have been reduced because of an increase in domestic consumption and severe winter weather. There is practically no export demand and little business in current make cheese, hence no quotations are made on it. Prices of held cheese are: Fair 26@29c; average run 29½@30½c; specials 31@32c.

Eggs.—The erratic market of last week continued into this with the result that prices broke materially the first part of the week. The recent spell of cold weather is responsible for the price recovery. Refrigerator eggs suffered a marked decline in price during the week and are in very little demand at present. Quotations on fresh eggs are as follows: Firsts 58@60c; extra firsts 61@62c; extras 63@64c.

Poultry.—There has been a very strong demand for poultry during the week, because of the influenza epidemic, and prices have advanced. Established quotations are: Chickens 35@38c; colored fowls 43@45c; White Leghorn fowls 40@44c.



Making Money Easier

NO help problem here. No hard tiresome work milking cows. This dairy, like many thousands of others, makes a good profit, produces clean milk, keeps healthy, happy cows, with the help of simple Hinman Milkers.

They are so MUCH better than hand milking, so very simple to operate and keep clean, so THOROUGHLY reliable, that once you use them you will never go back to hand milking.

HINMAN MILKER

In putting in milking machines you will save a lot of time and money for the future if you get the machine that for 11 years has been proving its positive superiority in thousands upon thousands of large and small dairies all over the country.

When you own Hinman Milkers you will appreciate their unusual simplicity; the ease of operation and cleaning.

Send for Free Catalog

A 48-page book that every cow owner ought to have. It is most interesting, and tells you a lot about mechanical milking that will be of value to you. It's yours for the asking.



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But I do guarantee the germ of life in the seed I sell

My customers make their biggest money on dealing with me the second season—when they buy ALL their seeds from me. You start now. Ask me for samples of any field seeds. I'll send you the finest and cleanest on the market. I'll send you my 1920 spring catalog, too—80 pages of how to make more money per acre.

Dave Peck, Pres. Dave Peck Seed Co., 208 Penna. Ave., Evansville, Ind.

Give The Cows a Chance With The Viking



Your cows are allright—the butter-fat is in the milk and they will give it—but it is up to you to separate it. Are you blaming your cows for your poor record of butter-fat?

Buy a VIKING cream separator and get the maximum amount of butter-fat and cream from your milk—give your cows a chance to make good with a VIKING.

Dept. BD.
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It Pays To Dehorn

Dehorn your cattle in the modern humane way. No crushing—a single stroke does the work quickly when you use a **KEYSTONE DEHORNER**.

We also make Keystone Bull Sticks and other appliances for cattlemen and dairy men—all sold on money-back guarantee. Write for circular. It pays to dehorn.

M. T. Phillips, Box 126 Pomeroy, Pa.

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Approximately 10,000 cases are successfully treated each year with **Fleming's Fistoform**. No experience necessary; easy and simple; just a little attention every 5th day. Price \$2.50 a bottle (war tax paid)—money refunded if it fails. Send for free copy of **FLEMING'S VET-POCKET VETERINARY ADVISER**. Valuable for its information upon diseases of horses and cattle. 197 pages, 67 illustrations. Write today. **Fleming Bros., Chemists**, 252 Union Stock Yards, Chicago, Ill.

Easier Shearing

Shear with a machine—get more and better wool—saves you tired arms or swollen wrists. Do it quickly without scarring the sheep. Machine shearing gets 15% more wool and leaves a smooth, even stubble that will increase next season's growth. Get a Stewart No. 9 Ball Bearing Shearing Machine. Price \$19.25. Send \$2—pay balance on arrival. Write for catalog.
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Too Late to Classify

Registered Holsteins At Auction.

Cows, Heifers, Bulls, Calves.
ONE P. M. MONDAY FEB. 23.
One mile south of High School.

W. H. ROSSMAN
Lapeer, Mich.

Polled Shorthorns Young Stock for sale either sex also young cows. White Wyandottes Frank Bartlett Dryden, Mich.

