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# MICHIGAN FARMER

AND LIVE STOCK JOURNAL  
PUBLISHED WEEKLY. ESTABLISHED 1843.

VOL. CLIV. No. 9  
Whole Number 4086

DETROIT, MICH., SATURDAY, FEBRUARY 23, 1920

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## The Battle Creek Community Club

*The Only Large City in the United States That Has Successfully Cooperated With the Neighboring Farmers in Community Welfare*

SEE here, you farmer, you! I've a good mind to arrest you right now! Whadda you mean by parking your car by this hydrant? You git right out o' here this minute or to the police station you'll go in a hurry!"

The farmer eyed the big city policeman a full minute without a tremor or blink of his optics, then replied:

"How do you suppose I know it's against the law to stop my car here? There's no sign here stating it's unlawful and I've never read or heard that it was."

"Well, I'll let you go this time but don't let me catch you parking by a hydrant again. Now git out o' here!"

And that same day two more farmers driving into Battle Creek were arrested and taken to the police station and fined two dollars each. They had stopped their automobiles a few minutes near a hydrant, not knowing there was a recently enacted municipal regulation that warned owners of

vehicles to keep a certain number of feet away from hydrants, intersecting corners and other spaces along the street curbs.

And here's another trouble for the farmer who tries to find a place to hitch his team or park his car when he drives into the city:

"Say, John, you stay right here with the team while I go around to do some trading. It's half a mile of walking for me to get to the stores and I'll have to lug a lot of packages around. The blacksmith shop is full so I can't even leave the team there to be shod today. And if we do go away and leave our rig standing here tied to some private residence hitching post, it's liable to be gone when we come back, or run into by some pesky automobile driver, or something stolen out of the buggy."

And now farmer Tom Henshaw: "Well, I'll be dod-gasted if I haven't come to town and found all the banks

closed tight as a drum! What'n sarn hill are they closed today for? (This ain't a legal holiday, not as I know of.)"

And Tom folded up his check for a good-sized wad of filthy lucre and drove his car back home, muttering a few mild imprecations on the banks closing every few days to allow the hired hands to rest up a bit after counting so much money all at once and getting dizzy on the job.

"And to think all the other fellows want a day off every day or two, with bigger pay, while we farmers are urged to keep going night and day to produce, produce, more and more, all the time. And some of those tired-out city folks are inclined to think we are profiteers, or worse. It beats me," concluded Tom.

"What! you home again already, Tom? What's the matter that you got back so quick? Somebody dead?"

"Here's what's the matter, Helen! See that old check I've brought back?"

"For the land's sake! the bank ain't busted?"

"No," replied Tom. "It's locked up tighter'n a drum. All the banks are. It's a holiday for some reason, and here I have spoiled a whole day from my busy farm work to go to the city to do a lot of trading. The city is driving the farmers away and don't seem to care a whoop whether they come to town to trade or not."

"That's so," said Helen. "I drove down one day last week in the cold and couldn't find a place to leave the car. Finally a merchant told me that some farmers were driving into the big new garage where they could leave their car nearly all day for twenty-five cents. It's a fine place for farmers to park their cars and there ought to be more of them in Battle Creek."

"And then," continued Helen, "I went around shopping for a spell. On the street I met several other farmers

(Continued on page 339).



First Meeting of the Battle Creek Merchants' Dinner Club and Pennfield Farmers' Club in the First Community Luncheon at Post Tavern.

## The Michigan Farmer

Published Weekly Established 1843 Copyright 1920

### The Lawrence Publishing Co.

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432 Lafayette Boulevard Detroit, Michigan  
TELEPHONE MAIN 4525.

NEW YORK OFFICE—381 Fourth Ave.  
CHICAGO OFFICE—111 W. Washington Street.  
CLEVELAND OFFICE—101 E. 1013 Oregon Ave., N.E.  
PHILADELPHIA OFFICE—261-263 South Third St.

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#### TERMS OF SUBSCRIPTION:

One Year, 52 Issues ..... \$1.00  
Two Years, 104 Issues ..... \$1.50  
Three Years, 156 Issues ..... \$2.00  
Five Years, 260 Issues ..... \$3.00

All sent postpaid. Canadian subscription 50¢ a year extra for postage.

#### RATES OF ADVERTISING

50 cents per line agate type measurement, or \$1.00 per inch (14 agate lines per inch) per insertion. No adv't inserted for less than \$1.50 each insertion. No objectionable advertisements inserted at any time.

Member Standard Farm Papers Association and Audit Bureau of Circulation.

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

VOLUME CLIV. NUMBER NINE

DETROIT, FEBRUARY 28, 1920

## CURRENT COMMENT

### Utilizing Pasture Grasses

ONE of the most puzzling features of present day farming is the lack of appreciation of good pastures. All practical farmers admit that pastures produce cheap milk, growth and fat. The milk and gains in growth and fat produced on pasture are cheaper than those produced in the feed lot, and yet few farmers are making maximum use of their pastures. A few men who appreciate the value of good pastures in developing profitable systems of stock farming, will feed and encourage pasture grasses until they supply luxuriant feed with astonishing generosity, but the rule on most farms is to utilize for pasture only land that is wet, sour, hilly, thin or in some other way unfit for cultivated crops.

When a field is unfit for anything else it is commonly referred to as good for pasture. This is a mistake. Some of the most popular of our native grasses are vigorous growers and in time will gain a foothold in inhospitable soils, but they cannot perform the miracle of yielding profitable grazing where excessive moisture, deficiency of plant food and other unfavorable conditions prevail. Grass plants respond as profitably as any other crops to a congenial soil environment. They can stand more adverse conditions than cultivated crops, but this is not an excuse for their neglect and abuse on so many farms.

The use of farm manures will pay handsomely, but they are seldom available in adequate quantities. Many soils, however, are in need of different treatment in order to adapt them to native grasses. Lime may be needed to sweeten the soil so that the clovers may be seeded with the grasses. If the land has been pastured for many years phosphorus is sure to be needed and should be applied in some readily available form. Marshy or mucky soils usually respond to lime and potassium. Thorough drainage is one of the important essentials in getting good returns from pasture lands. Thousands of acres of waterlogged land that is raggedly covered with inferior grasses could, if properly drained and limed, be made the most productive grass land in the country. If maximum crops of grasses and clovers are produced heavy pasturing in the spring and fall must never be permitted.

Too close grazing will in time ruin the best pastures, especially on thin lands or those subject to soil erosion. About half the dry matter in the plant consists of carbon, which comes from the air, chiefly through the grass blades. Where there is no growth of

grass above the ground there can be no fixation of carbon, which finally results in the death of the plant. If grass is kept grazed too closely the result is a growth of many undesirable weeds that displace the grasses and clovers in occupying the land. No one thing can be done that will build up pastures more rapidly than pasturing them moderately and leaving them covered with a rank growth of grass late in the season to protect the plants during the winter. It is almost equal to a coat of manure.

As a safe means of building up the fertility of the soil and reducing the cost of operating the farm, the growth of pasture grasses has no superior. We all know the value of a mulch to soils and how, by keeping the soil covered, productivity is restored. A good stand of pasture grass, moderately grazed, makes a splendid mulch, keeps the soil dark, cool and moist in the summer, and protects it from the elements in the winter. The soil being at all times filled with roots of living plants, no available plant food is allowed to go to waste. All things considered the maintenance of good pastures is the ideal means of reducing operating expenses and maintaining fertility on our farms.

In connection with the profitable use of pastures we should not forget the value of silage as a supplement to the grass crops. It has always been a perplexing problem to plan the management of pastures so they would be grazed sufficiently to keep the grass and clovers fresh and tender and still not be grazed down too closely later in the season. Here the silo comes to the farmer's aid and enables him to feed succulent corn at times when the pastures begin to decline in carrying capacity, or before the grass is grazed too closely to afford protection for the roots during periods of severe drouth. The common mistake of allowing grass to get top short before relief is given gets both stock and grasses on the down grade and entails losses that may be avoided by promptly feeding

silage once or twice a day. It is always better to feed a little silage before there is need for it than to wait until the grasses show signs of declining and the stock falling off in production of condition. In this way the change is more gradual while at the same time more pasture grass will be available for grazing later on. The time when stock and pastures can be allowed to run themselves unheeded during the summer months has passed, not because the pasture grasses have less sustaining power than formerly, but because experience has proved that more profit can be obtained by watching closely the condition of both stock and pasture before unfavorable weather conditions cut down the profits.

### The Sugar Beet Situation

THE beet growers of the state are effecting a comprehensive organization with adequate provision for financing the same, which will be able to serve their needs much more adequately than the loose organization in which some of them have been previously affiliated. The Michigan State Farm Bureau is aiding in the campaign of organization, having appropriated two thousand dollars to aid in the organization work and detailed Mr. A. M. Berridge a member of the executive committee of the Bureau, to personally aid in the membership campaign. Mr. Berridge reports that nearly eight thousand beet growers have already joined the organization and two hundred to three hundred new members are joining daily.

A national organization of beet growers has also been launched, with John C. Ketcham, Master of the Michigan State Grange, as its president. This organization will seek to secure an investigation of the entire sugar beet industry by the Federal Trade Commission or the Department of Justice, as a means of substantiating the growers' contention regarding a fair division

of the profits from the industry. In another column of this issue, Manager Ackerman, of the Michigan organization, presents the situation from the organization viewpoint, clarifying the issue with regard to contracts for next year's acreage. Where deception has been practiced in securing farmers' signatures the moral obligation is eliminated.

This organization, when completed, to include the great majority of the sugar beet growers of the state, and it ought to include all of them, will be able to do much constructive work for the beet growers of the state, in addition to negotiating contracts with the sugar manufacturers. And, backed by the Farm Bureau and other agencies working in the interests of agriculture, immediate benefits along this line can scarcely fail to be realized by its members. To this end the proposed move to secure an official investigation of this industry is well taken, as a means of increasing public knowledge of the situation and fixing the moral responsibility on the sugar manufacturers in case a fair agreement is not reached and production is thereby reduced.

The Michigan Farmer yields place to no agricultural agency in the matter of loyalty to Michigan farmers and their best interests. It advanced the suggestion which led to the settlement of the first serious price difference between Michigan beet growers and manufacturers by the adoption of the sliding scale contract, and it will go the full length of the road to aid them in securing a just contract and a remunerative price for next year, so long as the efforts to this end are conducted along right lines.

### Condensed Milk Situation

THE low rate of exchange governing the money of European countries threatens a rapid reduction in prices of American dairy products. While our domestic consumption could be materially increased as soon as prices begin to decline, the manufacturers of condensed milk, who have developed their business to meet the foreign demand, are going to find it very difficult to market their goods. Since 1916 our exports of condensed milk have been increasing rapidly. As a result new condensary plants have sprung up in many dairy sections of the country. With practically no demand for condensed milk for export, the owners of these plants are facing a critical situation. It is going to require considerable time for some of these plants to turn over to the manufacture of other dairy products in sufficient volume to reduce the prices of other dairy products. In the meantime the demand for whole milk is sure to decrease, which adds to the uncertainty of the present dairy situation.

This decreased demand for condensed milk gives the whole dairy business a very uncertain outlook, for it is problematical if the factors that sprang up during the war will be able to continue in force. There is no indication of any expansion in the foreign demand for condensed milk unless some of the large foreign-relief societies, which are aiding in rebuilding the war-stricken areas, enter the market. Without doubt American condensed milk is needed in Europe, but the retail prices, due to the exchange system, makes its general use prohibitive to the people who need it most. Only people in the best financial circumstances can purchase it for everyday use. There are rumors that Germany will take large quantities of condensed milk in the near future, but on the other hand it is reported that Holland is looking toward this country for a market for her condensed milk. The foreign exchange rates are attracting her manufacturers to our markets.

## Late News From Washington

FREQUENTLY assertions made by senators and representatives in congressional debates get into print that give the reader a wrong impression of actual conditions and when all the facts are known are found to be misleading and unfair.

In the discussion on the agricultural appropriation bill, a few days ago, Congressman Thomas L. Blanton, of Texas, severely criticized that part of the measure which provides for the payment of 754 messengers in the Department of Agriculture. "If this is economy," he said, "we are never going to convince the folks back home of the fact. Half the number would be enough, and three hundred would be two hundred too many." Then he went on to say that the passage ways of the Department of Agriculture building were so blocked up with useless messengers that there was hardly room for a congressman to pass through.

Of course, this bright little witticism was the only part of the debate that attracted the city reporters, and the impression went out that the department was a haven of refuge for men and boys seeking soft jobs.

Following Representative Blanton's charges a statement from Secretary of Agriculture Meredith was read, which presented an entirely different view of the matter. According to Secretary Meredith, 255 of the so-called messengers are employed in the field, and 499 in Washington. Of these many are employed as laborers, only 300 being used as messengers in Washington, and some of them are utilized in unloading trucks, doing janitor work

and similar duties. It was also shown that there are forty-two buildings or parts of buildings, in Washington occupied by the Department of Agriculture, and these buildings are widely scattered, necessitating the employment of a considerable number of employees listed as messengers.

Car thieves appear to be doing a flourishing business under the present railroad administration. In fact, the idea that looting the government is something different than ordinary stealing, put into actual practice on a gigantic scale during the government's brief experience in operating the railroads and paying the bills, has proved to be one of the most effective arguments against government ownership of railroads and other public utilities. The United States Railroad Administration has given out figures showing that the wholesale stealing of merchandise in transit upon the railroads of the United States caused a loss of approximately \$45,000,000 in 1919.

Losses through theft of silk from railroad cars have forced the Railroad Administration to amend the consolidated rate classification prohibiting transportation of silk by freight in less than carlots after February 29. While the reduction to freight revenues as a result will be great, it is said, losses sustained by railroads through payment of claims have exceeded freight charges several times. This will force the small communities to obtain shipments of silk by express, which farmers, who have done any shipping know is about as risky as shipping by freight. Whenever any legislation is proposed (Continued on page 320).

# The Sugar Beet Situation

*Why Beet Growers Were Forced to Organize*

By C. E. Ackerman,

Manager Michigan Beet Growers' Association

**T**HE world's sugar situation today is very much different than before the war and during the war. Before the war Europe produced one-half of the sugar used in the world, or ten millions of tons, and all this was produced by very cheap labor of Europe from sugar beets and the amount exported was at a price so low that it was impossible to produce beet sugar in the United States without the protection of a tariff.

The United States consumes one fourth of the world's supply and produces a very small amount of sugar from beets—only four per cent of the world's sugar. Therefore it will be readily seen by all fair-minded men that nothing that the United States beet growers could do would affect the price of sugar materially one way or the other.

We having produced last year less than seven hundred thousand acres of sugar beets, although we have two hundred and seventy-five millions of acres of sugar beet land in the United States, are not in a position to supply the people of the United States with sugar.

Take Michigan alone, where one hundred and ten thousand acres of beets were planted this last season, the amount of sugar produced therefrom will not supply the people of Michigan alone this year. On account of the war having changed conditions so that Central Europe will not export sugar for perhaps years to come because of their financial condition making it necessary to plant their land to grain to produce bread to keep soul and body together for perhaps ten years, hence and on account of the labor of Europe being able to command higher wages since the war, conditions will be such that an over-production of cheap sugar will not be possible for some time to come.

The domestic sugar industry of the United States has a very promising outlook from the standpoint of being able to produce sugar at a profit and supply the world's shortage. The consuming public will now turn to domestic sugar because the price is and will be cheaper than foreign sugar.

Now, the point! How can we promote the production of domestic sugar? Not by a protective tariff alone because that is of no account, as foreign sugar is higher than domestic sugar. (It, however, will be a wise thing to have a tariff for revenue and to protect the industry in case of an over-supply of cheap foreign sugar). Not by the present 1917-18 contract offered by the beet manufacturers as that contract does not warrant the farmers to chance a beet crop as the average crop will not give returns that other average crops will at the present prices. Not by expecting to get contract labor at the old prices offered by the manufacturers two years ago when labor can make twice the wages daily in the cities at less hard work and shorter hours than they would receive from the old contract, they will limit production and abandon the fields entirely, thereby causing great loss to the farmer and shortage of sugar, and cause the loss of the acreage entirely, as was the case in many sections last year. Which, when taken together with the bad weather conditions, caused a loss to the beet farmers of the United States of over fourteen million dollars, according to the Ladies' Home Journal in their explanation to the housewives of why sugar is scarce and high.

The Michigan Sugar Beet Growers' Association contends that the right

way to promote production and supply the shortage of sugar to furnish sugar to the consumer in sufficient quantities at the lowest possible price, is to first give the farmer a price for the beets or the raw material, so that he can produce at a profit, basing his figures on an average crop high enough so that it will be possible to receive and pay the wages necessary to care for this expensive crop.

We contend that taking the present prices of sugar, the excessive profits the beet sugar manufacturers are making, the cost of foreign raw sugar, the high prices of city and farm labor, the high prices of farm machinery, the uncertainty of the crop and the average per cent of sugar content of the beets, which is 16.28 per cent last year, into consideration, we are entitled to a price of \$12 per ton for beets based on nine-cent sugar and a fifty-fifty division of the advance of the sugar price over and above nine cents per pound. We have fifty per cent more capital invested in the land and farm equipment for producing the beets than the manufacturers have invested in their plants and equipment for manufacturing the sugar, which would really entitle us to more than a fifty-fifty division of the excess, but we want to be fair. We are standing out for a fifty-fifty division, which will be \$1.40 extra per ton added to the price of \$12 for each cent sugar advances over nine cents.

Some of the best farmers in Michigan have submitted itemized cost sheets which prove conclusively that it will cost on the average \$160 to produce an acre of sugar beets this next year, 1920. It will be seen that if only an average crop is secured, or eight tons per acre, the returns at the old \$10 rate, if the price of sugar be reduced to nine cents per pound would be \$80 for what will cost the farmer \$160. The government would be justified in reducing sugar to nine cents as the Lever law enforced will not allow the manufacturers to make the excessive profits they made this last year on twelve-cent sugar. It must, therefore, be seen by all fair-minded men that in order to promote the production of domestic sugar it will be necessary to more evenly divide the profits between the producer of the raw material and the manufacturer of sugar and let the price of sugar go to such a price that will encourage the production of beet sugar in sufficient quantities to supply the consumer.

The manufacturers cannot expect to get the people, the government and the consuming public to back them up in trying to get the raw material on the sugar beets at the old price when cane sugar refineries are paying many times the old price for their raw sugar to foreigners.

We are taken to task because we are late in our fight. Our answer is that it is never too late to present the truth, and also we are a full month earlier in the fight than we were two years ago, when we asked for and won our price of \$10 for beets, and also there is not one legal contract for the beets signed and delivered by the manufacturers and accepted by the grower, that we know of. Also, we answer that our general meeting was called early in December, even before many farmers were through drawing their beets this season, before which they had no time to think over and attend meetings and consider the proposition of the 1920 contract. The manufacturers, however, were alert to the occasion and got busy much earlier than their usual custom and secured



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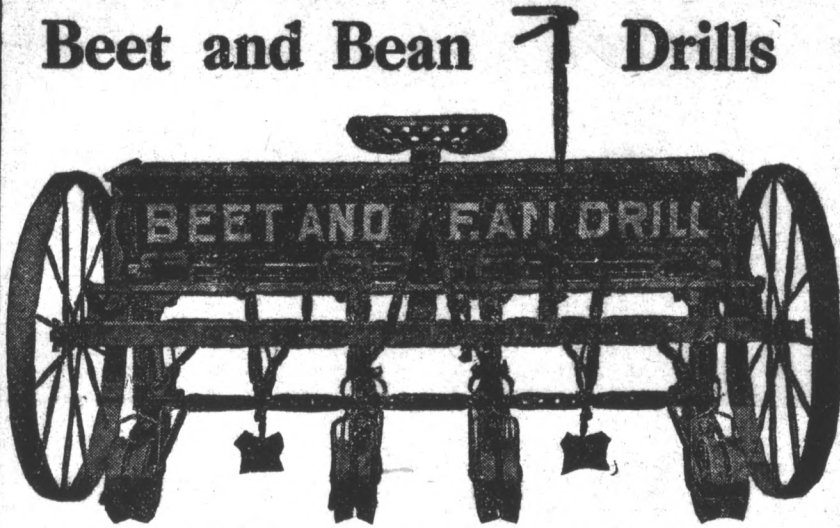


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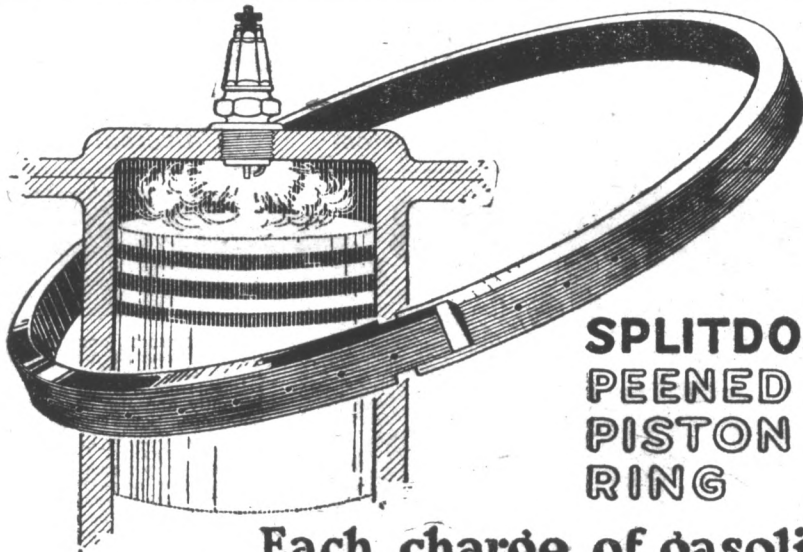
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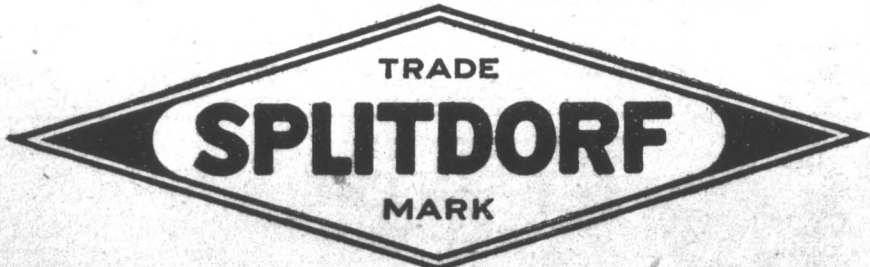
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many of their so-called contracts and or any radical measures unless absolutely necessary, but we do believe in organization to universally present our cause and endeavor to get a condition ironed out so that production will be promoted and the people be supplied with sugar. When we are accused as being agitators we hurl the statements back in the teeth of those making such statements, saying that they themselves are the agitators as they absolutely refuse to meet and confer and adjust these differences that cause the shortage of production and therefore the shortage of sugar. They are the agitators that continue this agitation of both producers and consumers.

The Michigan State Farm Bureau has recently come forward and will work with and for us, and voted two thousand dollars for our cause. We believe that when all organizations that have the interests of agriculture at heart, and fully understand that all we want is what is right and fair, and what will promote production, they, the manufacturers, refused our (which will also include all weekly growers' committee a conference for and daily newspapers), will properly which we asked early in January. We present our position to the public, our as farmers, do not believe in strikes fight is won.