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are the cheapest
as well as the best



This is the unanswerable argument in favor of the purchase of a DE LAVAL Cream Separator.

Everyone wants the best, provided its cost is within his means. Fortunately a DE LAVAL costs but little more than an inferior cream separator and saves that difference every few weeks.

Moreover, an inferior separator wastes in time and labor, and in quantity and quality of product what a DE LAVAL saves, and goes on doing so every time it is used, twice a day every day in the year.

If you doubt this is so, try a new DE LAVAL alongside any old machine you may be using or other make of separator you may have thought of buying. Every DE LAVAL agent will be glad to afford you the opportunity to do so.

If you don't know the nearest De Laval agent, simply address the nearest De Laval main office, as below

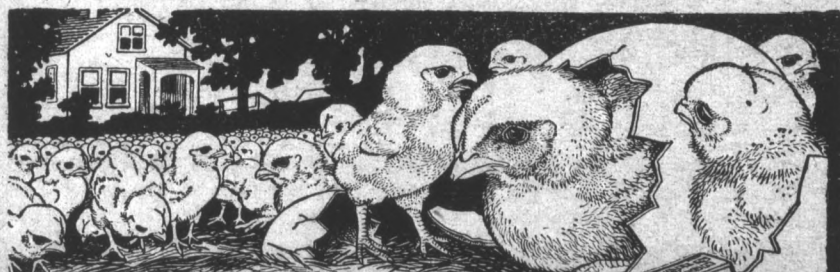
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Market Reports

SECOND EDITION.

The markets in this edition were revised and corrected on Wednesday afternoon, February 11.

WHEAT.

The wheat market was a little firmer in Minneapolis, but the Detroit market was inactive, and offers to sell at a drop of five cents brought out no buyers. The mills are in no hurry to buy wheat at present prices. Latest quotations at Detroit are:

No. 1 red	\$2.55
No. 1 mixed	2.53
No. 1 white	2.53
No. 2 red	2.52
No. 3 red	2.49

OATS.

Oats are firmer on the Detroit market, because the supply is not large. There are many dealers who believe the entire surplus of the country is now in the hands of exporters.

No. 2 white	90
No. 3 white	89
No. 4 white	88

CORN.

There is no confidence in the corn situation and all the dope suggests continued weakness in trading. Detroit corn market closed with a drop of three cents and no indication of higher prices. Shippers are not buying and Chicago reports little cash demand. Receipts at the Detroit market are small and prices are as follows:

No. 3	\$1.45
No. 3 yellow	1.47
No. 4 yellow	1.43
No. 5 yellow	1.40
No. 6 yellow	1.37

RYE.

The rye market is fluctuating owing to the foreign exchange situation. Aside from the financial situation the difficulties of making prompt shipments to and from the Atlantic seaboard has checked the movement of this cereal. At Detroit present quotations are \$1.51 per bushel for Cash No. 2 rye.

SEEDS

The seed market has suffered a slight decline since last week. Present quotations at Detroit are as follows: Prime red clover \$35.25; alsike \$35.25; timothy \$6.60.

FEEDS.

There has been a slight advance in the price of wheat by-products at Detroit where present values are as follows: Bran \$51; standard middlings

\$54; fine middlings \$59@60; coarse cornmeal \$64; cracked corn \$65; corn and oat chop feed \$55@56 per ton in 100-pound sacks.

FLOUR.

The flour market continues decidedly unsettled and business is practically at a standstill. In fact, the trade is completely at sea regarding what to expect concerning future developments. In sympathy with the recent declines in cash wheat the mills have reduced their prices 25@75c a barrel, but quotations at the close were entirely nominal. The price now of spring wheat patents to the retail trade is \$14.25.

BEANS.

Beans are inactive and prices have declined 40c since last week. At Detroit present quotations for choice hand-picked pea beans \$6.35 per cwt. At Chicago buying is restricted and many who have loaded themselves up to capacity are now anxious to resell some of their stock at a loss. This tends to create a weak market. Present values on the Chicago market are \$7.25@7.50 per cwt for choice hand-picked pea beans and \$14@14.50 per cwt for red kidneys.