We are taken to task on account of the moral obligations which we owe the manufacturers. We claim to owe none. But supposing that we did at one time, this obligation on our part was entirely wiped off the slate when they, the manufacturers, refused our (which will also include all weekly growers' committee a conference for and daily newspapers), will properly which we asked early in January. We present our position to the public, our as farmers, do not believe in strikes fight is won.

## Michigan's Traffic Problems

*A History of Some of the Conditions Responsible for the Inequalities of Present Freight Rates and Discriminations*

By Frank E. Coombs, State Traffic Director

PART I

**T**RADE and commerce almost dates back to the beginning of the world. The earliest that history goes back is to the different tribes and communities that worked together helping each other. When there was a surplus a natural desire arose to exchange what they had for something that they did not produce.

In its development they had first to overcome the feeling of antagonism which existed among different communities. On account of their suspicions it was necessary to have the goods or the wares at the border line or market place where they could be seen and exchanged. Finally more distant communities began to participate in the exchange and out of it rose a separate class of dealers who took upon themselves the work of bringing the wares from one locality to another. After this, the overcoming of distance became the main consideration of travel. On account of danger of robbery, caravans were formed on land and convoys on the sea. The Phoenicians were the first to make use of convoys when their trading relations took them into the Mediterranean, Black and Red Seas. Caravans and convoys had many disadvantages, however, because only a limited amount could be carried and only certain wares. Only those having great keeping qualities could be transported. Bridges were lacking and the roads were poor, so in order to keep them up and to make better time, another class of men took upon themselves the toll road. You can readily see from this the gradual steps to our present mode of travel and transportation.

On account of the slow time the transportation of goods was very expensive. Tea, for example, that was worth about two cents a pound in China would be worth about three dollars in London. Production, therefore, was held in check. On account of the great demand for transportation, canals were built, also roads-by Captain MacAdam, almost anything they asked for. Massachusetts, for example, gave the roads on the Hudson in 1807 and car drawn by horses on rails in London. In 1826 the first tram car was used in this country. The next step in the development of transportation was the tram in 1829 when George Stephenson, an English engineer, succeeded in ap-

plying the steam power as a means of locomotion. This creation was called the Rocket, and on its trial trip between Liverpool and London attained a speed of 29 miles per hour. In this country, the B. & O. was the first railroad. In 1830 it had thirteen miles of road open for traffic. New York and Buffalo were joined together in 1847. The Rocky Mountains were crossed in 1854, and the entire country was joined in 1859. It is amusing to note the different concessions that were given the railroads by the various states, and I am going to give you a few examples. An Indian charter gave the roads the power to raise and lower rates at their pleasure. Connecticut allowed rates to be made as agreed upon from time to time by the board of directors. The capital stock was to be free from taxation until the profits reported a dividend of five per cent per year. Grants of land were given. The Union Pacific received 12,000,000 acres, Kansas Pacific 6,000,000 acres, Illinois Central 4,000,000 acres, A. P. & S. F. 3,000,000 acres, Atlantic & Pacific 42,000,000 acres, which later became part of the Santa Fe, Northern Pacific 40,000,000 acres, Texas & Pacific 23,000,000 acres, this making a total land grant of 155,000,000 acres given outright between 1850 and 1871. Part of this, however, came back to the federal government, so that now the actual land holdings given the carriers mentioned above amount to about 110,000,000 acres.

At that time the rates were based first upon what the traffic would bear. Competition began to creep in among the roads, each bidding or cutting rates until they carried any number of commodities far below the actual cost. The communities that had no competition had to suffer. Some of the roads as a result began to go down hill. Rebates were given to certain shippers in order that the roads would be favored with tonnage. Different communities demanded the railroads and gave them almost anything they asked for. Massachusetts, for example, gave the roads \$6,000,000 in cash which was never repaid. The first attempt at regulation was in Illinois in 1871, followed by Iowa and Minnesota, called the Potter Law, which was not successful. An example (Continued on page 328).

# Relations of the Farm Bureau

*How the County Farm Bureau May Best Serve the State and National Organizations*

By Colon C. Lillie

FARMERS are now engaged in building a great national business organization for the purpose of showing to the world the true relation that exists between agriculture and other great business. Many people, perhaps a majority, do not seem to realize that agriculture is the very basis of all business and all prosperity. They do not seem to comprehend that we must perfect a plan whereby we are assured a permanent, profitable agriculture, else all business finally fails and with this failure begins the gradual decay of our wonderful civilization of this age.

People must be well fed and properly clothed if they are happy, contented and progressive. It is the farmer's business to produce the raw material for this food and clothing. It is the business of commercialism to prepare this material to suit the various needs of mankind and properly distribute it to meet the demand. Our civilization is now highly organized. The economic principle of division of labor is carried to the extreme in almost all our civic life. It used to be that farming was somewhat independent of other business. The farmer used to live fairly well within his own realm, but that day is gone by. The farmer no longer makes his own tools, or clothing or anything else that he needs. He now produces raw material, sells it for cash and purchases almost all he uses from business devoted to those special purposes. The farmer is dependent entirely upon the price he receives for his products, for his prosperity, just as much as the laborer is depending upon the price he receives for a day's labor, for his welfare. The manufacturer must receive for his products the cost of raw material, the cost of labor, etc., and a profit besides, or he must fail. The farmer has always conceded this principle as perfectly just as applied to the laborer and to business, but he has been unable to apply the same principle to his own business. The only way he could meet the demands of civilization at all was by working long hours himself and by using the labor of his family—his wife and children—without charging this labor and his own overtime to the cost of production.

Speculators and manufacturers have managed in the past, by combining interests and the unjust use of great financial resources, to force the farmer to sell his products at too low a price and they, having this combined power and organization, have held these products and forced the consumer, in many instances, to pay an exorbitant price, compared with the price the farmer has received for his raw products. It will be the function of the State and National Farm Bureau to put a stop to this business. To meet combination with combination. To control marketing so as to prevent speculation. To correct some of the wastes of distribution and to educate public opinion so the farmer may have a square deal. The State and National Farm Bureau, to accomplish this purpose, must know the facts about the cost of producing the various farm crops. They can do nothing without cost figures. In the past, how could manufacturers have controlled tariff legislation had they not been able to show our lawmakers that a tariff was necessary in order to maintain a certain scale of wages and make a decent profit. Likewise this national farmers' business organization must have facts in cost of production or they cannot get the moral sup-

port of the people in maintaining prices that will make farming profitable. It will not do for cost prices to be determined by a committee of experts. No matter how competent these experts may be they cannot command the confidence of the consuming public. These cost facts must come from the various county farm bureaus.

### County Farm Bureaus.

From the county farm bureaus composed of the best practical farmers of the land must come these cost facts. That will be one of the principal functions of every county farm bureau, not only in Michigan, but in every state in the Union. Besides, the work of determining cost facts must be under the supervision of the county agricultural agent—a semi-government official. It is important that the county agent retain his federal and state governmental relations because this will help make these cost facts official and place them above suspicion. This great work that is before the farm bureaus must be founded absolutely on justice and right. There must be no class-selfishness in this matter. The farmer has a right, and it is his duty to demand justice for his business; but he must be careful and demand nothing more.

The county agent can select farmers all over the county who will, under his direction and supervision, keep cost accounts of growing various crops. The average of these costs will be the cost of growing that particular crop in that county for that year. These cost accounts for each county can be forwarded to the State Farm Bureau and the averages obtained for any particular state. Likewise State Farm Bureaus forward state results to the National Farm Bureau and in this way obtain average costs for the whole country. Then the national organization will have the facts necessary with which to fight the farmer's battles.

In determining these facts in each county, it is only just that they be determined on the same business basis as similar cost facts are determined in any other business. If the farmer labors twelve or fourteen hours a day he should receive compensation on the basis of a nine-hour day or an eight-hour day, the same as organized labor. If his family labors in producing, then their labor should be added to the cost. Maintaining permanent fertility, cost of up-keep of buildings and depreciation of equipment must be duly considered the same as it is in other business.

It can easily be seen that the County Farm Bureau is the very basis of the whole business organization. It is the legs upon which the state and national bureaus stand. It is the first and the last word in this wonderful undertaking. The national bureau must not be composed of individual memberships—nothing but State Farm Bureau memberships. Also the State Bureau must have no individual memberships. County Farm Bureau memberships only, nothing else will do. The County Farm Bureau is composed of individual farmer members. The State Farm Bureau is composed of County Farm Bureaus represented by authorized delegates and the National Farm Bureau is composed of State Farm Bureaus, represented by authorized state delegates. In this way only can their great business organization be formed and held together in such a manner that it can be wielded with all its irresistible power for justice to the American farmer.

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### 12 Years Actual Field Work

That is the answer to every argument. For 12 years it has done every kind of traction and belt work. Its great reputation for success is built strictly on performance. You do not have to take a demonstration of one or two days as your guaranty. Ask any owner.

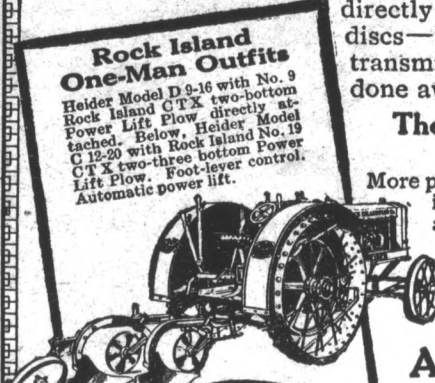
### Two Sizes, 12-20 and 9-16

Write for Catalog of Heider Tractor and Rock Island Tractor Tools; the famous Rock Island Tractor Plows, 2, 3 or 4 CTX bottoms, and the Rock Island No. 38 one-man Tractor Disc.

### Rock Island Plow Company

Established 1855 874 Second Ave., Rock Island, Ill.

Model C 12-20 with No. 19 3-Bottom CTX Power Lift Plow. Burns Kerosene



#### Rock Island One-Man Outfits

Heider Model D 9-16 with No. 9 Rock Island CTX two-bottom Power Lift Plow, Heider Model attached. Below, Heider No. 19 C 12-20 with three bottom Power Lift Plow. Foot-lever control. Automatic power lift.



#### Rock Island No. 38 One-Man Tractor Disc

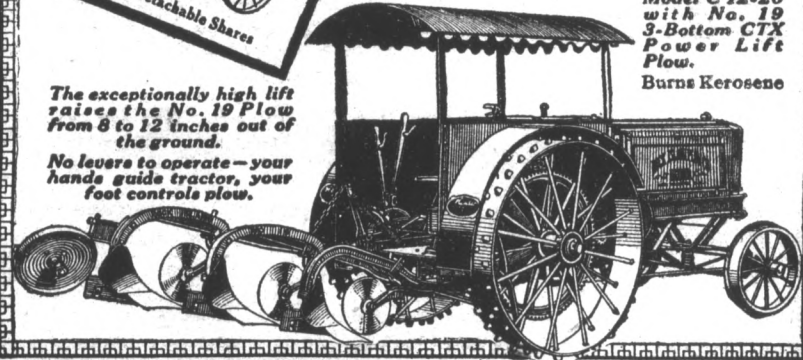
Close-up levers. One man easily operates both tractor and disc.



#### Rock Island No. 12 Tractor Plow

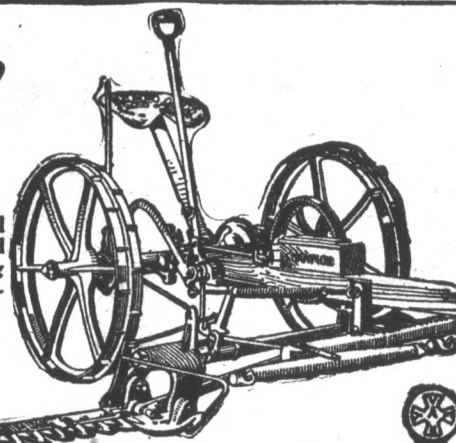
Successful behind any tractor. Front furrow wheel with lift equipped with 2, 3 or 4 Rock Island CTX bottom. With Quick Detachable Shares

The exceptionally high lift raises the No. 12 Plow from 8 to 12 inches out of the ground. No levers to operate—your hands guide tractor, your foot controls plow.



# "Champion" Mowers

enjoy a reputation the world over for doing fine work and doing it for a long time, with little expense for repairs.



This year thousands of farmers will use "Champion" machines that have been on the job for upwards of twenty years.

### "CHAMPION" Features You Will Like

The knife head is unusually long, giving extra strength just where many cutter bars break.

Pitman connection to knife head has a self-adjusting device that automatically takes up wear.

Outer end of pitman crank box is closed and an oil chamber is provided which

holds enough oil to keep the box lubricated for several hours.

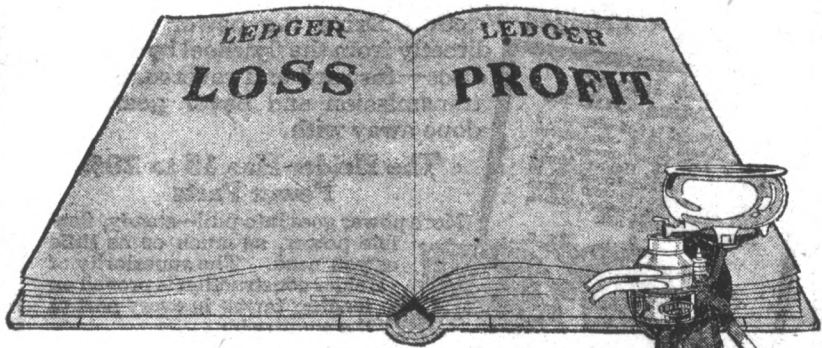
The flywheel shield is made of malleable iron, rendering breakage very unlikely. In case of breakage the shield can easily be removed and replaced at small cost because it is a separate piece—not a part of the main frame.

Call on the B. F. Avery dealer and give the "Champion" Mower a thorough "going over."

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users are on  
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No machine used on the farm returns a larger profit on the investment than a De Laval Cream Separator.

It saves from 25% to 50% of cream twice a day every day in the year over crocks and pans; and from 10% to 25% of cream over an inferior or half-worn-out separator.

With butter-fat at the present high prices these savings mount rapidly. Many thousands of users have found that their De Laval paid for themselves in a few months. De Laval users are always on the profit side of the ledger at the end of the year.

More De Laval are used than all other makes combined.

Your local De Laval agent will be glad to demonstrate what an Improved De Laval will save you. If you don't know the nearest agent, please simply write the nearest office below

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# Legumes for Dairy Cattle

By Thos. J. Robertson

I AM quite a lover of flowers, and next to the rose, in my opinion, is the bloom of the clover blossom. I believe that if a dairy cow was asked her choice she would place the clover blossom first.

I want to say most about the clovers in this article, as we have had better success with clover than with alfalfa, although we are confident that alfalfa will be as commonly grown in this section in the future as clover. We have had two failures with alfalfa seeding, due to the extreme dry weather during June and July of the past two years, but we are going to try again this year with the use of lime and a well fertilized soil. A little experience I had with a few alfalfa plants that did survive, is what is making us more determined to stick for success in growing alfalfa.

One afternoon as I was getting the cows up for milking, I noticed some plants standing seemingly alone in the meadow. I found that these were alfalfa plants; they stood about six inches higher than the other grasses. I had read so much about the great root system of alfalfa that I went and got a spade and started to find if they really did have a heavy root system. I dug through the top soil and down through the hard gravelly sub-soil and into the heavy clay bottom, until I was almost standing on my head. By this time my cows were all scattered again and it was nearly sundown, so I took what root I could get and left the rest. The root measured over three feet in length and about the size of my thumb in diameter. I don't know how much further the root went down, but I know I left a foot or more in the clay.

These plants were some that sprang from seeds that happened to be in the clover and timothy mixture that the field was seeded with. Now, what kind of a seeding could be obtained when more attention is paid to getting the soil right for alfalfa, when these plants made such a record with no special care?

Scientists tell us that alfalfa is equal to bran in feeding value. Why not grow the bran right on the farm, instead of paying such high prices for it at the feed store?

Now, for clover the cornerstone of agriculture; I have told a convincing story regarding growing alfalfa in the future. I want to tell what our cows say about clover; but, first of all, you will need a pair of scales and a milk record sheet back of the herd and let them tell you through them. This is what our cows said:

If you feed us corn fodder, (as yet we haven't a silo), clover hay, (slightly mixed), ground corn and oats with a little bran, we will give you twenty-five pounds of milk; but if you feed us millet or timothy hay in place of clover, we can only give you fifteen or twenty pounds of milk, because clover contains a higher amount of protein than millet or timothy hay, which helps balance our ration and keeps us healthy. Clover hay has a slight laxative action on our digestive system. We will raise your milk check also. We like clover hay better and will eat more of it.

I know that if they had corn silage to eat with the clover they could beat their record again. Clover is not only a better food for the dairy cow, but it ranks high as a soil builder. The reason for this is its root system. Clover roots serve the same purpose as alfalfa, but does not burrow so deeply.

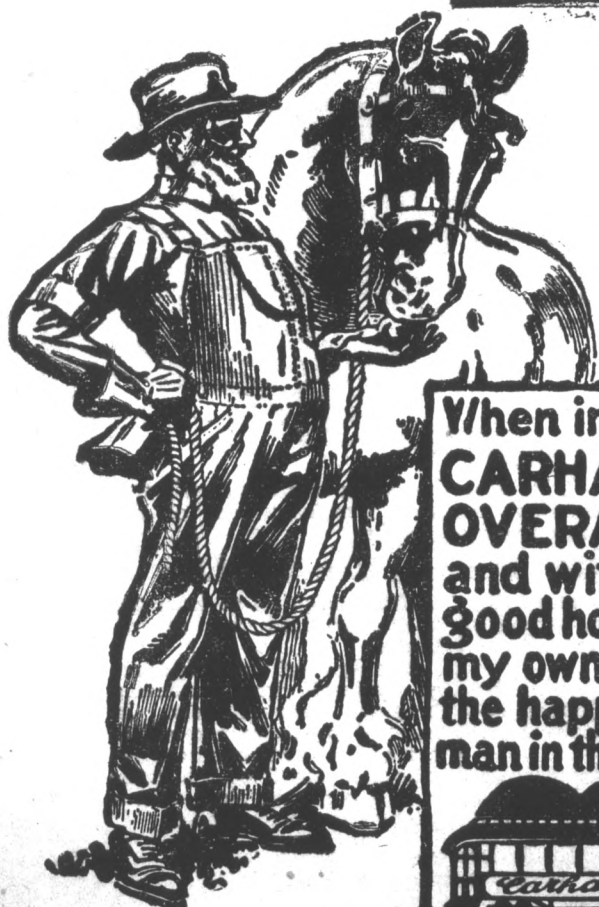
If you will examine an alfalfa or clover root you will find many little bunches or nodules clinging to the finer roots, and these little organisms store the nitrogen received from the air and place it in the soil for the benefit of the next crop. When you see the clover roots sticking up like rats' tails as the plow rolls the sod over, you may rest assured that the soil is richer than it was before the clover was grown on it. The old saying of corn being "Knee High by the Fourth of July," can easily be outlawed when clover sod is plowed under.

The clovers are easy to raise; if your land is fairly well drained, sow red clover, if somewhat wet and sour, alsike will be found best. Red clover and alsike differ with regards to their root systems, but not much in feeding value. Red clover has a tap root and alsike has fibrous roots. Thus alsike can withstand more wet than can red clover.

Red clover furnishes two crops of hay in a season, or one may take one crop of hay and leave the other to mature seed. Alsike furnishes but one crop of hay, and if seed is wanted the first growth should be left to mature seed. Only the best seed should be sown, as low grade seed often contain seeds of noxious weeds, such as buckhorn, thistle, sorrel, etc.

The manner in which clover is handled after being cut has much to do with the quality of hay obtained. The method of placing it in "cocks" is no doubt the best way, but labor is so scarce that other methods, requiring less hand labor, must be used.

We cut our clover a little green, and roll it into windrows with the side delivery rake before the leaves are entirely dried. This prevents a too rapid evaporation of moisture by the sun. This is called air curing. As soon as it is in shape to be put in the mow we used the hayloader, which handles it very easily without much shattering of the leaves.



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

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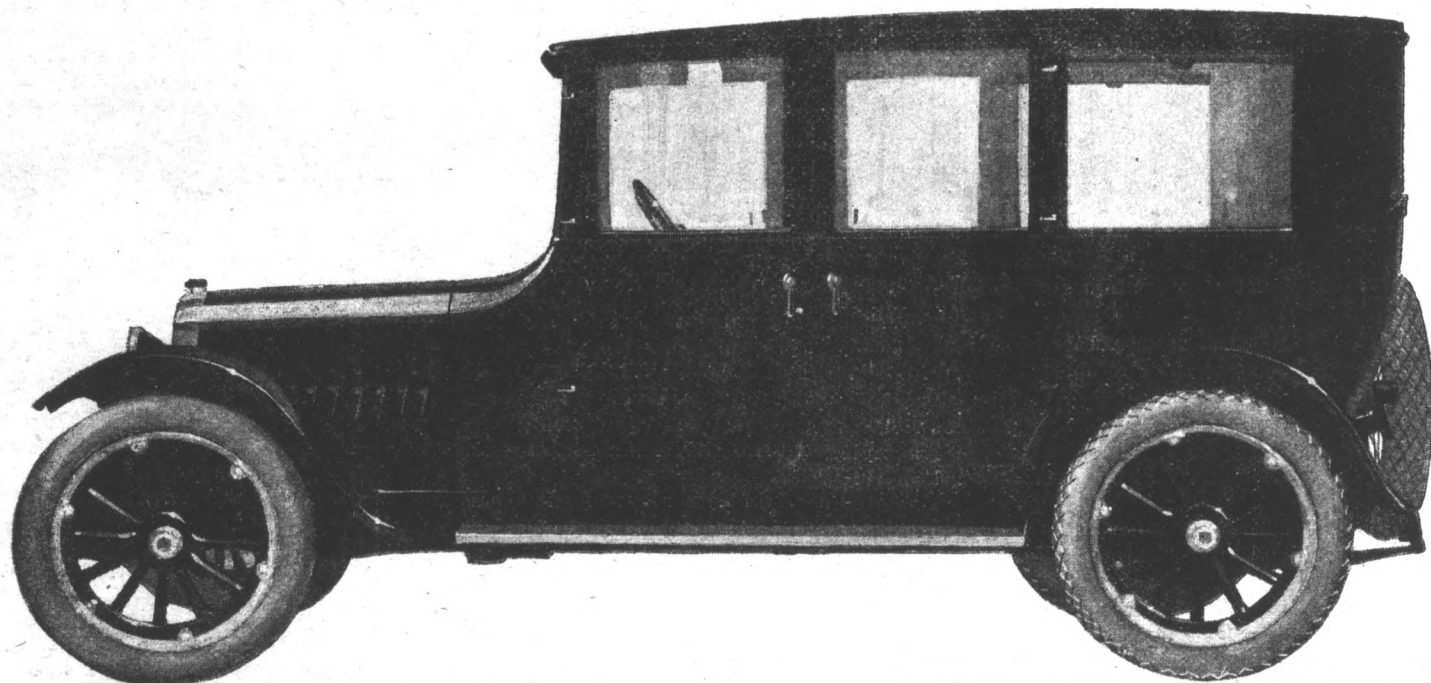


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18 TO 25 MILES PER GALLON OF GASOLINE  
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## OAKLAND SENSIBLE SIX

ONE thing, above all others, singles out this new Oakland Sensible Six four door Sedan for especial consideration—that is its pronounced and unrivaled value. It is a car embodying all the comfort and reliability that ample size and sound construction can give. It is a car mechanically so efficient that, under all conditions, it delivers the maximum of service at the minimum of cost. It is a car so well and completely appointed that every essential convenience is included in its standard equipment. Yet the purchase price of this Oakland Sensible Six four door Sedan is relatively very low. The moderate investment it represents, and the fine and spirited character of the car's performance, combine in this Oakland to a value as conspicuous in the present market as it is unusual.

MODEL 34-C: TOURING CAR, \$1165; ROADSTER, \$1165; FOUR DOOR SEDAN, \$1825;  
COUPE, \$1825. F. O. B. PONTIAC, MICH. ADDITIONAL FOR WIRE WHEEL EQUIPMENT, \$85

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March 11, 1920.

130 acres complete with buildings and equipment. Additional particulars given in larger advertisement next week. Henry T. Heald, 531 Michigan Trust Bldg., Grand Rapids, Michigan.

### "Scratches" in Horses

The horse ailment known as "Scratches" is often caused by mud and slush freezing to long hair back of the fetlocks, keeping the skin soaked in a cold, dirty slop. Avoid this and other ailments by spring clipping. Use a Stewart No. 1 Ball Bearing Machine. Only \$12.75. Send \$2—pay balance on arrival.

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### Competent, Energetic

young man wanted to take full charge of 1500 acre farm. Must thoroughly understand gasoline engines, tractors, threshing machines, and all other farm machinery, also able to attend to purchases and the general management of a farm of this size. Must also be a competent live stock man. In your reply, state age, experience, salary expected. Address Box No. G. 221 care of Michigan Farmer, Detroit, Mich.

**Trained American** Fox Hounds Rabbit and Skunk dogs all ages. Send stamp.  
W. E. LECKY, Holmesville, Ohio

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### is the Best Investment

Because it has been on the market NINE YEARS, without a SINGLE FAILURE.

Made of famous Brazil Vitrified Fire Clay—ONE ton costs as much as FIVE tons of shale.

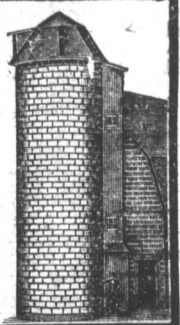
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Save 10% by ordering it now. Pay later when silo arrives. Send for catalog No. 9.

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## LATE NEWS FROM WASHINGTON. (Continued from page 314).

ed, that affects the interests of the meat packing industry there will be on hand at the hearings, and talking enthusiastically in favor of the packers, western men who claim to be stock raisers and that they represent the producers; but once in a while a real western cattleman, who has all the identification marks of his occupation, comes to Washington and tells a different story. John Bullock, president of the Little Missouri River Live Stock Growers' Association is one of them. He says that cattle, sheep and hogs on the farm range have dropped heavily in price since last August, but consumers have nothing to look forward to but higher prices than are now prevailing. "Young men by the thousands," he says, "out on the western farms and ranges are refusing to raise feed while packers take the profits."

The Senate Committee on Agriculture made a favorable report on the revised Kenyon-Kendrick packer bill, otherwise known as the Grange bill, and the measure is now in the senate. The revised bill provides for a live stock commission of three men to take over the powers and duties of the Bureau of Markets of the Department of Agriculture so far as they relate to packing house regulations. Voluntary registration of the packers and stock yard companies is also provided, and appeals from the commission's orders to the federal courts can be made. Fines of from \$500 to \$10,000 and imprisonment of from six months to two years are fixed for violation of such orders. The transportation section, under which refrigerator cars would have been placed under more rigid government registration, was eliminated from the bill by the committee, as similar legislation is in the pending railroad bill.

This bill will not meet the demands of those stockmen and farmers who were hoping that congress would enact a drastic packer control law; but it is claimed by friends of packer regulation to be preferable to the original Kenyon-Kendrick bill, and the best that can be put through congress at this time.

The annual conference of all the farm societies affiliated with the National Board of Farm Organizations is being held at the National Board's Washington headquarters this week. Among the speakers are Secretary of Agriculture Meredith; Victor Murdock, chairman of the Federal Trade Commission; J. R. Howard, president of the American Federation of Farm Bureaus, and several United States senators. Large delegations of farmers are in attendance from nearly every state in the Union.

The labor leaders, having succeeded in getting the "anti-strike" clause out of the Cummins railroad bill, decided not to force a general railroad strike just now to compel the Railroad Administration to grant them another increase in wages before the roads are turned back to their owners.

On the subject of strikes, the representatives of several farm organizations, including T. C. Atkeson, of the National Grange, Grey Silver of the American Farm Bureau Federation, E. A. Calvin of the Cotton States Board, and John A. Simpson of the Association of Farmers' Union Presidents, have sent to congress a memorial, in which they say that "it naturally follows that those who believe that labor has an inherent right to organize a strike, believe that such organizations have a right to starve the people of the cities to death, on the one hand, and to destroy the property of the farmers on the other. No such right has ever existed and no such right exists now. No set of men has ever had the moral or legal right to destroy property or cause suffering by conspir-

ing together and the welfare of all the people must ever remain superior to that of any class or group of people. What would be the verdict of the people if the farmers should suddenly decide to go on a strike. They would be condemned from one end of the country to the other and the fact would be pointed out that they, as the owners and tillers of the land, had no right, either moral or legal, to bring about such a calamity."

In a speech supporting his resolution to direct an investigation of the Department of Justice by the House Judiciary Committee, Representative G. H. Tinkham, of Massachusetts, declared that "gross mismanagement of the sugar problem by government officials has increased living costs for the next year between \$700,000,000 and \$900,000,000. These increased costs have been accompanied by the most atrocious and shameless profiteering known in this era of extortionate oppression. Agreement by government agents with Louisiana sugar producers last fall for seventeen and eighteen-cent sugar at the plantation, stimulated the price, because sugar was then selling at eleven to twelve cents per pound at retail. Prices on the Cuban crop were raised from six and a half cents to eleven and a half cents and twelve and a half cents by this action."

Government meddling with the old law of supply and demand by its various attempts at price fixing, appears to have been a failure so far as it concerns the public, being equally unsatisfactory to both producers and consumers. Not long ago, the findings of a federal grand jury at Spokane, Washington, led to the belief that a vice-president of the United States Grain Corporation for the northwest, by reason of his connection with the grain corporation, has been able to manipulate and operate grain companies which he formerly owned "to an immense profit to himself and his associates." The grand jury charges that the proposed plan to provide a fund of \$150,000,000 for European relief if successful would result in the purchase of wheat "now owned largely by speculators and in some cases by interests directly and indirectly connected with some of the officers of the United States Grain Corporation."

Closely following these grand jury findings, Senator A. J. Gronna, of North Dakota, chairman of the Senate Committee on Agriculture, is charging that Julius Barnes, head of the United States Grain Corporation, is conducting a propaganda campaign against the Gronna bill to close up the affairs of the corporation. It is asserted that the public has been grossly misinformed in regard to the provisions and purposes of the Gronna measure. This claim is greatly strengthened by the large number of representatives of various associations of producers, dealers, millers, and bakers, who have hastened to Washington to protest against the bill, each one having the impression that the bill repeals the government's guarantee on wheat.

According to the committee having the Gronna bill in charge, it will not make the government repudiate its guarantee, but it does abolish Mr. Barnes' office, and provides other means for carrying out the provisions of the guarantee.

During the hearings now being held, the Senate Committee on Agriculture's room is crowded with grain buyers and flour dealers, men who opposed government price fixing and the establishing of the United States Grain Corporation when the government first undertook to stabilize wheat prices, but who are now vigorously protesting against any interference by the senate with the activities of Mr. Barnes.

Several representative grain growers from the great western wheat belt, (Continued on page 322).



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**W**E have used that phrase over and over in telling you about RED TOP Fence Posts. It isn't just a catch phrase. Note the illustration.

The RED TOP post drives down into the subsoil. It wedges its way in without disturbing the soil. The anchor plate becomes solidly imbedded; it holds the post firmly in place. There is no frost heaving.

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Hinman Milking Machine Co.  
Oneida, N. Y.

### LATE NEWS FROM WASHINGTON.

(Continued from page 320).

having been led to believe that the Gronna bill would repeal the government wheat guarantee, are attending the hearings to protest against the measure. Only a few have spoken before the committee, but a canvass of the farmers in attendance indicates that the wheat growers are opposed to the Gronna bill if it causes the government to repudiate its wheat price guarantee; that while government price fixing has been the cause of heavy losses to the wheat growers in the past, present conditions and future prospects demand that the federal guarantee be continued in order that the farmers may be reimbursed for what they have lost because of the government's action in 1917 and 1918. They are bitterly opposed to the United States Grain Corporation as conducted by Mr. Barnes, and would welcome any change in the personnel of the corporation which might make it more friendly and fair to the producers. Several of the farmers insisted that the government's guarantee on wheat of \$2.26 per bushel be continued another year and one large grower would place the limit at three years.

Frank W. Mish, a Maryland wheat grower, whose farm produces sixteen thousand bushels of wheat annually, said his dealings with the grain corporation had been very unsatisfactory. Last year his crop netted a profit of four per cent on the government price. He had found wheat growing unprofitable during the war. The wheat cost him \$2.66 a bushel to produce and market, and the government compelled him to sell his crop at \$2.12. For one hundred and fifty years Maryland farmers had been taking their wheat to mill and receiving back the flour and offals. The grain corporation broke up this custom, and the miller was able to make fifty-three cents a bushel on wheat, when it took him only a minute to grind it, while it required a year to grow the grain. The wheat grown in the Cumberland Valley has always been graded as first-class. As soon as the grain corporation came into operation, his wheat was graded down to No. 5, and while the price was cut to \$2.05 per sixty-pound bushel, the measured bushel was cut to fifty-two pounds.

Mr. Mish said the government sent a Baltimore grain dealer to his station to grade the wheat, and he had with him a little brass instrument which the farmers called a "shinning machine." He favored any bill that would put the present grain corporation out of commission, but said that market prospects were such that if the government did not come to the rescue with a guarantee, the wheat grower would suffer serious losses on the next two or three years' crops.

One reason why the government should continue its wheat price guarantee another year, according to Frank Carpenter, an Oklahoma wheat grower, is the fact that in Oklahoma and other western states there are many tenant and small farmers, who, having no means of storing their grain and needing the money, are obliged to market the wheat within from sixty to ninety days after threshing. Without the guarantee, speculators will force down the price during this period, and these farmers who can least afford it, will lose heavily.

Mr. Carpenter said that Oklahoma farmers cannot see why their products are being hammered down, while everything they buy is going up. "The present grain corporation," he said, "is not popular in Oklahoma, and the farmers would like to have it kicked out, providing the price guarantee is maintained."

John A. Simpson, president of the Oklahoma State Farmers' Union, said that "Oklahoma farmers had no love

for the grain corporation, and the corporation officials have shown no love for the farmers. Mr. Barnes came to his town, some time ago, and spent the day with the grain buyers and millers. The farmers were only able to get fifteen minutes of his time to discuss their many problems. Mr. Simpson estimated that from nineteen to twenty per cent of the Oklahoma wheat is still in the farmers' barns, and there are many farmers' cooperative elevators that are full of wheat. He thought that while the guarantee price so far has not been a benefit to the farmers, it would help them the coming season by maintaining the present government price. "A conservative estimate shows that Oklahoma farmers lost one dollar a bushel on wheat in 1917 on account of government price fixing. Last year's wheat crop has been sold at from \$1.98 to \$2.60 on a No. 1 basis.

A representative of the American Corn Millers' Association, of Chicago, speaking in opposition to the Gronna bill, said that when the corn millers were under government control they made more profits than now.

The National Federated Flour Clubs were represented by H. A. Horan, of Philadelphia, who in his talk against the proposed bill to abolish the grain corporation, disclosed the interesting information that through Mr. Barnes benevolent generosity toward the dealers, they have been given a guarantee against losses by falling markets extending a month and a half after the time limit to the farmers' guarantee expires.

Senator Gronna informed Mr. Horan that congress in creating the grain corporation, did not contemplate any such partiality, protecting the dealers several weeks after the government guarantee expires and throwing the farmers on the mercy of the market; but the government would stand back of agreements made by its agents. Senator Gronna reminded the dealers that the farmers had lost far more than the dealers by government interference, but "they are game."

An association of forty thousand bakers was represented by its counsel, who stated that a system of contracts had been worked out between the bakers and the grain corporation whereby the latter agrees to reimburse the bakers for any loss due to a fall in prices below the \$2.26 basis and he protested against any action that would have the effect of annulling these contracts.

Representatives of several other organizations of elevator men, dealers and millers and a number of large farm organizations are being heard as the hearings continue. The general sentiment of the middlemen is against any interference with the present United States Grain Corporation because it might impair their contracts, and the farmers want to get rid of the present grain corporation personnel providing other means are supplied for maintaining the government price guarantee.

The Senate Committee on Agriculture is composed of men thoroughly in sympathy with the farmers, and who are evidently actuated in this grain corporation hearing by a desire to help the farmers in the marketing of their products. It is probable that Mr. Barnes and his assistants may have to go, and that the grain corporation will be restored with more rigid safeguards for the producers interests, to remain in control until the expiration of the government's guarantee.

If the farmers generally demand the continuance of the guarantee, it is also likely that the time limit may be extended another year. This is an important matter that has come to light during the hearings. It is comparatively much more important than the Gronna bill itself, and it deserves the thoughtful attention of farmers everywhere.

E. E. REYNOLDS.

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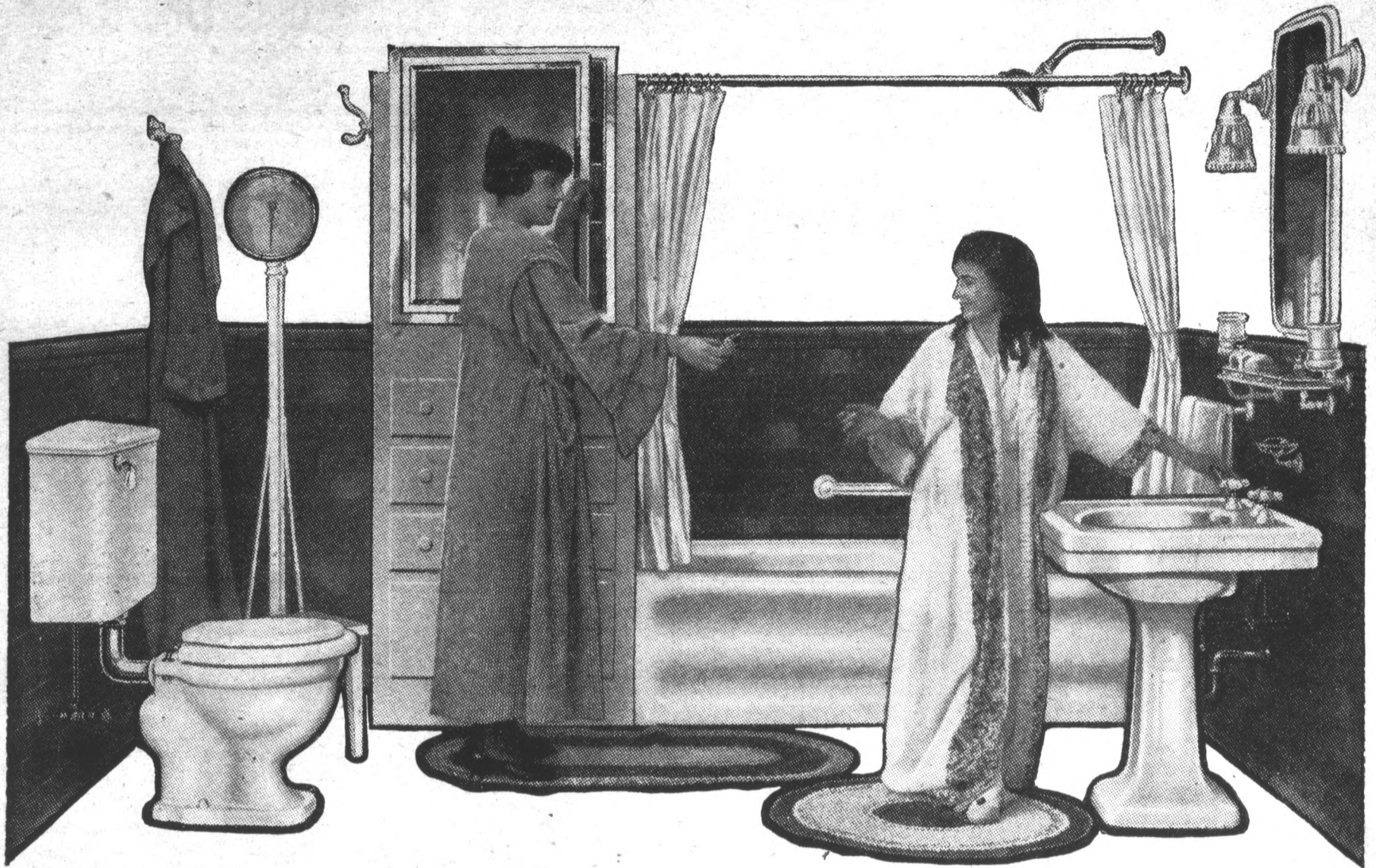
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Were your potato vines standing up, apparently healthy, and a few hours later lying on the ground—black and dead?

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PYROX is a strong, active fungicide. Applied early it kills the blight before it can do any damage. It keeps your potatoes green and growing until frost, and potatoes make almost one-third of their growth during the last three weeks. PYROX is also a poison—it kills the bugs—the old hardshells as well as the slugs. The cost is insignificant compared with the benefits. PYROX is easy to use—a smooth, creamy paste that mixes easily with cold water.

Remember, Pyrox is a powerful fungicide. Twenty years of actual farm use have proved it the most effective remedy against serious fungous disease. It contains the essential copper,—in proper quantity and in most active form for greatest fungicidal value. It often succeeds where other fungicides fail. The poison insecticide in Pyrox is chemically blended with its copper fungicide, and increases the effectiveness of both.

See your local dealer and be sure that he arranges to order enough PYROX for you. Write today for our Vegetable Growers' Spray Manual.

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## Better Grain Show

THE attendance at the meetings and the exhibits at the grain show suffered somewhat from the effects of the influenza epidemic, but on the whole it was one of the most successful meetings and shows the association has ever held. Every member of the experimental force gave a report of his special work with the exception of Plant Breeder F. A. Spragg, who was confined to his home with illness. Those present received valuable information in regard to alfalfa seed production, and the best varieties for various parts of the state.

Thursday was given over to the annual business meeting of the association and to the addresses of County Agent W. G. Eckhardt, of DeKalb county, Illinois, who gave an outline of the seed work in DeKalb county. This county has gone into the business of supplying the members of its County Farm Bureau with quality seeds. The demand for this kind of work can be readily observed when we realize that the county did \$225,000 worth of seed business in thirty days last spring. Mr. Eckhardt's remarks were especially interesting for the Michigan Crop Improvement Association had just taken action on recommendations to be presented to the Michigan State Farm Bureau suggesting cooperation of these two organizations in the distribution of inspected and certified seeds.

In the report of the secretary, the warmest interest of Michigan farmers in pure, adapted seeds was indicated by the orders for genuine Grimm alfalfa seed. The association obtained seven thousand pounds of certified seed this year and did not attempt to advertise it, but the news was spread through the county agents and the agricultural press so that the association has already had to return orders for more than twice as much seed as was obtained. It is clearly evidenced that the experience of Michigan farmers with the pure and inspected varieties which the Michigan Crop Improvement Association has been instrumental in distributing in the past, has impressed them with the value of well-bred, high-yielding adapted varieties.

In the absence of the president of the association, Mr. L. Whitney Watkins, of Manchester, who was confined to his home on account of illness, Mr. A. B. Cook, of Owosso, presided. The following officers were elected for the ensuing year: President, L. Whitney Watkins, Manchester; vice-president, A. B. Cook, Owosso; secretary-treasurer, J. W. Nicolson, East Lansing; assistant secretary-treasurer, Wm. Murphy, East Lansing; directors, Garfield Farley, Albion; F. F. Cornair, Chesaning; Ralph Arbogast, Union City; J. F. Cox, East Lansing; F. A. Spragg, East Lansing.

### INADEQUATE REFRIGERATION.

THE fruit growers of the state are alarmed at the prospect of insufficient refrigeration service this year. If the operating railroads attempt to serve their respective shippers without the assistance of the private refrigerator car lines, which is the situation now confronting the fruit growers, due to the expiration of contracts between the private lines and the railroads, there will be a serious shortage of refrigeration cars. A. R. Urion, chairman of the Refrigeration Committee of the Michigan State Horticultural Society will give his report at the mid-winter meeting, which will be held at Benton Harbor, March 4-5. The society feels very fortunate in securing Walter J. Sears, President of the National Canners' Association, of Chillicothe, Ohio, who will discuss the subject of "Distribution of Canned Goods and its Necessity to Grower."

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**DESTROYING CUTWORMS.**

We have a field of seven acres of new ground that we would like to plant to potatoes in the spring, but the soil is literally alive with wireworms, we had a small corner of this field in potatoes this season but the wireworms worked havoc with them, spoiling many of them entirely. Will say that we have this field fall-plowed. Have heard that fall plowing would kill them out, but as this is our first experience with the pest are at a loss to know whether to risk it to potatoes or to use the field for corn. From which will we get the best returns on potatoes for the amount invested, commercial fertilizer or dried pulverized manure from the stock yards?

Hillsdale Co. H. E. V.

It probably would not be advisable to plant this field to potatoes. Wireworms are often worse the second year than the first. The fall plowing will, however, kill many of the pupae and adults by breaking up the earthen cells. It is probable that better results will be obtained by planting this field to corn. Give the field another year's cultivation before planting to potatoes; or better still, wait until you have obtained a good clover seeding on it, then plow your clover sod for this crop.

You will probably get better results for the money invested from a good high-grade commercial fertilizer on your potatoes than you will with dried pulverized manure from the stock yards. Especially would this be true if your land is well supplied with organic matter and lime. If used without barnyard manure, use from 300 to 500 pounds per acre of a 2-8-6, or similar formula. If used with manure you can omit the nitrogen.

**A GOOD RATION.**

I am feeding corn meal, wheat bran and buckwheat bran middlings, equal parts, for grain; and cornstalks, oat straw, mixed hay for coarse feed to my cows. Let me know if it is near a balanced ration; also the best way to feed. B. W.

Wheat bran and buckwheat bran and middlings mixed equal parts, makes a very good ration for dairy cows. Buckwheat middlings contains over twenty per cent protein and always gives good results. Cornstalks, oat straw and mixed hay are all good roughage feeds although not very rich in proteins. If you feed a pound of grain per day for every three or four pounds of milk which your cows produce, they ought to give you good returns in this ration. C. C. L.