HAY.

The hay market is firm owing to active demand and no increase in receipts. Present quotations at Detroit: No. 1 timothy \$33.50@34; standard timothy \$32.50@33; light mixed \$32.50@33; No. 2 timothy \$31.50@32; No. 3 timothy \$27@29; No. 1 mixed \$31.50@32; No. 1 clover \$31.50@32; wheat and oat straw \$13.50@14; rye straw \$13.50@14 per ton.

At Pittsburgh the receipts are very light owing to the inability to get cars, and dealers are nearly depleted of stocks. All arrivals are readily placed at top quotations: No. 1 timothy \$36@36.50; No. 2 timothy at \$35@35.50; light clover mixed \$36@36.50; No. 1 clover mixed \$38@38.50; No. 1 clover \$39@39.50; No. 2 clover \$34@36; No. 1 oat straw \$15@15.50; No. 1 wheat straw \$14.50@15; No. 1 rye straw \$15@15.50.

POTATOES.

Present supplies are ample and the demand and movement moderate. The quality and condition are generally good, although some frozen potatoes have reached the Detroit market. Michigan U. S. Grade No. 1 are quoted at \$6.50@6.75 per 150-pound sack, sales to jobbers. At Cleveland the demand and movement is moderate and prices are firm with little change. Michigan and New York round white

Live Stock Market Service

BUFFALO

In the hog division of the market here today yorkers and mixed sold at \$17.25@17.65 and mediums and heavy at \$15.50@16.25. Lambs were fairly steady at \$22.50 and calves reached \$23 per cwt.

DETROIT

Cattle.

Market steady.
Best heavy steers\$11.75@12.00
Best handy wt bu steers.. 11.00@11.25
Mixed steers and heifers.. 10.00@10.50
Handy light butchers 9.00@ 9.50
Light butchers 8.00@ 8.25
Best cows 9.00@ 9.50
Butcher cows 7.50@ 8.00
Cutters 6.50
Canners 5.50@ 6.00
Best heavy bulls 10.00@10.50
Bologna bulls 8.00@ 9.00
Stock bulls 7.00@ 7.50
Milkers and springers...\$ 65@ 125

Veal Calves.

Market steady.
Best grade\$21.00@22.00
Others 12.00@13.00

Sheep and Lambs.

Market 25c higher.
Best lambs\$ 21.25
Fair lambs 18.50@19.50
Light to common 14.00@16.00
Fair to good sheep 12.00@13.00
Culls 6.00@ 9.00

Hogs.

Market 25@35c higher.
Mixed hogs\$ 15.50
Pigs 16.50@16.75

CHICAGO.

Hogs.

Receipts 13,000; holdover 7,047. Market mostly 25@30c higher, with a few up 40c. Bulk at \$14.60@15.50; top at \$15.60; heavy \$14.40@15; medium at \$14.75@15.30; light \$14.85@15.60; light light at \$14.75@15.50; heavy packing

sows smooth \$13.50@14.25; packing sows, rough \$13@13.50; pigs \$13.75@15 per cwt.

Cattle.

Receipts 7,000. The market is steady. Beef steers, medium and heavy weight, choice and prime \$15@17; medium and good \$11@15; common \$9@11; light weights, good and choice \$12@16; common and medium \$8.50@12; butcher cattle, heifers \$6@12.50; cows \$6.50@11.50; canners and cutters \$5.25@6.50; veal calves at \$16.25@17.50; feeder steers at \$7.85@11.75; stocker steers \$7@10.50.

Sheep and Lambs.

Receipts 6,000. Market 25c higher. Lambs 85 lbs down at \$19@21.65; culls and common \$15.25@18.50; ewes, medium, good and choice \$11.25@14.25; culls and common \$6.50@10.75.

BUFFALO.

Cattle.