**DIVISION OF CROPS ON SHARES.**

Can a share renter owning jointly stock and feed on a farm on a lease force division by sale? Is legal action in court necessary? L. C.

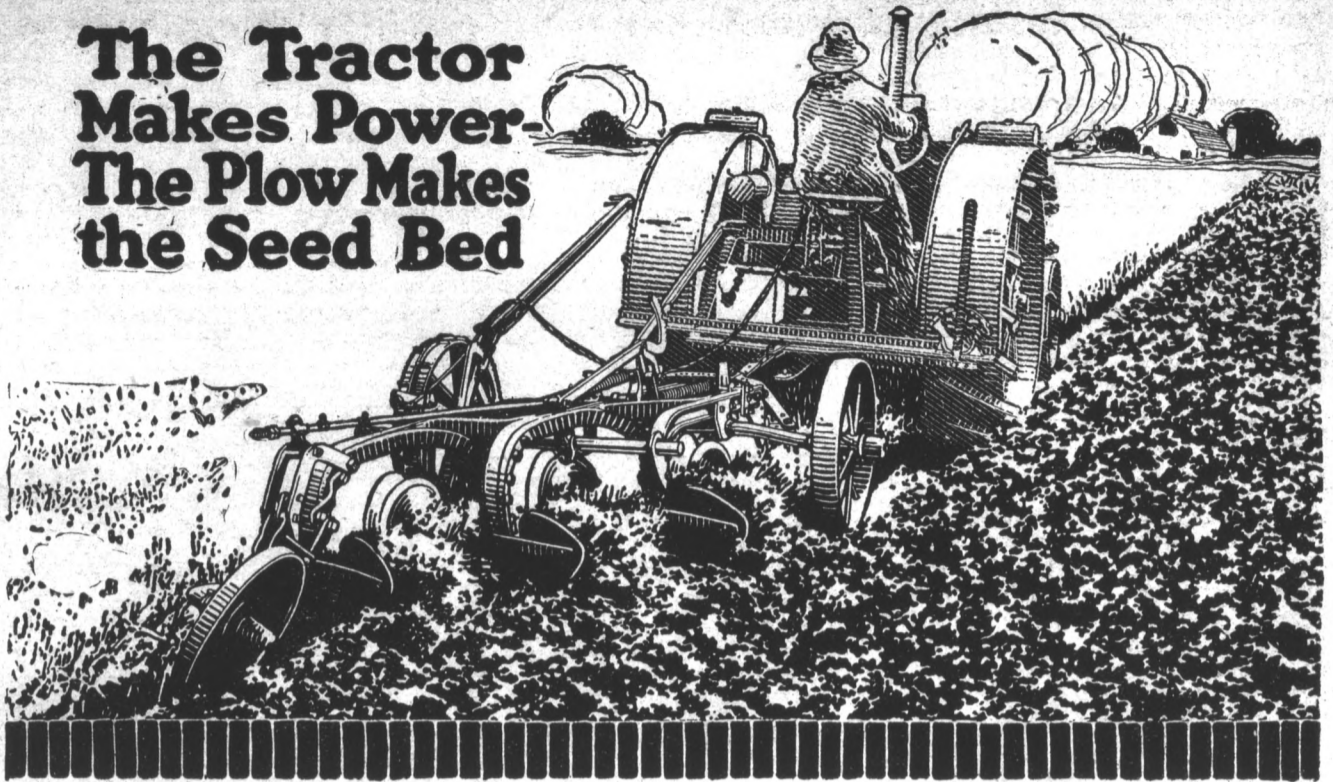
It is better to settle by agreement if possible. It is quicker, cheaper, and leaves better feelings. But if agreement is impossible, division according to the terms of the contract can be forced. The method of division will be determined by the terms of the contract. They may entitle the lessor to make the division or the lessee or someone else; and if no method is provided the parties are entitled to the precise and expensive division by accounting in a court of chancery. J. R. R.

**WIDOW'S SHARE.**

What share would the widow get of money deposited in the name of the husband; there being no children under age?

The widow is given the wearing apparel, ornaments, and household furniture of the deceased, other property to be selected by her not exceeding \$200 in value, and one-third of the remainder. This is in case he leaves no will nor children under ten years old. If there are children under ten, the widow is entitled to support for them. J. R. R.

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are the result of 83 years of experience in building plows that farmers have used in every section and have found especially satisfactory.



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The genuine John Deere bottoms scour, wear well and make good seed beds. You can get the type that meets your soil requirements. The quick detachable shares save time and labor in a way you will appreciate. Loosen one nut to remove a share; tighten the same nut and the share is on tight. Beams are guaranteed not to bend or break—and there is no time limit on the guaranty.

Simple, strong and positive power lift makes the plow easy to operate from the tractor seat. Lifting mechanism moves only when plow is being raised or lowered—practically no wear. Great clearance prevents clogging in trashy soil. You can use John Deere Tractor Plows with any standard tractor. Tell your John Deere dealer to show you the size you want.

**JOHN DEERE**  
THE TRADE MARK OF QUALITY MADE FAMOUS BY GOOD IMPLEMENTS

The Sweet Cereal Flavor of  
**Grape-Nuts**  
is not produced by adding sugar to this blend of wheat and malted barley.

The sweetness is due to actual grain sugar, self-developed by the processing and long baking of this great food.

*"There's a Reason" for Grape-Nuts*



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

**Fruit Trees**

Jonathan, Delicious, Spy, Duchess, etc.—best 2 yr. stock. Elberta Peach, Sweet and Sour Cherries, Plums, Pears, Berries, Grapes, Roses, Shrubbery. Send for prices and particulars and order this month for stock is scarce.

**Celery City Nurseries**  
Kalamazoo, Mich.

**SCOTT'S SWEET CLOVER**

Ten dollars cheaper than Red and the best substitute. Fits right into the rotation. Ask for our catalogue telling "How to Know Good Seed" and sweet clover chart explaining all about this wonderful plant. O. M. SCOTT & SONS CO., 474 Main St., Marysville, Ohio

**SCOTT'S TIMOTHY**

This is one of the few field seeds that is reasonable in price this year. Ask for samples and our Seed Book telling "How to Know Good Seed". All other varieties of superior quality. O. M. SCOTT & SONS CO., 474 Main St., Marysville, Ohio

**Seed Corn** Selected seed of the following varieties testing 90 percent or better. Early Butler, Pride of the North, Leaming, White Cap Yellow Dent, Mammoth White Dent. Price \$3.00 per bushel. Bags extra at 60 cents each. Sample ears at 25 cents each. THE HORN BROS. CO. MONROEVILLE, OHIO.

**EVERGREENS** For Windbreak Hedge and Lawn. All hardy, vigorous and well rooted. We ship everywhere. Write for free Evergreen book. Est. 1856. World's Largest Growers. The D. Hill Nursery Co., Inc., Box 2301, Dundee, Ill.

THE HOG INDUSTRY.

CONFLICTING elements are affecting the hog industry, the great strengthening factors being the large falling off in the country supply and the large shipping demand in the Chicago market for hogs to forward to packing points throughout the east; while the great element of weakness is the cutting off of most of the export business through the fall in foreign exchange and the lack of needed credit. As an instance of the present changed condition of our former huge export outlet it may be stated that the exports from this country during the second week of February were limited to 8,589,000 pounds of lard and 23,741,000 pounds of cured hog meats, these comparing with 22,654,000 pounds of lard and 99,743,000 pounds of cured hog meats exported during the corresponding week last year. This is by no means an exceptional showing, for we are losing most of the foreign demand, leaving far more lard and hog meats for home consumption than heretofore. Fortunately for the interests of American hog growers, there is an excellent home demand for hams and other sugar-cured products, while recent exports of provisions were largely made up, it is stated, of lots purchased some time ago. Some recent severe reductions have taken place in Chicago market quotations, and the spread in prices has widened out surprisingly, with the bulk of the offerings selling within a range of eighty cents per hundred pounds. This is due to the marked increase in the proportion of heavy hogs marketed, the demand running principally on the light butcher hogs and choice light bacon grade hogs. The two latter descriptions are going at top prices, with the best heavy butcher hogs selling about eighty-five cents below top figures. Several days ago choice three hundred-pound hogs sold on the Chicago market \$1.25 below the best light hogs, whereas a year ago the two classes were selling very closely together.

LOWER PRICES FOR FEEDERS.

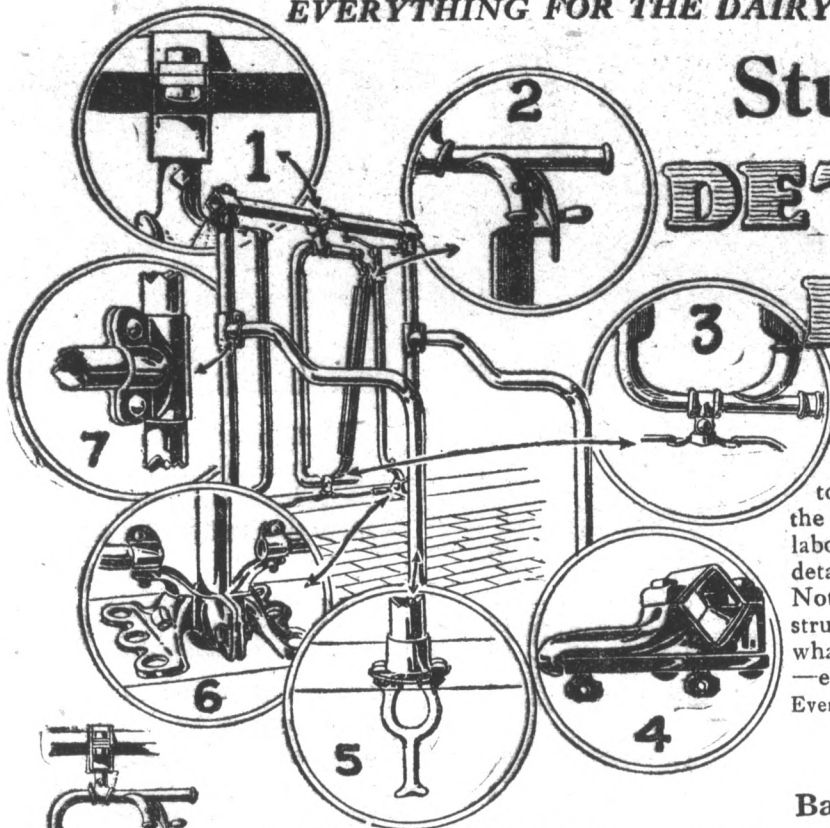
FEEDER cattle have suffered similar reductions from former prices in sympathy with the great decline in prices for beef cattle, and this has stimulated buying to some extent, although many intending buyers are deterred from doing so by the recent course of the market for finished beef cattle. Recent sales have been made of common stockers to prime feeders at a range of \$6.25 to \$11 per hundred pounds, with many stock steers selling for \$9 to \$10.25, while fleshy feeders went at \$10.50 and upward. The best demand comes from northern Illinois and Iowa, but there have been many shipments to eastern states. Feeding conditions have been unusually good, and cattle have made good gains in weight as a rule. Tight money has been a disturbing factor in restoring farms in some instances, but as a rule farmers are better fixed financially than in former years and need less assistance from the banks and other loaners. The best demand all along has been for well-bred feeders, and many such have been sold since the first of the year. It seems probable that much higher prices will prevail as the season for pasturage draws near, and various states will want large supplies. Wisconsin will need large supplies, and it is expected that Montana stockmen will want at least 250,000 cattle.

MULES are having a larger sale in the Chicago and other markets than usual, and fancy prices have been paid recently for choice spans. Several sales of spans have been made at \$900 and upward, and some sales are reported at \$1,000 a span. Sales of teams at \$600 or more are common.

# DREW

EVERYTHING FOR THE DAIRY BARN

## Study the DETAIL of DREW Stalls



Every part of a Drew Stall is built to give greatest service and profit to the farmer—comfort for the animal—labor-saving and cleanliness. Study the detail of the Drew stall as shown above. Note how each part is designed and constructed, with what strength and yet what simplicity. Thoroughly practical—everlasting.

Every improvement that increases the value of stalls to the farmer is immediately incorporated in Drew. Many of these belong exclusively to Drew.

Barn Floor Plans Free

We maintain a large department of practical experienced men especially to work with farmers in planning to get the maximum out of their barns. Floor plans furnished free. Expert advice. The entire line of DREW FIXTURES has established its own reputation during 20 years of service to the farmers of America. They increase the quantity of milk, help to produce better milk, give the farmer extra profits.

Drew Fixtures Cost No More than Others  
Whether you expect to purchase now or not, write. Plan ahead.

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Successors to

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- Stanchions
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- Hog Pens
- Feed Carriers
- Bull Staffs
- Ventilators
- Feed Trucks
- Hay Tools
- Door Hangers

Mail This Coupon

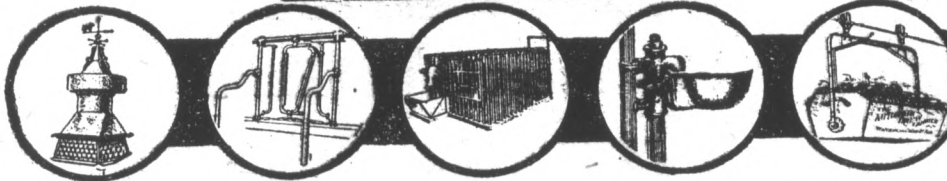
SEND CARRIER CO., Waterloo, Wis.  
Send the Drew 182a Book No. without obligation or cost to me. I want to know about... Stanchions... Stalls... Calf Pens... Litter Carriers... Water Bowls... Bull Staffs... Bull Pens... Barn Plans for... New Buildings... Ventilation... etc.

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Note these Features Carefully.  
They Mean Money to You.

- 1 Bracket that fastens to the square top rail, toggle-jointed to allow cow perfect freedom.
- 2 Easy working "One-Hand" Stanchion Lock—rigid locking—impossible for cow to open.
- 3 Adjustment device for varying neck sizes. Will fit the neck of the largest bull or the smallest heifer in herd. Also shows Drew Spring Cushion Bottom. Brings stanchion closer to curb.
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- 5 Showing Drew Anchor Plates for curbs, and the method of fastening parts to them. Do away with the inconvenience and expense of embedding the posts themselves in concrete.
- 6 Bottom alignment device—an especially valuable feature of the Drew Stalls, works with greatest ease and simplicity, but with extraordinary strength.
- 7 Method of clamping, showing the strong, rigid construction that holds the stall in place in spite of strain and abuse. Round corners, impossible for cow to disfigure or injure herself.

**DREW** Fixtures  
MODERN STOCK HOUSING



## A Worthy New Member of the Famous "Acme" Tillage Line

For more than 40 years "ACME" Tillage Tools have helped to make the American farmer the world's most efficient producer of food stuffs. The best features in standard disc harrow construction have now been combined with exclusive new features in the

### "Acme" Disc Harrow

The discs are so shaped as to enter the ground with a clean cut. The direct thrust of the axles is taken up on dust guarded ball bearings instead of cast bumpers. These features make the draft light. Offset gangs do away with the middle ridge so objectionable to the careful farmer. The gangs can be set independently—the driver can hold the tool to its work on steep hillsides. Pressure springs make the discs "bite in" and prevent skipping of low spots.

"Acme" Disc Harrow: Fore trucks, tongue or a combination of both as desired. 8 sizes, using two, three or four horses.



Order early so as to secure a full season's use. Write today for circular and prices.

Duane H. Nash Inc., 456 Elm St., Millington, N.J.

## RAISE HARES FOR US

Big demand. Wonderful profits easily and quickly made raising BELGIAN HARES in backyards, sheds, cellars, attics, etc. We start you with Class A stock, and pay you \$7.00 to \$12.50 a pair and pay express. Valuable illustrated book and contract free. GENESEE VALLEY FOOD AND FUR ASSOCIATION, 20 Gladstone St., Rochester, N. Y., Dept. No. 23.

## CYPRESS TANKS

10 100 bbl. (31 gal.) cap. hight 6 ft. 11 in. diam. 8 1/2 ft.  
1 135 bbl. (31 gal.) cap. hight 11 ft. 11 in. diam. 9 ft.  
8 150 bbl. (31 gal.) cap. hight 11 ft. 11 in. diam. 9 ft.  
3 40 bbl. (31 gal.) cap. hight 8 ft. diam. 9 ft.  
5 100 bbl. (31 gal.) cap. hight 9 ft. diam. 10 ft.

All equipped with flat hoops. 8 Steel glass lined tanks, 4 in. steel, 185 bbl. cap. All tanks come with bottoms and some have tops.

THE ALLIANCE BEVERAGE CO., Alliance, O.

Pedigreed Seeds Worthy oats, test 41 yields 75 bu. per acre. price \$1.50 per bu. Wolvevine oats, test 46, yield 80 bu. per acre. Price \$1.50 per bu. June clover seed \$35.00. All seed re-cleaned and graded on our farm, where raised. Send your bags by Parcel Post.  
ROBT. P. REAVEY & SON, R. 1. Caro, Mich.

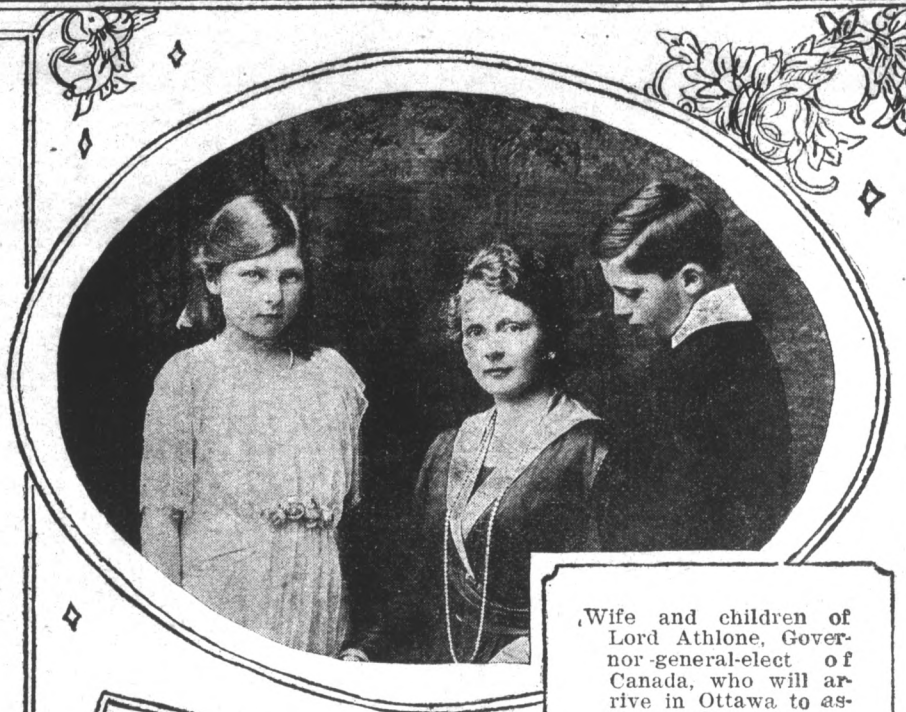
Wanted. Single man to work on farm. Will pay salary and give share to the right man. No objection to middle age man. H. Doonoh, Romulus, Mich.

Position wanted on farm, by year, experienced in stock raising and machinery, have family. Doc. Shields, 302 Francis St., Michigan City, Ind.

# WORLD EVENTS IN PICTURES



Working mothers in Havana deposit their children in this Foundling Asylum where the little ones are cared for until the mothers return.



Wife and children of Lord Athlone, Governor-general-elect of Canada, who will arrive in Ottawa to assume office soon.



Mob before courthouse at Lexington, Ky., where martial law has been declared.



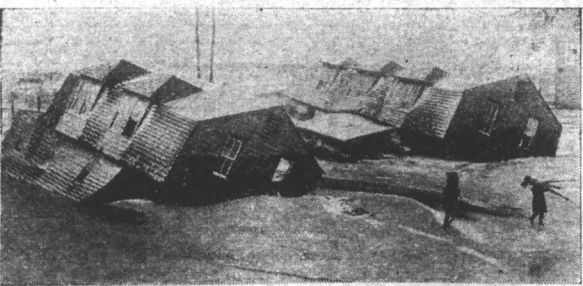
Loses life trying to save her children.



Paul Althouse, famous American tenor and his talented wife and daughter



Lieut. Maynard, the "Flying Parson," promotes recruiting in his airplane.



Heaviest storm in years sweeps Atlantic Coast.

# Lowe's



## Learn to Vernicol

It's the easy way  
of making things do  
by doing them over

When you saw the beautiful finish on your friend's new dining room table top, didn't it make yours look kind of dingy when you got home? Didn't it start you scheming how to get a new one?

Stop scheming. No need of a new one when with a can of Vernicol, you can in a jiffy make your old one look like new.

First be sure the surface is clean and grease free. Then a bit of sandpaper to smooth

off rough spots. Then start Verniciling. That's all there is to it. It will go on like cream. It's a lot easier than painting, because the Vernicol itself smooths up smooth as glass.

Use it on old things to make them new. Use it on new things to keep them from getting old. Good for floors too. Send for circular on Vernicol. It's full of help hints.

Lowe Brothers' Paint is sold by the one best dealer in each town. A point worth remembering.

The *Lowe Brothers Company*

499 EAST THIRD STREET, DAYTON, OHIO

Boston New York Jersey City Chicago Atlanta Kansas City Minneapolis Toronto

# Paints

## A "365" Day Liniment

YOU ARE SAYING TO YOURSELF—

"If I only knew of something to stop that Backache—help my Rheumatism—cure my Neuralgia, I would send and get it at once."

Get It. Gombault's Caustic Balsam will give you immediate Relief. A Marvelous Human Flesh Healer and a never failing remedy for every known pain that can be relieved or cured by external applications. Thousands testify to the wonderful healing and curing powers of this great French Remedy. A Liniment that will soothe, heal and cure your every day pains, wounds and bruises.

## Gombault's Caustic Balsam

The Great French Remedy  
Will Do It

**It Helps Nature to Heal and Cure.** Penetrates, acts quickly, yet is perfectly harmless. Kills all Germs and prevents Blood Poison. Nothing so good known as an application for Sores, Wounds, Felons, Exterior Cancers, Burns, Carbuncles and Swellings.

"I had a bad hand with four running sores on it. The more I doctored the worse it got. I used Caustic Balsam and never needed a doctor after that."  
—Ed. Rosenburg, St. Ansgat, Ia.

Mrs. James McKenzie, Edina, Mo., says: "Just ten applications of Caustic Balsam relieved me of goitre. My husband also cured eczema with it, and we use it for corns, bunions, colds, sore throat and pain in the chest."

A Safe, Reliable Remedy for Sore Throat, Chest Cold, Backache, Neuralgia, Sprains, Rheumatism and Stiff Joints. Whenever and wherever a Liniment is needed Caustic Balsam has no Equal.

Dr. Higley, Whitewater, Wis., writes: "I have been using Caustic Balsam for ten years for different ailments. It has never failed me yet."

A liniment that not only heals and cures Human Flesh, but for years the accepted Standard veterinary remedy of the world.

Price, \$1.75 per bottle at all Druggists or sent by us express prepaid. Write for Free Booklet and read what others say.

THE LAWRENCE WILLIAMS CO., Cleveland, Ohio

### MICHIGAN'S TRAFFIC PROBLEMS.

(Continued from page 316).

of rate cutting and the necessity for regulation may be seen in the following statement. In 1859 the New York Central and the Pennsylvania Line were fighting for a first-class rate from New York to Chicago. The rate then was \$1.88 first-class, and was cut one way and then another by the two roads until the rate was reduced to twenty-five cents, first-class. Rate wars set in among all the trunk lines. Railroad finances became in such a state that it was necessary that something be done to stop this and assure regulation of the roads. As a result the Interstate Commerce Act was passed in 1877, the Anti-Trust Act in 1890, the Elkins Act in 1903 and the Hepburn Act in 1906, together with various laws and commissions.

#### Interstate Commerce Commission.

The Interstate Commerce Commission first consisted of five members appointed for a term of six years. It could declare rates illegal, but could not impose a penalty without the action of the court. Neither could it state what a rate should be.

#### The Anti-Trust Act.

The Anti-Trust Act did not prevent combinations of the railroads. Therefore, if they could not act together, they had to find a new method, so they absorbed the smaller roads, and as a result we have a few great systems now instead of hundreds of minor roads.

#### The Elkins Act.

The Elkins Act made a corporation, as well as a railroad, liable to fine and imprisonment for deviating from the lawful rates, etc.

#### The Hepburn Act.

The Hepburn Act gave the commission power to prescribe rates. It also provided for the filing of rates, tariffs, percentage sheets, etc.

State commissions now began to exist, and at present almost all of the states have their state commissions. Some are elected by the people at large, while others are appointed by the governor.

It is remarkable to note the growth of the railroads in the United States. In 1830 we had twenty-three miles; in 1850 we had 30,000 miles; in 1870 we had 52,000 miles; in 1880 we had 93,000 miles; in 1890 we had 163,000 miles; in 1900 we had 193,000 miles; in 1910 we had 249,000 miles.

#### Michigan Roads.

Michigan was very quick to see the importance of the railroad and while yet a territory, the Legislative Council of the Territory authorized the incorporation of the "President, Directors and Company of the Pontiac and Detroit Railway Company," and granted it a franchise along the "United States' road, commonly called the Saginaw Road," from Pontiac to Detroit. This was in 1830, and it was the first railroad charter granted in the state of Michigan. No use, however, was ever made of this franchise. In June, 1832, the Detroit & St. Joseph Railroad Company was authorized and became the starting of the Michigan Central Railroad.

On April 22, 1833, "The Erie & Kalamazoo Railroad Company" was incorporated. This company was the first to place its road in operation in the state, and is generally stated to be the first railroad company beginning operations west of Schenectady, New York.

On March 7, 1834, the Detroit & Pontiac Railroad Company was incorporated and finally built. It is today a part of the Grand Trunk Railway System. On March 4, 1834, the Shelby & Detroit Railroad Company was authorized and was first constructed to carry on traffic to Milwaukee Junction, Detroit, for a time with horse power, but was very unsuccessful. After a few years this road was finally utilized as part of the Bay City Railway, now the Bay City division of the Michigan

Central Railroad. In 1838 two acts were passed authorizing the state to guarantee certain issues of stock and also authorized the state loan of \$100,000 each to the Allegan & Marshall Railroad Company and the Ypsilanti & Tecumseh Railroad Company. These acts were the first instances of public support to the many railroad projects then sought to be promoted.

While these measures were not direct aids, they materially advanced the prospects of those companies, as they involved the state in their financial affairs and ultimately led to the state assuming control of the property of all of them except the Detroit & Pontiac Railroad. All of the roads except the Ypsilanti & Tecumseh Railroad became, and are today, a part of our railroad systems.

On March 20, 1837, Act 67 was approved, authorizing the Board of Commissioners of Internal Improvements to undertake the construction of railroads on the Northern, Central and Southern routes described in the act. The northern route was never built. The central and southern routes, however, were built, but were not good investments on the part of the state. Finally, in 1846, the state passed acts incorporating the Michigan Central Railroad Company and the Michigan Southern Railroad Company, and authorized the sale to the respective entities of the Central and Southern railroads. The sales were made, the state receiving for the Central railroad two million dollars, and for the Southern railroad five hundred thousand dollars in accordance with the terms of the acts authorizing the transactions. It is understood that the state received about one-half of the actual expense it had incurred in building these roads.

During the years following 1846, railroad development went slowly forward, but on surer ground than the state had found in its efforts from 1836 to 1846. The main lines of the Central and Southern were extended westerly under corporate management, and by 1852 had both reached Chicago. During the period of state ownership and building of railroads, the state funds became difficult or withheld, and the public domain was turned to as a means of going on with the development. On September 4, 1841, congress made a general grant of 500,000 acres of public land to each of several states including Michigan, for purposes of internal improvement. The act provided that \$1.25 per acre should be the minimum price at which the lands might be sold. The Central Railroad received 150,000 acres in 1843, 64,000 acres in 1844, 20,000 acres in 1845, and 20,000 acres in 1846. The Palmyra & Jacksonburg Railroad, in other words, the Southern, received 10,000 acres in 1845.

In the Act of June 3, 1856, congress granted to the state of Michigan to aid in the construction of railroads from Little Bay de Noquet to Marquette, and thence to Ontonagon, and from the two last named places to the Wisconsin state line; and also from Amboy, by Hillsdale and Lansing and from Grand Rapids to some points on or near Traverse Bay; also from Grand Haven and Pere Marquette to Flint and thence to Port Huron, every alternate section of land designated by odd numbers; for six sections in width and each side of each of said roads.

Under the terms of the land grant act, government lands were actually granted to the railroad companies of the state for such of their roads as follows: Amboy, Lansing & Traverse Bay, and Grand Rapids & Indiana, 60,918 acres; Amboy, Lansing & Traverse Bay, and Milwaukee & Port Huron, 80 acres; Amboy, Lansing & Traverse Bay, and Flint & Pere Marquette, 52,582 acres; Amboy, Lansing & Traverse Bay, and Detroit & Milwaukee, 1,160 acres; Amboy, Lansing & Traverse Bay, 661,955 acres; Bay de No-

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quet & Marquette, 247,248; Bay de Noquet & Marquette and Marquette and Ontonagon, 1,960; Bay de Noquet & Marquette and Chicago, St. Paul & Fond du Lac, 5,387; Bay de Noquet & Marquette & Chicago, St. Paul & Fond Du Lac, and Marquette & Ontonagon, 24,626; Chicago & Northwestern, 517,954; Chicago, St. Paul & Fond Du Lac, 254,575; Chicago, St. Paul & Fond Du Lac and Marquette & Ontonagon, 110,579; Detroit & Milwaukee, 30,303; Detroit & Milwaukee and Grand Rapids & Indiana, 231; Flint & Pere Marquette, 446,777; Flint & Pere Marquette and Grand Rapids & Indiana, 79,184; Flint & Pere Marquette and Jackson, Lansing & Saginaw, 228; Grand Rapids & Indiana, 763,037; Houghton & Ontonagon, 77,984; Jackson, Lansing & Saginaw, 2,083; Marquette & Ontonagon, 222,497; Port Huron & Milwaukee, 6,428; Marquette, Houghton & Ontonagon, 207,814; Ontonagon and Brule River Railroad, 31,227.

It finally developed that in the October term, 1871, the subject of loaning money by the state to private corporations was taken up, and before the court in Bay City vs. the State Treasurer, when the General Act of 1869 was at issue, the court distinctly held that Sections 7, 8 and 9 of Article XIV of the Constitution precluded the state from loaning the public credit to private corporations.

The decisions mentioned mark the end of active campaigns for local municipal aids and donations to railroads, although for many years, thereafter, it is found that occasional public aids were given, sometimes under circumstances contrived to evade the limitations of the law. This period was followed by aids given by individuals, popular subscriptions; individual gifts of land, money, material, and labor have been incidents in the construction of some parts of practically all of the railroads dating before 1890.

During and shortly after the period of municipal aid, the state commenced to pledge state swamp lands to help railroad development so that the grants were actually made for performance of the conditions in the acts as follows: Chicago & Northwestern Railway Company, 141,674.26 acres; Detroit, Mackinac & Marquette Railroad Company, 1,327,041.65; Marquette, Houghton & Ontonagon Railroad Company, 82,422.12; Menominee River Railroad Company, 144,371.96.

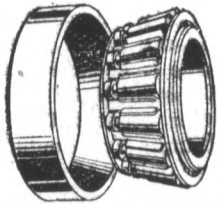
We now come down to the traffic regulations and problems of today. Rates for a number of years were made as follows: First, the cost of the service, then the value to the shipper, and last, what the traffic will bear. Today the first two have been laid aside or discarded, and it is now how much will the traffic bear and then add a few cents more.

(Part II will appear next week).

**A GOOD JERSEY RECORD.**

Of the many young Jersey breeders that are forging ahead in this section of Michigan, none are more enthusiastic than Eardley Brothers, of Maple Hill Farm, Kent county. They have an outstanding herd-sire in Majesty's Gamboge Lad the 2nd, 168947, acquired at Erdenheim Farm, Pontiac, Michigan. Both his dam, Majesty's Pearl-drop, and his granddam, Imported Majesty's Pearl, were sired by Royal Majesty, which gives this young bull an amount of Majesty blood that is hardly excelled by any living bull. A late report of the Kent County Cow-testing Association shows that Oxford Eminent Sue, owned by Fred E. Eardley, made the highest record for the month with 66.8 pounds of butterfat. She returned \$33.44 over cost, or a little more than two dollars for every dollar invested in feed.

# Do You Know—



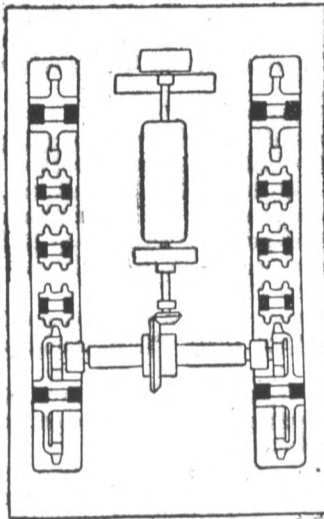
**STANDARD PRACTICE**  
The use of Timken Tapered Roller Bearings at points of hard service in the great majority of leading tractors—and in power-driven farm machinery—is proof of leadership established on the tapered principle of design, quality of manufacture, performance, and service to the automotive industry.

that for every four acres you farm one acre is required for raising the feed for the animals used in producing the crop?

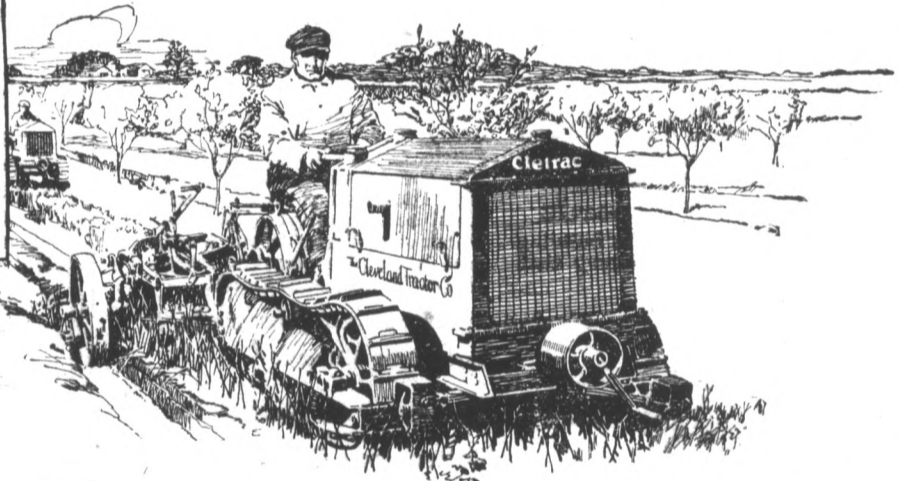
that the tractor takes nothing from the farm's acreage or food supply?

that when buying a tractor you should carefully inquire into the kind of bearings at points of *hard* service—front axle, pinion gear, transmission, jack shafts, rear axles and lower track wheels?

that the Timken Tapered Roller Bearing is the *only* type of bearing that will function properly under radial load, or thrust load, and all possible combinations of the two.



The 20 Timken bearings in the Cletrac are indicated by the black rectangles.



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Canton, Ohio

Timken Tapered Roller Bearings for Passenger Cars, Trucks, Tractors, Farm Implements, Machinery, and Industrial Appliances.

# TIMKEN BEARINGS

## 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 Fig Meal, Egg Mash, Poultry Charcoal, Fly Oil, Sprayers, Stock Dip and Scour Remedy.

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**MARTIN CALF FEED CO.**  
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**INSYDE TYRES**  
—genuine inner armor for auto tires. Double mileage; prevent punctures and blowouts. Easily applied without tools. Distributors wanted. Details free.  
American Accessories Company Dept. 712 Cincinnati, Ohio

**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.

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Write for it Today —tells why there is a saving of 25% in feed when ground with

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Type and size to suit your need —½ h. p. to 40 h. p. Cap. 3 to 150 bu. per hour. Get booklet.  
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Stover Samson Windmills, Good Engines, etc.

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30 DAYS' FREE TRIAL and on a plan whereby they earn their own cost and more by what they save. Postal brings Free Catalog Folder. Buy from the manufacturer and save money.  
ALBAUGH-DOVER CO., 2165 Marshall St. Chicago



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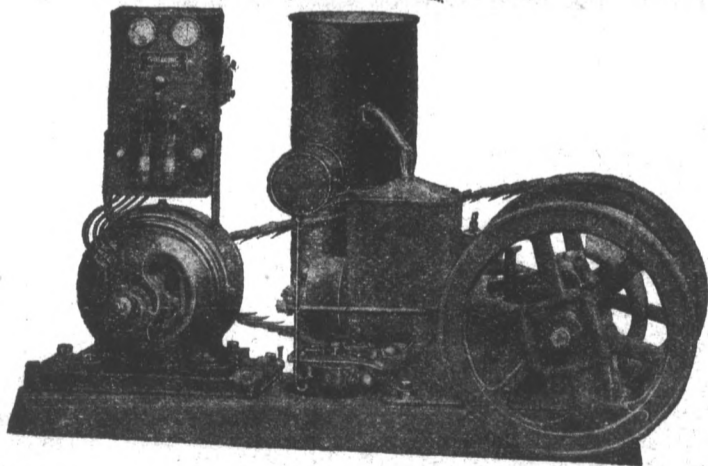
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## Crooked Trails and Straight

By Wm. MacLeod Raine

### CHAPTER XVIII. Cutting Trail.

**K**ATE CULLISON had disappeared, had gone out riding one morning and at nightfall had not returned. As the hours passed, anxiety at the Circle C became greater.

"Mebbe she got lost," Bob suggested. Her father scouted this as absurd. "Lost nothing. You couldn't lose her within forty miles of the ranch. She knows this country like a cow does the range. And say she was lost—all she would have to do would be to give that pinto his head and he'd hit a bee line for home. No, nor she ain't had an accident either, unless it included the pony too."

"You don't reckon a cougar—" began Sweeney, and stopped.

Luck looked at his bandy-legged old rider with eyes in which little cold devils sparkled. "A human cougar, I'll bet. This time I'll take his hide off inch by inch while he's still living."

"You thinking of Fendrick?" asked Sam.

"You've said it." Sweeney considered, rasping his stubby chin. "I don't reckon Cass would do Miss Kate a meanness. He's a white man, say the worst of him. But it might be Blackwell. When last seen he was heading into the hills. If he met her—"

A spasm of pain shot across Luck's face. "My God! That would be awful."

"By Gum, there he is now, Luck." Sweeney's finger pointed to an advancing rider.

Cullison swung as on a pivot in time to see someone drop into the dip in the road, just beyond the corral. "Who—Blackwell?"

"No. Cass."

Fendrick appeared presently and turned in at the lane. Cullison, standing on the porch at the head of the steps looked like a man who was passing through the inferno. But he looked too a personified day of judgment untempered by mercy. His eyes bored like steel gimlets into those of his enemy.

The sheepman spoke quietly, looking straight at his foe. "I've just heard the news. I was down at Yesler's ranch when you phoned asking if they had seen anything of Miss Cullison. I came up to ask you one question. When was she seen last?"

"About ten o'clock this morning. Why?"

"I saw her about noon. She was on Mesa Verde, headed for Blue Canon looked like."

"Close enough to speak to her," Sam asked.

"Yes. We passed the time of day."

"And then?" Luck cut back into the conversation with a voice like a file.

"She went on toward the gulch and I kept on to the ranch. The last I saw of her she was going straight on."

"And you haven't seen her since?"

The manner of the questioner started Fendrick. Lord, man, you don't think I'm in this, do you?"

"If you are you'd better blow your brains out before I learn it. And if you're trying to lead me on a false scent—" Luck stopped. Words failed him, but his iron jaw clamped like a vice.

Fendrick spoke quietly. "I'm willing. In the meantime we'd better travel over toward Mesa Verde, so as to be ready to start at daybreak."

Cullison's gaze had never left him. It observed, weighed, appraised. "Good enough. We'll start."

He left Sweeney to answer the telephone while he was away. All of his other riders were already out combing the hills under the supervision of

only to get some definite information before starting. Now he had his lead. Fendrick was either telling the truth or he was lying with some sinister purpose in view. The cattleman meant to know which.

Morning breaks early in Arizona. By the time they had come to the spot where the sheepman said he had met Kate gray streaks were already lightening the sky. The party moved forward slowly toward the canon, spreading out so as to cover as much ground as possible. Before they reached its mouth the darkness had lifted enough to show the track of a horse in the sand.

They pushed up the gulch as rapidly as they could. The ashes of a camp fire halted them a few minutes later. Scattered about lay the feathers and dismembered bones of some birds.

Cass stooped and picked up some of the feathers. "Quails, I reckon. Miss Cullison had three tied to her saddle horn when I met her."

"Why did she come up here to cook them?" Sam asked.

Luck was already off his horse, quartering over the ground to read what it might tell him.

"She wasn't alone. There was a man with her. See these tracks."

It was Fendrick who made the next discovery. He had followed a draw for a short distance and climbed to a little mesa above. Presently he called to Cullison.

Father and son hurried toward him. The sheepowner was standing at the edge of a prospect hole pointing down with his finger.

"Someone has been in that pit recently, and he's been there several days."

"Then how did he get out?" Sam asked.

Fendrick knelt on the edge of the pit and showed him where a rope had been dragged so heavily that it had cut deeply into the clay.

"Someone pulled him out."

"What's it mean anyhow? Kate wasn't in that hole, was she?"

Cass shook his head. "This is my guess. Someone was coming along here in the dark and fell in. Suppose Miss Cullison heard him calling as she came up the gulch. What would she do?"

"Come up and help the fellow out."

"Sure she would. And if he was hungry—as he likely was—she would cook her quail for him."

"And then? Why didn't she come home?"

Luck turned a gray agonized face on him. "Boy, don't you see? The man was Blackwell."

"And if you'll put yourself in Blackwell's place you'll see that he couldn't let her go home to tell where she had seen him," Fendrick explained.

"Then where is she? What did he do with her?"

There came a moment's silence. The pale face of the boy turned from the sheepman to his father. "You don't think that—that—"

"No, I don't," Cass answered. "But let's look this thing squarely in the face. There were three things he could do with her. First, he might leave her in the pit. He didn't do that because he hadn't the nerve. She might be found soon and set the hunters on his track. Or she might die in that hole and he be captured with her pinto. I know him. He always plays a waiting game when he can. Takes no chances if he can help it."

"You think he took her with him then," Luck said.

"Yes. There's a third possibility. He may have shot her when he got a good chance, but I don't think so. He

would keep her for a hostage as long as he could."

"That's the way I figure it," agreed Cullison. "He daren't hurt her, for he would know Arizona would hunt him down like a wolf if he did."

"Then where's he taking her?" Sam asked.

"Somewhere into the hills. He knows every pocket of them. His idea will be to slip down and cut across the line into Sonora. He's a rotten bad lot, but he won't do her any harm unless he's pushed to the wall. The fear of Luck Cullison is in his heart."

"That's about it," nodded Luck. "He's somewhere in these hills unless he's broken through. Bolt 'phoned me that one of his posse came on the ashes of a camp fire still warm. They're closing in on him. He's got to get food or starve, unless he can break through them."

"There's a chance he'll make for one of my sheep camps to lay in a supply. Wouldn't it be a good idea to keep a man stationed at each one of them?"

"You're talking sense," Cullison approved. "Sam, ride back and get in touch with Curly. Tell him to do that. And rouse the whole country over the wire. We'll run him down and feed him to the coyotes."

CHAPTER XIX.

A Good Samaritan.

FENDRICK had told the exact truth. After leaving him Kate had ridden to the canon and entered it. She did not mean to go much farther, but she took her time. More than once she slipped from under a fold of her waist a letter and reread sentences of it. Whenever she did this her eyes smiled. For it was a love letter from Curly, the first she had ever had. It had been lying on the inner edge of the threshold of her bedroom door that morning when she got up, and she knew that her lover had risen early to put it there unnoticed.

They were to be married soon. Curly had wished to wait till after his trial, but she had overruled him. Both her father and Sam had sided with her, for she had made them both see what an advantage it would be with a jury for Flandrau to have his bride sitting beside him in the courtroom.

Faintly there came to her a wind-swept sound. She pulled up and waited, but no repetition of it reached her ears. But before her pony had moved a dozen steps she stopped him again. This time she was almost sure of a far cry, and after it the bark of a revolver.

With the touch of a rein she guided her horse toward the sound. It might mean nothing. On the other hand, it might be a call for help. Her shout brought an answer which guided her to the edge of a prospect hole. In the darkness she made out an indistinct figure.

"Water," a husky voice demanded. She got her canteen from the saddle and dropped it to him. The man glued his lips to the mouth as if he could never get enough.

"For God's sake get me out of here," he pleaded piteously.

"How long have you been there?"

"Two days. I fell in at night whilst I was cutting across country."

Kate fastened her rope to the horn of the saddle, tightened the cinch carefully, and dropped the other end to him. She swung to the back of the horse and braced herself by resting her full weight on the farther stirrup.