Receipts 140 cars; slow; prime shipping steers at \$14@15; best shipping steers at \$12@13; medium shipping steers \$11@12; best native yearlings, 950 to 1000 lbs \$12@13; light native yearlings, good quality \$12.50@13.50; best handy steers \$11.50@12; fair to good kind \$10@10.50; handy steers and heifers mixed at \$9@10; western heifers \$10@11; state heifers \$9@10; best fat cows \$10@10.50; butchering cows \$7.50@8.50; cutters at \$6.50@7; canners \$4.50@5.25; fancy bulls at \$10@10.50; butchering bulls at \$8.50@9; common bulls \$7@8; best feeders, 900 to 1000 lbs \$9.50@10; medium feeders \$8@9; stockers \$6.50@7; light common \$6@6.50; best milkers and springers \$10@17.50; mediums \$6@10.

Hogs.

Receipts 60 cars; higher, medium, \$15.50@16; heavy \$15.25@15.50; yorkers and pigs \$16.25@16.50.

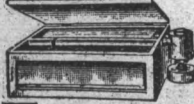
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stock U. S. Grade No. 1 in 150-pound sacks are quoted at \$6.75@7, sales to jobbers.

BUTTER.

The market is quiet. Receipts of fresh goods are increasing and there is a steady demand that is taking care of all offerings. Present quotations at Detroit are as follows: Fresh creamery 58c; fresh creamery in one-pound bricks 59c.

POULTRY.

The market is quoted easy and supplies are liberal. Detroit prices are as follows: Chickens 36@37c; ducks 40@42c; geese 28@30c; turkeys 45@50c per pound.

EGGS.

The demand is active and consumers are taking all the fresh eggs that can be had and then buying storage if they have to. Present Detroit quotations are: Fresh eggs 54@55c per dozen; storage eggs, according to quality 41@43c.

CHEESE

Present quotations on the Detroit market are as follows: Michigan flats new make 31@31½c; New York flats June make 34c; Michigan single daisies 32½@33c; brick 31@31½c; long horns 34c; Wisconsin double daisies 32½c; Wisconsin twins 31c; domestic block Swiss 30@40c.

WOOL

Fine wools continue to attract the attention of the trade at Boston. This condition found expression during the week in the sale of a good-sized lot of Ohio unwashed delaine at an even dollar a pound. This is the highest price obtained for domestic greasy wool since the Civil War. It serves to accentuate the discrepancy existing between fine and medium grades. Other quotations of Ohio fleece wools are not changed, half-blood being quoted at 87c; three-eighths blood at 70@72c; quarter-blood at 67@68c; fine unwashed clothing at 70@72c. Of the above only three-eighths blood and quarter-blood are in even moderate stock and supplies of those grades are limited to a very few houses.

HIDES

Present quotations at Detroit are as follows: No. 1 cured calf 70c; No. 1 green calf 65c; No. 1 cured kip 40c; No. 1 green kip 37c; No. 1 cured hides 30c; No. 1 green hides 27c; No. 1 green bulls 18c; No. 1 cured bulls 22c; No. 1 horsehides \$10; No. 2 horsehides \$9. Tallow:—No. 1 14c; No. 2 12c. Sheep pelts 50c@3.50; No. 2 hides 1c; No. 2 kip and 1½c off from above prices.

GRAND RAPIDS

There was a little reactionary movement in potatoes during the earlier part of last week. Selling down to \$2.50@2.75 as to quality, but the market firmed up the latter part and at the week end were \$3 per bushel with very few moving. Advices received from Hartford the past week state that the pit on Lowell Palmantier's farm, upon being opened, the potatoes were found frozen. It contained 1,000 bushels and he had refused \$2.40 a bushel. Egg market is higher and receipts of fresh laid are rather scarce. Dealers pay 60c per dozen to producers. Jobbers ask \$8 per cwt for Michigan cabbage, and very little is to be had. Turnips are scarce at \$3 per cwt, also beets at \$1.75 per bushel; carrots are quite plentiful at \$1.50.