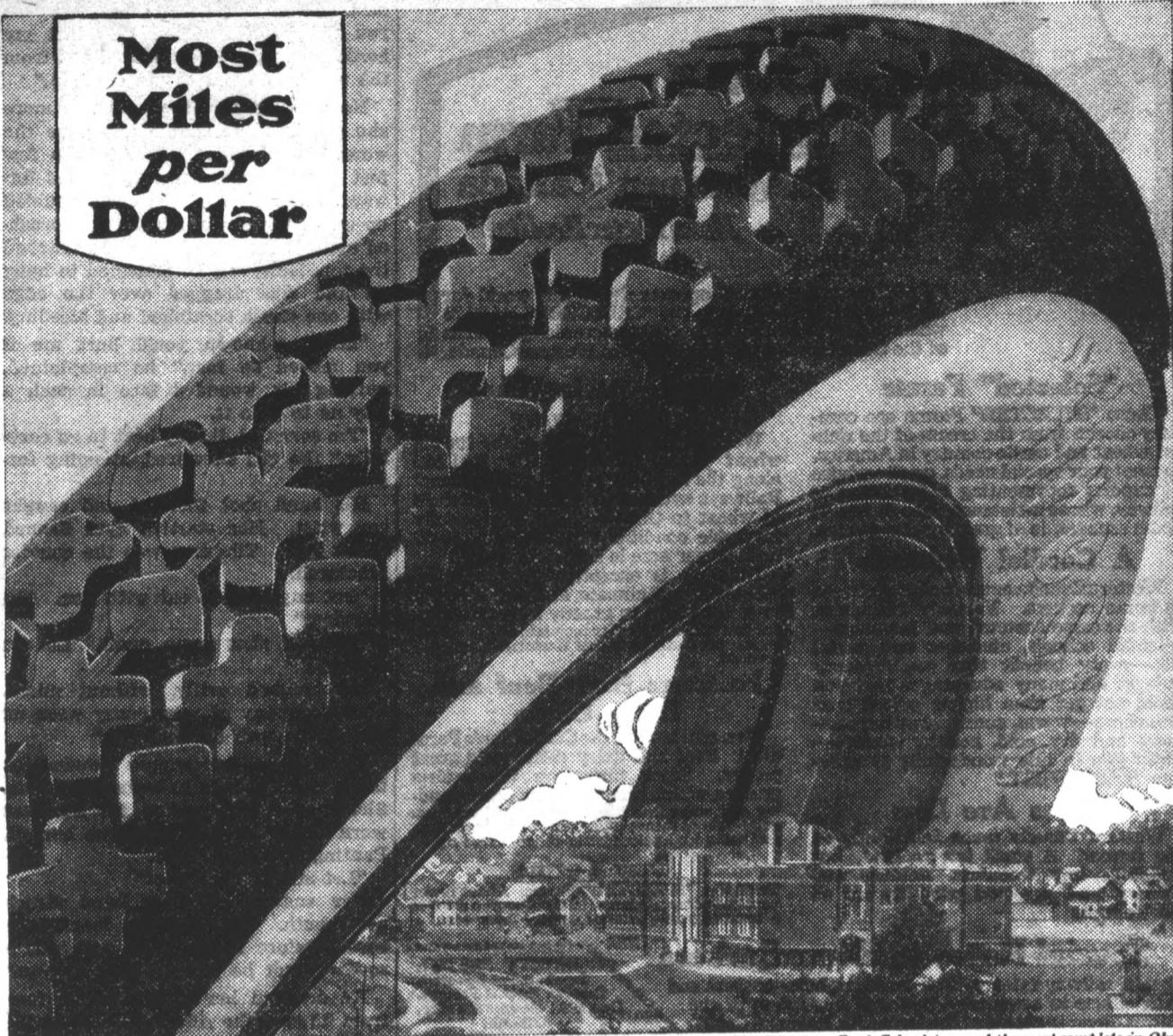
"Now," she told him.

The imprisoned man tried to pull himself up, bracing his feet against the rough projections of the rock wall to help him. But he could not manage the climb. At last he gave up with an oath.

"We'll try another way," the girl told him cheerfully.

At spaces about a foot distant she tied knots in the rope for about the first six feet.

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"This time you'll make it," she promised. "You can get up part way as you did before. Then I'll start my horse forward. Keep braced out from the wall so as not to get crushed."

He growled an assent. Once more she got into the saddle and gave the word. He dragged himself up a few feet and then the cowpony moved forward. The legs of the man doubled up under the strain and he was crushed against the wall just as he reached the top. However, he managed to hang on and was dragged over the edge with one cheek scratched and bleeding.

"Might a-known you'd hurt me if you moved so fast," he complained, nursing his wounded face in such a way as to hide it.

"I'm sorry. I did my best to go carefully," the girl answered, stepping forward.

His hand shot forward and caught her wrist. Her startled eyes flashed to his face. The man was the convict Blackwell.

"Got anything to eat with you. I'm starving."

"Yes. I shot some quail. Let go my hand."

He laughed evilly, without mirth. "Don't try any of your sassy ways on me. I'm a wolf on the howl."

In spite of her supple slenderness there was strength in her small wrists. She fought and twisted till she was worn out in her efforts to free herself. Panting, she faced him.

"Let me go, I tell you."

For answer his open hand struck her mouth. "Not till you learn your boss. Before I'm through with you a squaw won't be half so tame as you."

He dragged her to the horse, took from its case the rifle that hung by the saddle, and flung her from him roughly. Then he pulled himself to the saddle.

"March ahead of me," he ordered.

As soon as they had reached the bed of the canon he called a halt and bade her light a fire and cook him the quail. She gathered ironwood and catclaw while he watched her vigilantly. Together they roasted the birds by holding them over the fire with sharpened sticks thrust through the wings. He devoured them with the voracity of a wild beast.

Hitherto his mind had been busy with the immediate present, but now his furtive shifting gaze rested on her more thoughtfully. It was as a factor of his safety that he considered her. Gratitude was a feeling not within his scope. The man's mind worked just as Fendrick had surmised. He would not let her go back to the ranch with the news that he was hidden in the hills so close at hand. He dared not leave her in the prospect hole. He was not yet ready to do murder for fear of punishment. That was a possibility to be considered only if he should be hard pressed. The only alternative left him was to take her to the border as a companion of his fugitive doublings.

"We'll be going now," he announced, after he had eaten.

"Going where? Don't you see I'll be a drag to you? Take my horse and go. You'll get along faster."

"Do you think so?"

She opened her lips to answer, but there was something in his face—something at once so cruel and deadly and wolfish—that made the words die on her lips. For the first time it came to her that if he did not take her with him he would kill her to insure his own safety. None of the arguments that would have availed with another man were of any weight here. Her sex, her youth, the service she had done him—these would not count a straw. He was lost to all the instincts of honor that govern even hard desperate men of his class.

They struck up into the mountains,

following a cattle trail that wound upward with devious twists. (The man rode, and the girl walked in front with the elastic lightness, the unconscious flexuous grace of poise given her body by an outdoor life. After a time they left the gulch. Steadily they traveled, up dark arroyos bristling with mesquite, across little valleys leading into timbered stretches through which broken limbs and uprooted trees made progress almost impossible, following always untrodden ways that appalled with their lonely desolation.

By dusk they were up in the headwaters of the creeks. The resilient muscles of the girl had lost their spring. She moved wearily, her feet dragging heavily so that sometimes she staggered when the ground was rough. Not once had the man offered her the horse. He meant to be fresh, ready for any emergency that might come. Moreover, it pleased his small soul to see the daughter of Luck Cullison fagged and exhausted but still answering the spur of his urge.

The moon was up before they came upon a tent shining in the cold silvery light. Beside it was a sheetiron stove, a box, the ashes of a camp fire, and a side of bacon hanging from the limb of a stunted pine. Cautiously they stole forward.

The camp was for the time deserted. No doubt its owner, a Mexican sheepherder in the employ of Fendrick and Dominguez, was out somewhere with his flock.

Kate cooked a meal and the convict ate. The girl was too tired and anxious to care for food, but she made herself take a little. They packed the saddlebags with bacon, beans, coffee and flour. Blackwell tightened again the cinches and once more the two took the trail.

They made camp in a pocket opening from a gulch far up in the hills. With her own reata he fastened her hands behind her and tied the girl securely to the twisted trunk of a Joshua tree. To make sure of her he lay on the rope, both hands clinched to the rifle. In five minutes he was asleep, but it was long before Kate could escape from wakefulness. She was anxious, her nerves were jumpy, and the muscles of arms and shoulders were cramped. At last she fell into troubled catnaps.

From one of these she awoke to see that the morning light was sifting through the darkness. Her bones and muscles ached from the constraint of the position in which the rope held them. She was shivering with the chill of an Arizona mountain night. Turning her body, the girl's eyes fell upon her captor. He was looking at her in the way that no decent man looks at a woman. Her impulse was to scream, to struggle to her feet and run. What did he mean? What was he going to do?

But something warned her this would precipitate the danger. She called upon her courage and tried to still the fearful tumult in her heart. Somehow she succeeded. A scornful, confident pride flashed from her eyes into him. It told him that for his life he dared not lay a finger upon her in the way of harm. And he knew it was true, knew that if he gave way to his desire no hole under heaven would be deep enough to hide him from the vengeance of her friends.

He got sullenly to his feet. "Come. We'll be going."

Within the hour they saw some of his hunters. The two were sweeping around the lip of a mountain park nestling among the summits. A wisp of smoke rose from the basin below. Grouped about it were three men eating breakfast.

"Don't make a sound," warned Blackwell.

(Continued next week)



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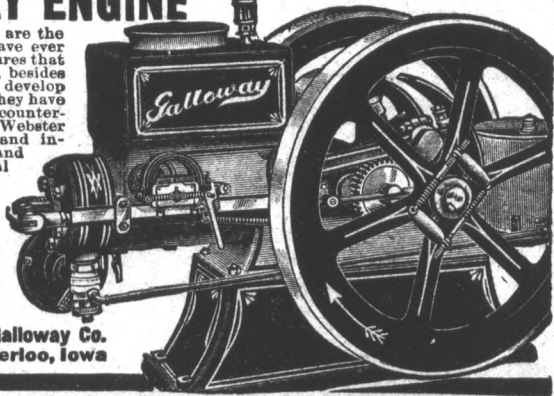
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News of the Week

Tuesday, February 17.

**MISSIONARIES** in Armenia report that the political situation in northern Syria is very grave.—The supreme council makes reply to President Wilson's letter on the Adriatic situation.—A new note by the allies to Holland indicates that the allies will be content with the internment of the former German ruler.—In a note to Germany the allies state that the proposal for the trial of German war criminals at Leipzig is compatible with the peace treaty.—The Persian government grants Great Britain a concession to establish a railway from Kurratu to Teheran.

Wednesday, February 18.

**RUSSIAN** revolutionists are reported to control Vladivostok, Nikolsk, Yenishiesk and Blagovestchensk.—A reign of terror exists, according to reports, at Marash in northern Syria, where Turkish police are said to be continuing the massacre of Armenians.—Storm conditions force eastern roads to place an embargo on freight entering New York.—Communications from Russia state that the Bolshevik troops have taken several positions near Stavrapol near the sea of Azov.—The allied leaders modify their attitude toward the Adriatic question.

Thursday, February 19.

**REPRESENTATIVES** of grain exchanges object to bill abolishing the Grain Corporation, on the grounds that no other agency can be organized to take its place.—The conference report on the railroad bill creates a \$300,000,000 revolving fund for loans to carriers with which to secure new equipment.—All bids for former German passenger ships have been rejected by the shipping board as being too low.—Mexican cotton exports have increased 200 per cent over 1918.—While the Turks will be allowed to remain in Constantinople, they are warned by the allies that unless they cease persecuting the Armenians, the treaty terms will be made more severe.

Friday, February 20.

**ORGANIZED** labor is making its final preparation to fight the compromise railroad bill which will come up for immediate consideration by the house.—President Wilson sends a rejoinder to the allied leaders on the proposed new settlement of the Adriatic question.—A temporary injunction has been granted against the sale of seized German passenger liners which the American Shipping Board has been offering.—Reports through Constantinople declare Americans in Marash to be safe following new disturbances.—Martial law is proclaimed in the Saar region now occupied by French troops.

Saturday, February 21.

**PRESIDENT WILSON** declares that there is no agreement with England on the sale of ex-German vessels in this country.—Congress adopts the railroad conference report and enacts the railroad bill regardless of efforts made by labor and other interests to bring about its defeat.—German merchants and salesmen are said to be swarming into Russia to build up trade connections.—A bill providing for a large industrial congress will be considered in the senate next week.—Typhus epidemic is raging in eastern Galicia.—The national board of farm organization announces a nomination of a candidate for presidency.—Canada will import two thousand Alaskan reindeer for breeding purposes.—Rear Admiral Robert E. Peary, Arctic explorer and discoverer of the North Pole, dies at his home in Washington.

Sunday, February 22.

**THE** United States Senate readopts unchanged and by an increased majority, the first of the reservations attached to the peace treaty last November.—Federal and state inspectors in eight states are seeking to locate shipments of ripe olives said to contain the deadly bacillus botulinus.—Preliminary census figures show that Washington now exceeds Cincinnati in population.—The Spanish ministry resigns, due to insufficient support from parliament.

Monday, February 23.

**IN** the first clash between Bolshevik and Polish troops in a new offensive Polish soldiers are said to have been successful.—Teachers in attendance at the national educational association at Cleveland petition for a post on the President's cabinet.—Sam Gompers declares the move to organize a labor party must prove detrimental to the interests of labor.—The United States government is urged to sell stores of flour on credit to the starving people of central Europe.



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**PRIMROSE**  
at the 1918 Price

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# Woman's Interests

## Has Your Child Good Teeth?

**W**HEN shall I begin cleaning my baby's teeth?" inquires a young mother.

The day after he cuts the first one, is none too early. For in that way you establish a habit which is absolutely essential to his best physical development. Without sound teeth no one can be at his best physically, for perfect health depends upon perfect digestion, and the first step in digestion is thorough mastication—chewing—of the food.

Wonderful advances have been made in dentistry in the last century. We are told that the Empress Josephine lost all her teeth which may perhaps account for Napoleon's cooling affection. But with all our advances in knowledge the examinations of drafted men showed that many hundreds had overlooked the attention which good teeth demand. Not only that, but a glance at the teeth of a large percentage of the people we meet, adults and children as well, shows that the doctrine of proper nutrition for the growing children, and daily use of the tooth brush, needs more emphasis.



Teach the Use of the Tooth Brush Early.

If the child is to have good strong teeth to start with, he must be fed properly. The teeth are composed of substances similar to bone and need plenty of bone-making material. For the infant the lime and phosphorus necessary for proper bone-making is found in the milk he drinks. As he approaches and enters the second year this may be supplemented by egg yolk, which is rich in phosphorus. In the latter part of the second year cooked green vegetables, such as spinach, asparagus tips, young beets and carrots, thoroughly cooked and strained, help in the supply of minerals. Of course, the two-year-old will receive well-cooked cereals and fruit juice daily. As the teeth begin to come the child should be given hard toast, crackers or zweiback to chew. This will help develop strong jaws and teeth and teach him to masticate his food well.

Proper food for teeth making should not stop with the second year, however. Growing children are cutting teeth at pretty much every stage of their development. At five or six the baby teeth drop out and the permanent set appears. During all these months the diet should be carefully watched. Milk should still form a large part of the diet, a quart a day is none too much, and eggs are valuable, too. If milk and eggs are not playing a large part in the daily dietary, feed brown bread instead of white for its mineral content. If the child is getting plenty of meat and eggs, white bread will be sufficient.

Cutting teeth does not stop at six or seven. There is that period from ten to twelve, and even later, when the child loses the first "double" teeth and gets his permanent ones. He should be fed generously on bone-making materials, brown bread, beef or mutton once a day, still plenty of milk and eggs, potatoes, sweet or Irish, fruits, including oranges and prunes which are rich in bone-making properties,

oatmeal, beans, dried peas, turnips, parsnips, carrots, peanuts, walnuts and the green leafy vegetables, lettuce, endive, spinach, greens of all kinds, celery, etc.

Having fed the growing child the proper food to make good teeth, the next important step is to see that he keeps them clean. Teach him at the earliest possible age to clean them thoroughly at least night and morning with a brush and water. A good tooth paste helps, but clear water is better than nothing.

Do not buy every dentifrice you see advertised, as many which are the most highly advertised are injurious to the teeth. Ask your dentist what to use, or, better still, write to the dental department of your state university and ask their advice. These universities as a rule, analyze every dentifrice that appears in the market and can tell you what you can safely use.

Teach the child to brush the teeth downward with straight, firm strokes. This is the best way to remove the particles of food from between the teeth. Brush inside and out, and don't be afraid to brush the tongue. Finish with gargling the throat well and rinsing the mouth thoroughly.

After each meal clean the particles of food out from between the teeth. For this use a bit of dental floss, or if you absolutely can not get this, use a good quill or wooden toothpick. Never use a pin or any hard substance which will injure the enamel. And above all, do not let the child bite threads, or try to crack nuts with the teeth. Teeth are intended for but one purpose, masticating food.

Take the child to a reliable dentist every year and have the teeth thoroughly examined. This will cost you a dollar a visit, probably, but it will save you hundreds of dollars in later life. Don't say you can't afford it. Let him go without something else, a toy, a few movies, the cheap candy you buy when you go to town. You spend many times the two dollars two trips to the dentist would cost, for things he is better off without. Cut out those things and look after his teeth.

### BURNS.

By using the proper treatment burns can be made to heal more quickly and the pain also lessened. The North Dakota Agricultural College recommends applying to the burn a thick paste of soda and water. If it hardens it may be moistened with water before removing from the flesh. The following is an excellent ointment for both burns and cuts: Lysol, half ounce; alcohol, half ounce; castor oil, eight ounces. Place folded gauze over the wound after applying ointment and bandage.

If desired, it is possible to make an old lamp look like new. For instance, a plain brass lamp may be enameled in white or ivory by using the proper undercoating. Other preferred effects are as easily obtainable.

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# The Housewives Congress

IT is most unfortunate for a large number of Michigan women that "flu," or the fear of contracting it, kept them away from the Housewives Congress, held in conjunction with Farmers' Week at Michigan Agricultural College the first week in February. The smallest attendance of women in five years was registered, but the women who were able to attend enjoyed a well-planned program. Beginning Tuesday morning with a demonstration and lecture on infant's clothing by Mrs. Grace S. Frear, of the Home Economics Department, it continued on through the week with lectures on every sort of subject that touches the home from food to morals.

The greatest interest centered in the lectures of Dr. E. V. McCallum, from the School of Hygiene and Public Health of Johns Hopkins University. Those who had not read his book, "The Newer Knowledge of Nutrition," were anxious to hear his message, while those who had read it had a desire to see the man who had made these new discoveries, and get further information from his lectures. Speaking before the women he sketched the theories which have made his name famous—the presence of three unidentified substances in food which are not protein, fat, sugar nor starch—which are as yet entirely unknown but whose presence in food is absolutely necessary for proper growth and development. The first of these substances is found in animal fats. If it is withheld its absence from the diet produces blindness. The second is found in leafy vegetables. If it is withheld, beri-beri, partial paralysis, results. The third is found in fresh raw food and its absence from the diet produces scurvy. The spectacular way in which all of these diseases are produced in animals—or human beings—by withholding the specified foods and as spectacularly cured by giving the food, proves the existence of the substances as yet unidentified by scientists.

Dr. McCallum outlined three successful diets used by man in different parts of the world. The carnivorous diet of the Esquimaux, which, while it maintains life, yet produces a man only one-tenth as efficient as the white man. The second is the diet of the far east, cereals, legumes, tubers, meat, eggs, and leafy vegetables. This diet produces a fair specimen of manhood, but not first-class, according to Dr. McCallum. The infant mortality rate in these countries is also high. The third diet is that of America and most of Europe, the base the same as that of the Orient, but with the addition of milk. Our liberal use of milk gives the best rate of growth, a long period of middle life, and a very short period of decline or old age. Everyone, old and young, should take a quart of milk a day in some form, either as a drink or cooked in the food, according to his theory.

Miss Lucile Brewer, of Cornell University, helped to make the application of Dr. McCallum's lecture easier by showing the women all sorts of ways to use milk. There were no end to the ways to get the family to take it. If they don't like to drink it, give it to them in custards or sherbets, in white sauce or in cottage cheese. And when all else fails, convert it into whey and pass it on in lemon pie or salad dressing. Miss Brewer's lectures were as instructive as her cooking was appetizing. Her recipes will be given elsewhere in these columns.

In the two lectures on proper household equipment Miss Ruth Kellogg, of the College Home Economics Department, gave the women a glimpse of how housekeeping can be made easy. Cleaning equipment occupied the time

one morning, and kitchen equipment the other. The merits and demerits of various sorts of vacuum cleaners and laundry equipments were gone into, and their proper use illustrated. For her lecture on kitchen equipment Miss Kellogg gathered up such a bewildering array of pans, pots and griddles, knives, forks, spoons, egg whips, food choppers, can openers—everything you could imagine a use for, that the woman who has been satisfied to struggle along with a poor assortment of kitchen tools, or none at all, went away with the idea of including kitchen implements in the necessary farm machinery budget.

The home dressmaker and milliner had her day Friday, when Miss Cecil Van Steenburg, of the Home Economics Department, told how to renovate clothing and hats. The exhibit on the second floor of the women's building had been silently illustrating the talk all the week. Here hung numberless garments brought down to 1920, many of them accompanied by a picture of the old-fashioned dress or suit from which the new one was made. Miss Barbara Van Huelen, state leader of the Girls' Clubs, rounded out the program in home economics with a demonstration of canning in tin.

Henrietta W. Calvin, of the Bureau of Education in Washington, gave the women who heard her talk on "Education of the Rural Home," some pertinent thoughts.

"If the woman of the rural home is to get time for mental and spiritual growth, she will have to make it," she declared. "And the way to make time is to begin to simplify. Begin on food. Cereal and cream and toast is easier to prepare and serve than griddle cakes. Eliminate the griddle cakes, and get time for recreation. Be a mother who is remembered for the walks she took, the stories she read, the times she went coasting, rather than for the pies she made. Let the family cooperate. If they insist on the hot cakes, let them do the frying. Teach your girls to be helpful."

### AN IDEA FOR MOTHERS' CLUBS.

THERE has recently been published a set of books on child training, which I have yearned to possess, but the cost of which places it far beyond my reach. Last week while calling on a friend I found that she had several of these coveted books. She explained that she, too, had longed to possess them, but that the slimness of the family pocketbook forbade. She talked about them wherever she went, and her reward was that she found a woman who had bought a set and was renting it to mothers at the moderate rate of two dollars. Was not that a fine idea?

Immediately, this idea came to me. Why could not Mothers' Clubs, Women's Clubs, Granges, and similar organizations invest in a set of such books, rent them to the mothers of the community until paid for, and then lend them freely to those who cared to read them? In looking through these particular books, I am sure that they would be a definite, tangible help to many anxious mothers. And there are scores of others which would help hundreds of mothers whose family budget will not allow anything but absolute necessities.

I am passing this idea along for what it may be worth, for as long as such books, by their prohibitive cost, are placed beyond the reach of common every-day mothers such as I, we must "figger out" some means by which our little ones, as well as those to whom expense is no item, may have the best that is.

# Teeth Grow Dingy

## Because You Leave a Film

All Statements Approved by High Dental Authorities

### Teeth Are Ruined by It

This is why the daily brushing so often fails to save the teeth.

The cause of most tooth troubles is a slimy film. You can feel it with your tongue. It clings to teeth, enters crevices and stays. Ordinary brushing methods do not end it. So, month after month, the film remains and may do a ceaseless damage.

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

Millions of germs breed in it. They, with tartar, are the chief cause of pyorrhea—a common and serious trouble.

### Now a Way to Combat It

These facts have been known for years, but dental science found no way to effectively combat film. Now that way is found. Able authorities have proved it by careful tests. Leading dentists all over America are urging its adoption. And millions of teeth are now cleaned daily as they never were before.

The method is embodied in a dentifrice called Pepsodent. And to spread the facts, a 10-Day Tube is being sent to everyone who asks.



### Based on Active Pepsin

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

The way seems simple, but for long it seemed impossible. Pepsin must be activated, and the usual agent is an acid harmful to the teeth. Now science has discovered a harmless activating method. And now active pepsin is embodied in an ideal tooth paste, modern in every way.

The results are quick and apparent. One sees at once that Pepsodent means whiter, safer teeth. Make this ten-day test in your own home, in justice to yourself.

**Pepsodent** PAT. OFF.  
REG. U.S.  
The New-Day Dentifrice

A scientific film combatant now advised for daily use by leading dentists. Druggists everywhere are supplied with large tubes.

### See What Ten Days Will Do

Send the coupon for a 10-Day Tube. Then note how clean the teeth feel after using. Mark the absence of the slimy film. See how teeth whiten as the fixed film disappears. Compare your teeth in ten days with your teeth today. Then decide for yourself what is best. Cut out the coupon now.

**Ten-day Tube Free** (349)

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More Eggs! Eggs from all your hens all the time. The biggest possible profit from the high egg prices! That's what you get soon after you begin to use Pratts Poultry Regulator.

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**150 EGG INCUBATOR CHICK BROODER**

Incubator is covered with galvanized iron, triple walls, copper tanks, nursery, egg tester. Set up ready to run. Brooder is roomy and well made. Order direct from this advertisement—money back if not satisfied. Send for free catalog.

**IRONCLAD INCUBATOR CO.** Box 97 Racine, Wis. Made of Redwood cov'd with Galv. Iron

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Hardy Northern raised Chickens, Ducks, Geese, Turkeys, Pure-bred heavy laying strains. Fowls, Eggs & Incubators all at low prices. 24 years experience. Large new Poultry Book & Guide FREE. **W. A. Weber, Box 2, Mankato, Minn.**

**64 BREEDS** Most Profitable chickens, ducks, geese and turkeys. Choice pure-bred, northern raised. Fowls, eggs, incubators at low prices. America's greatest poultry farm. 27th year. Valuable new 108 page book and catalog free. **R. F. NEUBERT Co., Box 814, Mankato, Minn.**

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**POULTRY**

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

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

**BABY** Chicks S. C. W. Leghorns, White, Buff Barred Rocks, S. C. R. I. Red, Anconas, White Wyandottes, Buff and Brown Leghorns. 25 for \$5.25, 50 for \$11.00 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.**

**Barred** Plymouth Rock Cockerels, large, from prize-winning laying strain. \$5.00 each. **J. A. BARNUM, Union City, 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.**

**Barred Rock** Baby chicks a specialty. We are booking orders now for 1920. Apply **H. H. PIERCE, Jerome, 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. **Brunner's Poultry Farm, Holland, Mich., R.R. No. 8**

**BABY CHICKS** S. C. White Leghorns \$30.00 per 100, eggs \$2.00 for 15. Order early. **Hillsdale Poultry Farm, Hillsdale, Mich.**

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

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Better Produced Day Old Chicks are the kind you want—7 leading breeds at reasonable prices. Our free cat. tells all about them. Send for it today. **Springfield Hatcheries & Poultry Farms, Box K, Springfield O.**

**CHICKS** We have shipped thousands each season since 1904. Are booking orders now for Spring delivery, booklet and testimonials. **FREEMONT HATCHERY, Box 12, Freeport, Mich.**

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Get my big Free catalog "Hatching Facts"—it tells the whole story—gives newest ideas and easiest ways to make poultry pay. Learn of the many advantages the Belle City has over the "old hen way" and the big profits folks make by using my

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Prize Winning Model—Double Walls Fibre Board—Self-Regulated—Hot-Water Copper Tank—Thermometer Holder—Egg Tester—Safety Lamp—Deep Nursery. With my Famous \$7.55 Hot Water Double-Walled 140-Chick Brooder—both only \$18.50

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And allowed to points beyond. I ship quick from Buffalo, Minneapolis, Kansas City or Racine. Used by Uncle Sam and Agr. Colleges. With this Guaranteed Hatching Outfit and my Guide Book for setting up and operating you can make a big income. You will also get my Special Offers They provide easy ways to earn extra money. Save time—order now, or write today for my Free Poultry Book "Hatching Facts" It tells all. **Jim Robson, Pres. Belle City Incubator Co., Box 14, Racine, Wis.**

**30 DAYS TRIAL** Don't Take Any Chances! Find Out What an Incubator is Made of Before You Buy. We will gladly send you samples of materials we use. Get our Catalog and samples before buying. We give 30 Days' Trial—10-Year Guarantee. These two well-made, nationally known machines—

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**Both** Freight Paid \$16.25 East of Rockies Only \$16.25

Wisconsins are made of genuine California Redwood. Incubators have double walls, air space between, double glass doors, copper tanks, self-regulating. Shipped complete with thermometers, egg tester, lamps, etc., ready to run. Send today for our new 1920 catalog, free and postpaid. **Large Size 180-EGG INCUBATOR AND BROODER, BOTH \$20.00.** **WISCONSIN INCUBATOR CO. Box 82, Racine, Wis. MONEY BACK IF NOT SATISFIED**

**The 1920 Sensation at \$12.45**

Machine has double walls; copper tank. Sold direct from factory. Guaranteed to give satisfaction or money back.

**DETROIT INCUBATORS** 140 Egg, \$12.45. Detroit Brooders, 140 Chick, \$7.10. Both for Special Combination Price, \$17.50, complete. Freight prepaid to your station. Order from this advertisement or write for full description. **DETROIT INCUBATOR COMPANY Dept. 11, Merrill St., Detroit, Mich.**

**I'll Start You** with leading varieties of Pure Bred Poultry, Incubators, Grain Sprouters, Supplies, Eggs, Baby Chicks. Highest quality. Lowest possible cost. Send for illustrated book and price list. A regular information bureau free. Address **Nichol's Poultry Farm, Box 28, Monmouth, Ill.**

# Our Boys' and Girls' Page

## A Message to Our Farm Boys and Girls

By United States Senator Charles E. Townsend

I AM very glad to comply with your request to send a message to the boys and girls of Michigan who are living upon farms, for I am a farm boy myself, having been born and raised upon a farm in Jackson county, Michigan, and I think I know something from experience of the hopes, aspirations and needs of the young folks of the country. I need not remind them of the truth which has so often been told them, namely, that the hope of our country and of the world rests more largely perhaps upon the farm boys and girls than on any other class of our people. Their lives are surrounded by fewer artificial restraints than other classes. They come in contact directly with nature, which never lies to them. Their natural inspirations are usually high and holy and I am profoundly grateful that at least the people are becoming aroused to these facts.

Farming is now recognized as a scientific business and the old notion that anyone who is fit for nothing else would make a good farmer, is past. It is now known that the opportunities for financial benefit has been added to the natural advantages of farm life and the tide from country to city has been somewhat checked. I firmly believe that it will set in the other direction before long, as it ought to do.

Whatever success I may have achieved in the past, insignificant though it may have been, is attributed by me to the fact that I was born on the farm and reared there by Christian parents who taught me the fundamentals of right living. Instead of being dissatisfied with the fate or circumstances which forced their birth upon the farm the country boy and girl should thank God for this privilege and blessing.

Unfortunately in the past, farm life has been more or less in the nature of drudgery. Urban life, on the surface at least, has been more exciting and, therefore, apparently more attractive. The smart clothes which frequently bedeck aimless young urbanites are very appealing to many boys and girls from the country. I am profoundly thankful that more attention has been given to the needs of farming. The telephone, rural delivery, automobiles, and good roads have attached the farm to the city, and whatever real benefits there are in the latter are brought to the former.

If time would permit it would be a great pleasure for me to recount the names of the men and women who have rendered our country illustrious and who were born and reared upon the farm. I am hopeful that in the near future the young people will not be satisfied simply with the fact that they were born to agriculture, but that they will feel it an honor as well as a duty to remain on the farm and assist in elevating farm life to the high position which it is entitled to occupy.

The United States today is the hope of the world, and the hope of the United States is the farm boy and girl.

# The Ceresco Pig Club

By J. H. Brown

ONE of the most interesting pig clubs we personally know of Calhoun county. County Agricultural Agent Paul C. Jamieson organized the club over a year ago and the members got right down to business in short order.

of one of the members. In the farm-yard beside the straw stack we found two fine pigs that belonged to one of the boys on that farm. For some time the boys and Mr. Jamieson tried to induce these handsome pigs to pose in front of the group of boys, with the big straw stack for a background.

As soon as spring comes, and also, we propose to take a day with Paul Jamieson to visit this pig club and get acquainted with the boys and girls. Yes, of course, there are girls in this club. It wouldn't be quite so much of a success if they were left out.

It was late in the afternoon and finally we decided to take the picture while the boys were watching the pigs take a rest after a more or less forcible round-up and wading through a puddle in the yard.

Last season late one afternoon we took a number of Ceresco Pig Club boys in our car and drove to the home

The picture shows the pigs are fine-looking Durocs. The boys have held many meetings and State Club Leader R. A. Turner has visited their homes



Besides Learning Something of the Art of Breeding, these Club Members Get Valuable Lessons in Citizenship and in Cooperation.



and talked to them on how to succeed in their club work, and Agent Jamieson has instructed them in the fine points of breeding and caring for the pigs, so that these boys are becoming quite expert in business.

There are over two dozen boys and girls in this club. It will be noted that they are wide-awake and a fine looking lot of youthful swine breeders. The fathers and mothers of the boys have taken great interest in the club and helped the boys buy a number of pure-bred pigs of several breeds.

At the first opportunity in the spring we shall invite R. O. Turner over to go with us on a trip to Ceresco, on a day that County Agent Jamieson, selects, when we will take time to secure several pictures of all the boys and girls in the Ceresco Pig Club at their various farm homes, with close-up views of the members and some of their pigs in action. Then we will write a feature story of this club for the Michigan Farmer, with plenty of illustrations.

**FOR THE FARMERS AND FARM WOMEN OF TOMORROW.**

**F**ORMER Secretary of Agriculture Houston has warm words of praise for the Boys' and Girls' Club work. He says:

"Who could have anything but praise for work that teaches the farm boys and girls of today how they can be progressive farmers and good housekeepers of tomorrow? The Boys' and Girls' Clubs, organized and directed by county agents and county club leaders under the supervision of the United States Department of Agriculture and Michigan Agricultural College, not only do that, but they impress upon their members invaluable lessons of patriotism, industry, and thrift. They are even helping to improve working and living conditions in the cities, and, in this way, they are strengthening the bonds that should always exist between rural and urban communities.

"The junior extension organization must come into contact at many points with the teachers in country and city schools and with the school authorities. It would be helpful if those unfamiliar with the work would inform themselves regarding the phases of club activities which are applicable in their communities. Teachers and school authorities have given unstinted aid in this work for America of the present as well as of the future. The results justify what they have done and justify a continuation of their cooperation."

**SELECTING THE BREED.**

**S**ELLECT the breed best suited to your market or the purposes for which you wish to raise poultry. The farmer will usually wish a general-purpose fowl that is vigorous and a good layer. At the same time it will produce enough meat to help out with the family rations.

An egg farm that is shipping eggs to a market where white eggs are sold at a premium, will wish to keep Leghorns. The Mediterranean breeds produce white eggs and here the chance of selecting the best-liked breed is all right. Some like white birds and others the buff. Some breeders will enjoy an unusually marked fowl like the Ancona, and take more care of a flock of birds of that kind.

In some sections brown eggs are most in demand and a good laying strain of any of the American breeds will be satisfactory. If broilers are to be produced there is nothing better than the White Wyandottes or Barred Rocks. A black feathered breed is not as desirable for raising broilers because of the black pin feathers which injure the appearance of the bird on the market. R. J. K.

# Says the Hen "Feed Us Right"



"Lay or Bust," the original dry-mash, twenty years on the market, always the same old reliable mash, brings an increase in egg production which makes it the cheapest in the end.

There is no waste to "Lay or Bust"; the hens eat every bit of it, but they do not gorge upon it so that they become logy and lazy. "Lay or Bust" Dry-Mash not only makes good layers—it makes healthy hens.

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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.

### S. C. R. I. Red Chickens

Fine laying strain of prize birds.

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



Bloomfield Farms  
America's Largest Game Farm  
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**Buff Leghorn** and White Leghorn Cockerels, from 200 egg strains. Booking orders for eggs, and chicks. DR. WILLIAM SMITH, Petersburg, Mich.

**B-A-B-Y C-H-I-C-K-S**  
Crescent White Leghorns; also, Brown Leghorns, Black Minorcas, Reds, Rocks, and Wyandottes. Send for circular and Price List. CRESCENT EGG COMPANY, Allegan, Mich.

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

## Hubers Reliable Chicks

500,000 FOR 1920

By Parcel Post Prepaid. Delivered to You. Guaranteed 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 Pep.

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

We hatch all our chicks from pure bred, free range farm stock. S. S. White and Brown Leghorns, S. C. Anconas, Barred Rocks, S. C. and R. C. Reds, S. C. Black Minorcas, and S. C. Buff Orpingtons. Special combination offer on chicks, 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.

## Hubers Reliable Hatchery

East High St. FOSTORIA, OHIO

## 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.

## DAY OLD CHICKS

### New Spring Catalog

The Day Old Chick business is on. The most complete Catalog we have yet published. It 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.

We solicit your interest in the Homestead Farm plan of Pure Bred Poultry raising. STATE FARMS ASSOCIATION, Kalamazoo, Mich.

Barred Ply. Rocks Chicago winners. Great winter layers. 100 choice Cockerels. Eggs for hatching. Prices reasonable. Satisfaction guaranteed. 25th year. G. EARL HOOVER, R. 3. MATTHEWS, IND.

**Barred Rocks** 15 eggs for \$1.75. 100 hens laid 10,421 eggs from Jan. 1 to Nov. 1, 1919. LEWIS B. AVERY, Saline, Mich.

**Baby Chicks** Barred Rocks only. Order now for April and later. Apply for terms H. H. PIERCE, Jerome, Mich.

## CHICKS AND EGGS

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

## CHICKS CHICKS

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

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

**Chicks that Live \$15 per 100** S. C. W. Leghorns MY SPECIALTY SNOWFLAKE POULTRY Send for catalog. FARM, R. 1, Grand Rapids, Mich.

Additional Poultry Ads. on Page 343

# How Does Your Dairy Score?



Smooth glazed inner wall of Natco Dairy Barn—strictly sanitary

DOES your dairy get a score to be proud of when the inspector calls at your farm? Do you get those extra profits awarded for strictly sanitary milk? You can get them if your barn is built right—built with

## Natco Hollow Tile

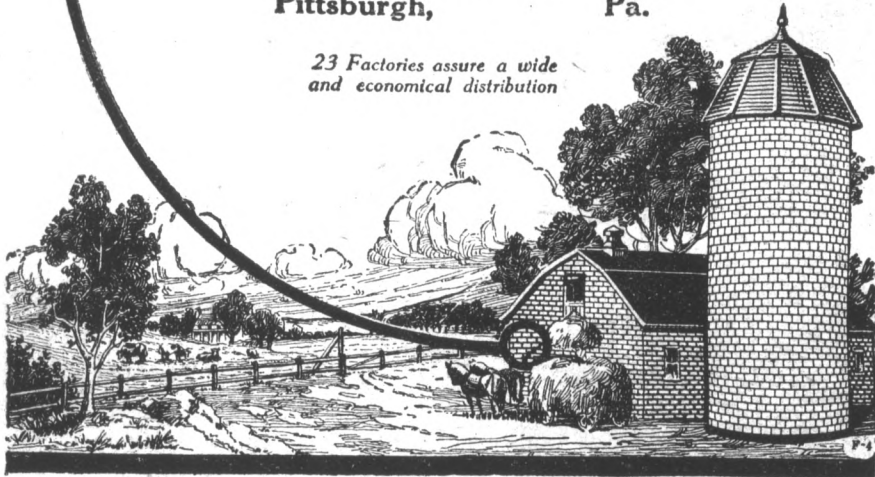
The smooth glazed surface is as easy to keep clean as the household crockery. Germs and vermin find no place to hide; foul odors and filth cannot penetrate. It is easy to produce clean, wholesome milk in Natco Dairy Barns and Milk Houses.

Natco buildings are economical. Once up, they stand for generations, never needing paint and seldom any repairs. First cost is last cost.

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### BREEDERS' DIRECTORY

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## 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, Ohio, Mich.

BERDEEN Angus bulls for sale, one yearling, one A two year old also a few bull calves. LONGWOOD FARM, Marshall Kelly, R. 10, Charlotte, Mich.

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Atta Boy of Maple Crest born April 1919. Sire Imp. Spotswood Sequel A. R. 19 A. R. daughters Dam imp. Albinia price \$175.00. Pride's May King of Avondale born June 1919 Sire Nora's May King of Bailey Falls dam Queens Pride of Harriton A. R. price \$150.00.

Avondale Farms, Wayne, 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 138, Peterboro, N.H.

QUALITY ECONOMY QUANTITY

### 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.

GUERNSEY bull calves whose sire's dam made 19,460.20 milk, 999.05 fat. Their mother's sire's dam made 15,109.10 milk, 778.50 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.

### 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 Federal inspected herd. Bull 2 yrs. old g. son of Imp. Spotswood Sequel, dam's A. R. record 49.34 b. f. class G. Bull calf 8 mo's. old. 8 bull calves 2 to 5 mos. old. Satisfaction guaranteed G. W. & H. G Ray Albion, Mich.

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Containing blood of world champions.  
HICKS' GUERNSEY FARM, Saginaw, W.S. Mich

Reg. Guernsey Bull calf 4 mo. old for \$75. deliver. ed. Sire Denise'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 A number of Register Guernsey bull calves May Rose breeding. Cheap if taken soon. JOHN EBELS, Holland, Michigan R. 2.

For Sale Four Reg. Guernsey females all but one due to freshen soon, also bull calf. P. J. ANDERSON Fremont, Michigan.

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

### GARLIC FLAVOR IN MILK—HOW TO PREVENT IT.

DAIRYMEN and creamerymen in many states are troubled every spring by garlic or onion flavor in the milk. This is due to the cows feeding on garlic or wild onion, one of the first plants to start in the pasture in the spring. The trouble from garlic is not likely to last very long, as this weed is soon cropped off and the grass becomes plentiful enough for the cattle to feed on it in preference to onion.

Garlic flavor in milk can be removed by heating the milk to one hundred and forty-five degrees Fahrenheit and forcing air through it at this temperature for thirty to sixty minutes, according to Farmers' Bulletin 608 of the United States Department of Agriculture. As this method requires a certain amount of equipment, it is much more satisfactory for the average dairyman to keep the odor out of milk by a few simple precautions in herd management.

There are two ways of protecting the milk from garlic flavor. First, prevent the cows from obtaining garlic; and second, manage the herd on garlic pasture, so that there will be the least possible chance of getting the flavor in the milk. Often the garlic is found only in one patch in the pasture, and this can be temporarily fenced off and pastured with other animals not producing milk. Where garlic is scattered all over the field it will be impossible to keep the cows away from it, but by removing them to some other field three or four hours before each milking the flavor will be reduced to a minimum. The odor in milk is strongest from cows which have just eaten garlic, and the odor is reduced as the time between the eating of garlic and milking is increased.

In case no garlic-free pasture is available, it would be advisable to drive the cattle to the barnyard three or four hours before milking and feed them on hay and silage. As the season for garlic trouble is short, this should not cause much inconvenience.

### PENCILING HORNS WITH CAUSTIC.

WHEN the calf is three or four days old is the best time to pencil its horns as they are soft and held just by the skin. We have tried cutting the hair around the buttons and rubbing the caustic on until the button shows red, but all this time the calf may be jumping and floundering around in such a manner, and to take considerable time and then not make a very good job.

What we use is sandpaper (medium cut), tie the calf in a corner, and get on its neck, (you take hold of it solid this way), take a strip of sandpaper and rub it across the buttons a few times until the spot almost bleeds. Take the caustic and dip it into warm water and rub on in good shape. This method is much quicker, does not require cutting the hair, and does a fine job. We have successfully penciled calves four weeks old by this method and have had no failures.

T. J. ROBINSON.

### TRESPASS BY CATTLE.

If my neighbor's cow jumps my lawful fence and gets hurt, or with calf by my bull, what remedy has he? Or if my bull jumps out and gets hurt or gets my neighbor's cow with calf, what rights and liability have I? J. S. By the statutes of this state the owner of any bull, boar, stallion, or ram, running at large is liable for the damage to anyone whose stock is injured by such bull, etc. But such would be the law without the statute for any injury done by a trespassing animal. The owner of the bull could nevertheless recover for any wilful injury done to the bull.

J. R. R.



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## Facts in BLACK & WHITE

### A Holstein Cow Twenty Years Young

The wonderful vitality which is characteristic of the purebred Holstein-Friesian breed is strikingly shown in the career of Jetske Roe's Aaggie's Artis. When twenty years old she dropped her sixteenth calf. For fifteen gestation periods she totaled 232,540 pounds of milk which at 4 cents a quart, would be \$4,620 at a cost for feed for fifteen years amounting to \$1,980. She thus showed a profit of \$2,640 in addition to which must be reckoned \$6,000 worth of fine, healthy calves. She won many ribbons and prizes at fairs and has seven daughters with A.R.O. records.

Send for our free booklets—today.

THE HOLSTEIN-FRIESIAN ASSOCIATION  
164 Hudson Street  
Brattleboro, Vermont

## 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 Kornayke Beete Segis Fan, 32.08, is also a Michigan prize winner. Write for calf list. Wah-be-me Farms, White Pigeon, 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

## 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.

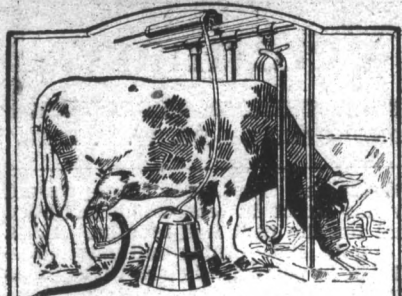
TRAVERSE CITY STATE HOSPITAL  
Traverse City, Mich.

# "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.

For Sale Seven cows and three heifers, registered.  
L. F. STAUTZ, Manchester, Michigan.

Additional Stock Ads. on Page 340



**Peaceful Cows Produce More Milk**

Your cows will like the natural, uniform action of the United Milking System. The smooth operation of the United Individual Pump causes the soothing, gentle suction in the "See-Thru" Cup. So natural that cows peacefully eat while they give down more milk. Long life, simple construction, adjustments for hard or easy milkers and reasonable first cost.

**UNITED The Peaceful-MILKER**



With the "See-Thru" Cup you always know which teats are milking. This clear, firm transparent cup is very quickly washed, simple, lasting. PATENTED and exclusive with the UNITED milking system.

Every owner of six cows or more can make the United Milking System the best investment on his farm.