DISCOVERING THE GOOD COWS.

For the month of January the highest producer in the St. Joseph Cow-testing Association was a full-blooded Jersey owned by E. E. Sheep, of Sturgis. She produced 1,086 pounds of milk with a test of 6.6 per cent, and 71.6 pounds of butter-fat. There were six cows that produced over fifty-nine pounds of butter-fat; seventeen cows that produced over forty pounds of butter-fat; thirty-four cows that produced over thirty-five pounds of butter-fat. Of these thirteen were Holsteins, twelve were Jerseys, seven were Guernseys and the rest were scrubs. Richard Strabbing, Tester St. Joseph County Association.

EUROPE'S poultry population in the duration of the war, was reduced by 180,000,000 birds. The loss was heaviest in Belgium, where the total stock is now only twenty per cent of its pre-war size. Holland lost seventy-five per cent of its poultry, France fifty per cent, and Denmark fifty per cent. Is it any wonder that the poultrymen of these countries are interested in holding a poultry conference at The Hague with a view to considering ways and means of increasing production?



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have proved of such value in practical commercial use for the control of insect pests and fungus diseases that every year many more successful fruit growers are finding the Dusting method indispensable in making summer application, not alone on account of the results accomplished but because dusting is so much faster and cleaner it has proven itself about 1-3 less expensive than spraying when both labor and materials are taken into consideration.

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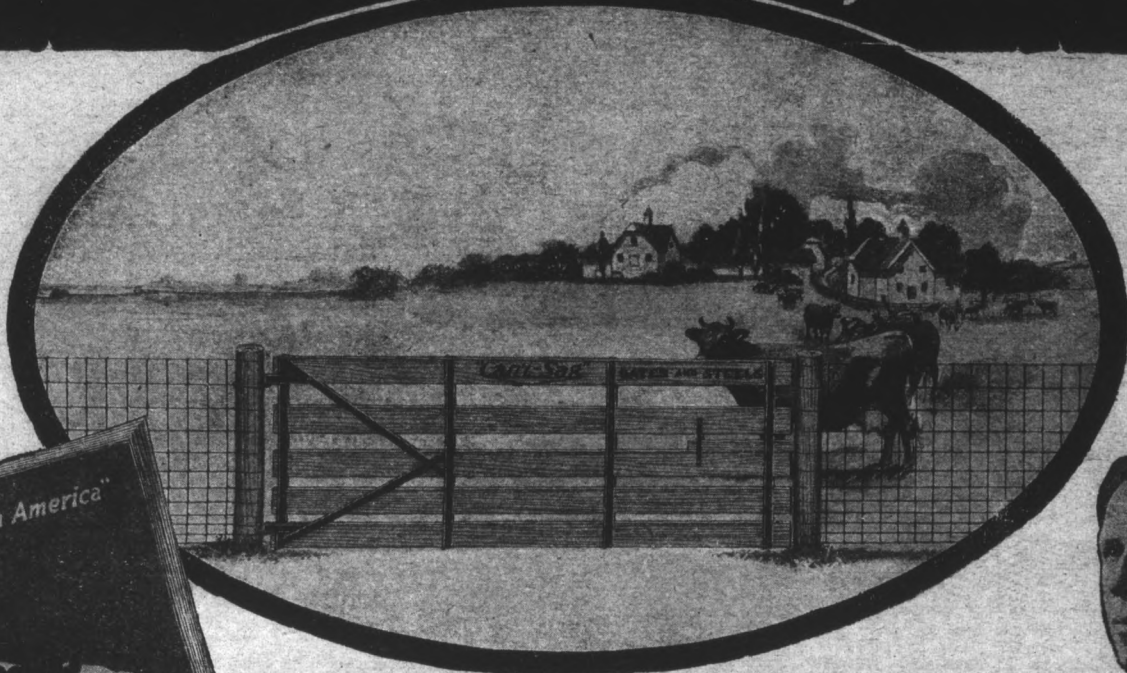
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