Write for Prices Today

C. L. SPRINKLE, Pres.  
**UNITED ENGINE CO.**  
Department M-3  
LANSING, MICHIGAN

**THE BATTLE CREEK COMMUNITY CLUB.**

(Continued from first page).

and their wives who belong to our Farmers' Club. They complained of the cold and that there were no convenient and comfortable places to get warm and rest up a bit. Battle Creek ought to have some big place where the country people could meet and rest, eat their luncheons, leave their packages and wraps, and not have to crowd into a store corner somewhere in everybody's way."

And for some time since the war closed Battle Creek merchants have been hearing about an occasional complaint of the farmers in the surrounding country. They also read in the daily papers about the serious problems of farm life and practice during these days of reconstruction, and they began to heartily sympathize with them. Some of the merchants owned farms and more readily understood the situation regarding farm labor and production.

And so it came to pass early in January that the Battle Creek Merchants' Dinner Club resolved to do something to get better acquainted with the farmers who came to the city to trade, and to cooperate with them in trying to solve some of the problems that were of vital interest to both city and country. Their first move was to call upon the writer to attend their next Friday noon luncheon at the Post Tavern as their invited guest, to give them a talk on the subject. This club is one of the main sections of the Chamber of Commerce of the city. The chamber has been completely reorganized and has considerably over a thousand active members and includes every vocation inside the city limits.

Our first move was to arrange with one of the Farmers' Clubs to attend their next regular meeting and take with us as our guests several members of the Merchants' Dinner Club. At the first one President Farley and Chairman Wheelock, of the club, and Secretary Burnside, of the Chamber of Commerce, accompanied us in our car. The merchants contributed about a dozen pounds of roast beef for the Farmers' Club dinner, and Mrs. Brown cooked it. Each member of the Farmers' Club brought food and dishes and a fine dinner was served at noon. The afternoon was devoted to a discussion of the community idea, particularly as it obtained in the city of Battle Creek and the four surrounding townships. The writer introduced the subject and was followed by a score or more of the farmers, their wives and the city merchants. It was unanimously voted by this Farmers' Club to join with the merchants in the plan.

Then President Farley invited this Farmers' Club to come down and be the guests of the Battle Creek Merchants' Dinner Club at the Post Tavern the following Friday noon. And it came to pass that the entire membership was on hand at the appointed time.

Later we will tell how the various farm organizations were visited by the committee of the Battle Creek merchants' Dinner Club and how return engagements were played by the Farmers' Clubs around the tables in the big dining-room of the Post Tavern. The first dinner was given to the Pennfield Farmers' Club. It was a historical event and the first one of the kind in Michigan. The second was given to the Ceresco Farmers' Club.

The large picture on the front page shows the Post Tavern big dining-room full of farmers and city merchants. A stranger could not tell one from the other from the clothes and easy manners. One city man declared the farmers and their wives were the better looking and that they were mighty interesting after-dinner talkers.

**Peninsular Fire Insurance Company of America**

Grand Rapids, - - Michigan

CAPITAL \$1,000,000.00

A big, new, red-blooded stock company, with ample capital, that will insure *farm property* on the same basis that city property is insured--rated according to fire *preventive* construction and location of buildings.

It is the opinion of conservative business men that most farm property is not adequately protected against fire. Much farm property does not carry 50% of its present value.

If the farmers buildings should be destroyed now, it would be a catastrophe for him -- meaning years of saving and scrimping to replace them.

Very few farmers have increased their insurance since the World's War, (city property owners have) yet it would cost one-half to two-thirds more now to replace their buildings.

No farmer--no business man--can afford to be *underinsured*.

Why not *increase* your present insurance by placing an additional policy with the *Peninsular Fire Insurance Company of America*?

Ask our agents or write us for our rate schedule on farm property. You will be surprised at our low rate for three and five year term policies.

J. FLOYD IRISH      COLON C. LILLIE  
Sec'y and Managing Underwriter.      President.

**VAUGHAN'S Glorious Gladioli**  
BEST ALL-SUMMER FLOWERS  
EASILY GROWN, SURE BLOOMERS

Graceful spikes often with twenty buds opening consecutively into twenty giant flowers. Plant every 10 days from April until June for continuous flowers from August to October. To increase further the "Gladiolus vogue" we offer a one inch blooming size bulb in our

**50 HOMEWOOD MIXTURES \$1**  
Bulbs (5 kinds mixed) ppd. \$1

For the particular planter we give larger bulbs and exhibition kinds in our

**22 RAINBOW MIXTURE \$1**  
Bulbs, all different, ppd. \$1

Cultural directions in every package. OUR 1920 128-page catalog mailed free everywhere. Address Dept. (S). Customers beyond 4th postal zone from Chicago or New York, add 10c stamps.

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**WATER! ALL YOU WANT ONE CENT A DAY**

That's the low cost reported by Perkins windmill users everywhere.

Many Perkins mills 50 yrs old are still at work. Simple, powerful, work in lightest breeze. Wood or steel wheel. Direct stroke or back geared. A mill to fit every pumping need.

**PERKINS WIND MILLS**  
Standard for 60 Years

Oilless replaceable bearings. Improved type automatic regulator. Perkins mills are easy to put up. Will fit any tower. **WRITE FOR FREE BOOK**—important facts you should know before buying any mill. Post card brings it.

PERKINS CORPORATION, 42 Main St. Nishawaka, Ind.

**FREE**

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JUST OUT—My New "direct from factory" Bargain Book on Fence and Gates. Prices way below competition. Values bigger than ever. Get it today. **I Pay ALL Freight**

Brown Fence lasts longest because built strongest, stiffest. All wires same size, heavily galvanized. 150 styles. Also Gates, Lawn Fence and Barb Wire at bargain prices.

Sample and book free, postpaid

Brown Fence & Wire Co., Dept. 249 Cleveland, O.

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



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

Bulls ready for service from our herd bull Marguerites Premier, grandson of Pogue's 99th of Hood Farm, and cows now on test for R. of M. Smith & Parker, Howell, Mich.

FOR SALE, half interest in beautiful herd bull Sire, Raleigh Dam B. of M. made 324 lb. huster, also young bulls. Geo. E. Walker, Grand Rapids, Mich.

For Sale Registered Jersey cows and heifers, 40 head to choose from. H. O. WHIPPLE, Augusta, Michigan.

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, Max Walton Sultan and White Hall Sultan, Model Type, by the Oseola Co. Shorthorn Breeders Ass. John Schmidt, Sec. Reed City, Mich.

BIDWELL SHORTHORNS For Beef and Milk

Registered bulls, cows and heifers. Good Scotch and Scotch-Topped for sale. In prime condition. Modern sanitary equipment. 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 5, 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 select 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 Carr, Secretary.

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, B. 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.

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

Shorthorn three young Bulls. Gray Percheron Stud. Young Spanish Jack. Duroc Hogs either sex. E. J. ALDRICH, Pekonsha, Michigan.

Reg. Brown Swiss cow 5 yrs. old with heifer calf by side. Yearling bull calf. Priced reasonable. C. H. TUCKER, Oseco, Mich.

21 Registered Holsteins AT AUCTION

Having sold my farm I will sell all of my Holsteins at my farm 1/2 mile N. of Kendall, Mich. and 15 miles N.W. of Kalamazoo, on March 3 commencing at noon. 13 females and 3 young bulls, 2 nearly ready for service. The foundation cow has a record of 22 lbs. and most all trace to this cow. 7 Gr. Daughters of the \$3,000 bull, some bred to a double Gr. Son of the great May Echo Bria 4 lbs. of butter and 105 lbs. of milk in 7 days. Also at the same time and place L. N. WABER will sell 5 nice cows, soon to freshen, to a son of a \$50,000 bull. For catalog write C. H. Giddings, Mgr. Gobleville, Mich. D. K. & L. H. WABER, Owners, Kendall, Mich.

HOGS

Registered Berkshire Boars: ready for service. A few R. gilts and sows bred for May and June farrow. Also spring pigs. CHASE STOCK FARM, Marlette, Mich.

BERKSHIRES both sex and Aberdeen-Angus bulls 8; to 12 mo. old a very fine lot priced reasonable. RUSSELL BROS., R. 3, Merrill, Mich.

Registered Berkshires, two yearling sows each have had 1 litter. Bred to our herd boar Duchess Successor 5th 26425. Robt. P. Rea rey & Son R. 1 Caro, Mich.

Walnut Hill Durocs June farrowed boars ready for service from Ira Jackson and Brookwater stock, also bred gilts 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

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

DUROC JERSEYS

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

Michigana Farm offers some exceptional values in bred gilts. Also in tried sows. These are guaranteed to give satisfaction and they will ship on approval to responsible parties. They breed and sell good Durocs. O. F. 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 JERSEYS E. D. HEYDENBERK, Wayland, Mich.

MICHIGAN HEREFORDS

AT

AUCTION

at Dowagiac, Cass Co. Friday, Mar. 5, 1920 Sale Starts At 1. P. M. Under Cover

The undersigned will sell fifty-five head of Registered Hereford Cattle consisting of 20 cows with calves at foot and mostly rebred to our herd bull General Beaumont No. 498968 a great breeding bull and a son of Anxiety Beaumont, 5 cows will have calves soon, 5 open heifers and 5 young bulls. These cattle are of Perfection Breeding and are in nice breeding condition and are just right to do their new owners some good, the cows are the good broad back kind, so come and help yourselves, as your price will be ours.

WM. B. WOOD & SON, AUCTIONEERS EARL GARTIN, H. I. HULL, C. O. BURCH. CLAIR PUGLESY, CLERK

Dispersal Sale Ypsiland Farms

(Leased and Owner Moving Away)

HOLD DISPERSION SALE

on Wednesday, March 3rd.

of Registered Duroc-Jersey Hogs. Fifty two head. Choicest individuals, "Orion Cherry King" and "Superba" breeding from grand champions of International Live Stock Show.

Stables 2 miles west of Ypsilanti, on Detroit and Jackson Electric Line.

SALE STARTS 10 A. M. YPSILAND FARMS

23 Head Dispersal Sale of Shorthorns 23

March 13th 1920

19 females, 4 bulls at my farm 1 mi. N. 1/2 m. E. of Vickeryville, Montcalm Co., Mich., on Muskegon Div. of G. T. R. R., Sale at 2 p.m. Andy Adams, Auctioneer, Fred Carter, Prop.



Brookwater Duroc Jersey Bred Sows Attractive Prices During February

Our show herd has met successfully the strongest competition east and west. The grand champion boar and the grand champion sow at the Michigan State Fair for five consecutive years was shown by us. We breed a type that proves profitable in the feed lot and wins favor at the big shows.

The bred sows we are offering are sired by, out of, and bred to high class individuals of these prize winning strains. Our prices are more reasonable than those of any other herd of equal prominence. By buying in Michigan you can see what you buy and save express. We invite you to come to the farm and make your own selections. If this is impossible, write and tell us what you want. We will not have enough to supply the demand. Act promptly and save disappointment.

BROOKWATER FARM; R. 7, ANN ARBOR, MICH.

Herbert W. Mumford, Owner, J. B. Andrews, Manager P. S. Some ready for service Jersey bulls by a double grand son of Royal Majesty out of Majesty's Iris, The Register of Merit Kind. You cannot afford to be without one.

\$12.50 for a Duroc spring pig, 6 weeks old, either sex, M. A. C. Brookwater breeding reg. papers free. Express charges paid. Booking orders now. D. W. SUTHERLAND, Gd. Lodge, Mich.

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

DUROC GILTS. Bred and open. Real ones at fair prices. BOARDMAN FARMS, Jackson, Michigan.

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

Chester Whites, spring and fall stock for sale won highest honors against strong competition. F. W. ALEXANDER, Vassar, Mich.

Advertisement for Chester Whites pigs. Includes a photo of a pig and text: 'Raise Chester Whites? Like This the original big producers'. Below the photo is a testimonial: '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. S. 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 in skin. Good stock, registered free 1/2 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 guaranteed. G. P. Andrews, Danville, Mich.

O. I. C. Gilts bred for March and April farrow. I pay express and register. H. W. MANN, Danville, 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 extra boars. Herd immuned 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.

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

L. T. P. C. 1 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 livery from Manchester. A. A. Feldkamp, R. 2, Manchester, Mich.

Poland Chinas sows bred for March and Apr. farrow. Large type with best of breeding. B. W. MILLS, Saline, Mich.

MILLER Meadows 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 Chinas. Bred big for 25 years. Sired by Mich. Bunter by Giant Buster, litter 14 out of Mow's Miss Queen 2nd, some breeding, also by Butler's Big Joe by Rust's Big Joe, out of a Wonder Queen, but said. Write us your wants, we will treat you right, our prices are low. J. C. BUTLER, Portland, Mich.

LARGE Type P. C. the largest in Mich. Spring boars now ready to ship. Boars for the breeder and boars for the farmer. Come and see the real large type with quality. Free livery from Parma furnished visitors. Look up my exhibit at the Great Jackson Co. Fair, Sept. 9th. to 12th. expenses paid if not as advertised. W. E. Livingston, Parma, Mich.

M. R. 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. O. E. Garnant, Eaton Rapids, Mich.

BIG Type Poland Chinas. Sired by Smooth Mastodon litter mate to the Hi 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. E. LEONARD, St. Louis, 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.

Additional Stock Ads. on Page 342



GRAND RAPIDS

The egg market is easier this week as to supply by the arrival of southern laid, but the price is unchanged at 55c bid. Southern are quoted at 50c at shipping points.

NEW YORK PRODUCE MARKET.

Butter.—There was a considerable accumulated stock at the wharves but the demand for butter was so strong that it was cleaned up almost immediately.

Eggs.—The egg supply is short. The storms have prevented delivery. The demand was exceedingly acute, and prices went skyward.

Poultry.—Deliveries of poultry have been slow during the week and prices have advanced. The demand has been good.

FARMERS ACCOUNT BOOK FREE. A record book you will use every day. Write for it. Also for Silo Filler Catalog.

GRASS SEED. Deal direct with our big cleaning mills in Chicago. Let us show you how our location in the big mail order center enables us to save you money on your seeds.

Steel Wheels. Cheaper than any other wheels COST when you figure years of service.



Increase Your Farm Profits

This farm belongs to a man whom his neighbors call the man with an open mind. He always has to be shown; but he is always ready to be shown.

He does not clutch blindly at each new thing, nor does he cling forever to every ancient, rusty practice.

It was told to this farmer that the Milwaukee Air Power Pump Co. representative in his county was an expert, trained to install, on a separate, special plan for each farm, a water and light system that would increase the farm's value and profits.

faucet was turned. This farmer went to the trained representative. With many questions, the farmer searched for exact facts.

His farm, shown in the above illustration, now has water piped directly from well and cistern to farmhouse, barn, lawn, watering trough and dairy; and there's electric light in all buildings.

Our representative has been trained. Do as this farmer did—talk to our representative; there's no charge for consulting him.

MILWAUKEE AIR POWER PUMP CO., 868 3rd St., Milwaukee, Wis.



POULTRY

DAY OLD CHICKS

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



DANGER

If chix and eggs are not shipped right. Chix 15c Up 100,000 Chix this season. Best Blooded stock ever produced at low prices.

Eggs from prize winning Barred Rocks. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.

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

I Still Have a few B. P. R. cockerels at \$3.00 each. Mrs. E. BELLEN, Whittemore, Michigan

John's Big beautiful Barred Rocks are hen hatched grow quick, good layers, sold on approval, males \$4 to \$8. Circulars photos. John Northon, Clare, Mich.

LOOK: BABY CHICKS AND DUCKS 10 breeds of chicks, 4 breeds of ducks. Utility and Exhibition graded. Postage paid and live delivery guaranteed. Capacity 100,000 weekly Catalog free. Stamps appreciated. NABOB HATCHERIES, Gambier, Ohio.

RHODE ISLAND REDS—Rose Comb Cockerels hen-hatched, farm raised, big and thrifty, from prize winning strains. \$4 to \$7.50, four top birds \$10 each.

Rhode Island Reds, R. C. large fancy cockerels at \$4 each. BURT SISSON, Imlay City, Michigan.

Rhode Island Whites. Are the best all purpose birds being year round layers. Egg and chicks and a few good males. H. S. JUMP, Jackson, Michigan.

R. C. Br. Leghorn eggs \$1.50 for 15. Pekin ducks \$1.50 for 8. White Chinese geese eggs 40 cents each. Mrs. CLAUDIA BETTS, Hillsdale, Mich.

S. C. Brown Leghorns Excellent layers. Farm raised. Eggs postpaid. 15, \$1.50; 30, \$3; 45, \$4; 100 \$8. Floyd Robertson R. 1, Lexington, Indiana.

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 \$35.00 to \$25.00. H. J. PATON, Route 3, Box 115, Ypsilanti, Mich.

S. C. B. Minorca Cockerels, 8 to 9 lbs. Price \$5 to \$10. Eggs in season. Satisfaction guaranteed. CHAS. SOHOOK, Alenton, Mich.

Silver, Golden and White Wyandottes. Choice quality cockerels and pullets \$3.00 to \$5.00 each. C. W. BROWNING, R. 2, Portland, Mich.

S. C. R. I. RED

Cockerels, \$3.00 to \$5.00 each. Fine stock. Also Collie Dogs. O. E. HAWLEY, Ludington, Mich.

White Wyandottes. Choice cockerels 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 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.

S. C. Rhode Island White and White Wyandotte eggs for hatching. Prices reasonable. Write W. C. ECKARD, Paw Paw, Michigan.

White Wyandotte; out of choice stock for sale; cocks, cockerels \$3. \$5 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, Mo.

White Wyandottes: Eggs for hatching from selected layers. \$2.00 per 15, prepaid. 1 male 10 females \$3.00. Frank De Long R. 3 Three Rivers, Michigan.

White Plymouth Rocks. Choice breeding, Eggs 15, \$2.00; 100, \$20.00. Richard M. GRETTON, Mason, Mich.

Wanted. Several large Standard Cyphers incubators. State condition and price wanted. Interlakes Farm, Lawrence, Michigan.

SHEEP

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.

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 Make your selection early. Cliff Middleton, proprietor, Clayton, Mich. R. 3.

Registered Shropshire bred ewes. 1 to 3 years old. Large, healthy, well fenced representatives of this flock gave satisfaction in 35 states. Last season rams all sold. C. Lomen, Dexter, Mich.

Cotswolds ewes bred to one of Canada's best rams. start right buy good ones while they can be had. A. M. SOBTEL, 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. These 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 Rubis 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 full blood Percheron Stallion Indicateur F 00098, Wt. 1900 Black, this horse has no superior in Mich. from any angle.

Percherons, Holsteins, Angus, Shropshires, Duross DORR D. BUELL, Elmira, Michigan.

For Sale A black registered three year old Percheron Stallion weight 1700 lbs. broke to work. Julian A. Palmer, Camden, Michigan.

\$300.00 takes my 5 yr. old Registered Percheron Stallion if sold soon. He is a good one R. H. COMSTOCK, Petoskey, Michigan.

Percheron Stallions and mares at reasonable prices; inspection invited. F. L. KING & SON, Charlotte, Mich.

For Sale Black Percheron Stallion, 8 yrs. old, wt. 1900 lbs. good foal getter and a good worker. H. WINKEL, Coles, Mich.

Imported Belgian Stallion Chestnut Silver mane and tail, weight 1800 lbs. sure colt getter cheap if taken at once. Chas. F. Brown, R. F. D. Tawas City, Mich.

# DETROIT



The Auto Center is the Logical Place To

Training for Head and Hand

# LEARN AUTO AND TRACTOR BUSINESS

Detroit, with more than 180 Auto and Accessory factories, is indeed the Heart of the Automobile Industry. No other city offers such advantages to the student who would know the Auto, Truck and Tractor business thoroughly. Of all the automobiles manufactured today, 71% are made in Detroit. Think of that!—and these same manufacturers heartily endorse our school and furnish us with their latest chassis.

## The Factory Endorsed School

The thoroughness of our methods and the completeness of our equipment are well known in the Auto Industry. The biggest factories in the country heartily endorse our Course. In fact, many of the leading Auto Manufacturers assisted in outlining our Course and they give our Students the fullest co-operation possible. These factories are constantly calling on us for graduates because they know the type of men we turn out. Everywhere in the Automobile Industry, M. S. A. S. graduates are given the preference because ours is the Factory Endorsed School.

## Earn \$100 to \$400 Monthly

Really, there is no limit to your earning capacity after you have mastered this business. This can be made the stepping stone to a most successful business career. The training you get here will fit you to hold positions which before were out of your reach. Factories, Garages, and Service Stations all over the Country are continually asking for our men. They know the value of the training we give and do not hesitate to give our graduates the preference. Your success in the Auto Business depends upon your training—what you are taught and trained to do correctly. Here at the M. S. A. S. you are thoroughly instructed in every phase of the Auto Industry. You learn every part of the work by actually doing it.

### Many Train at Detroit and Return to the Farm.

This is your chance! Come to Detroit, the Heart of this great industry. If you don't care to engage in the garage business, prepare to operate, adjust and repair your machines yourself—save thousands of dollars in repair bills as well as avoid costly delays at busy seasons. Think, too, of the money you can make in your spare time adjusting and repairing your neighbors' machines, either in a small shop on your own farm or at some conveniently located place nearby.

### Unlimited Opportunities for Men Who Know.

The coming year will be the greatest in the history of the auto industry. Producers and distributors of every kind of Auto, Truck and Tractor will be tremendously busy. Garages and Service Stations will be rushed to the limit. Everywhere there is an insistent demand for men—trained men who know how to adjust, repair and care for these thousands of machines.

Read What Factories Say of the M. S. A. S.



**HUDSON MOTOR CAR COMPANY**  
DETROIT, MICH., U.S.A.

The Michigan State Auto School in our opinion, is the finest institution of its kind in the country. In fact, we endorse its method of instruction. We have recommended a great many students to them and the results were satisfactory. The Michigan State Auto School ranks highest in the standard of schools. Its equipment and personnel is second to none. This school is thought very highly of by the automobile men of Detroit and is considered one of the most efficient schools in the country. If you intend to visit any school then by all means choose the best one. The Michigan State Auto School, so far as we know is the best. You will make no mistake by entering for a course. Yours faithfully,  
**HUDSON MOTOR CAR COMPANY,**  
Service Department.



**MAXWELL MOTOR COMPANY**  
DETROIT, MICH., U.S.A.

Wish to say that this is one of the best schools in the country, and would not hesitate to recommend it to any one who is desirous of learning the automobile business. It is a recognized institution among the automobile factories of this city. Their methods of instruction, their lectures and theories are 100 per cent perfect. With all of their equipment and with the practical work that the students are able to get in their own organization, I really believe that mechanics throughout the country are missing one great opportunity if they do not take advantage of their course. I do not know of another place in the country that has the number of different type motors, chassis, and the thoroughness of going into various electrical appliances and equipments as used on modern motor cars, that I found in their school.  
**MAXWELL MOTOR CO. INC.**  
A. E. Richmond,  
Superintendent of Service.



**Packard MOTOR CAR COMPANY**  
DETROIT, MICH., U.S.A.

The Michigan State Auto School enjoys a very enviable reputation and is probably one of the best of its kind in the United States. Have no hesitation in recommending it in every particular. Yours very truly,  
**PACKARD MOTOR CAR COMPANY.**

## Complete Training in Auto Electricians

Our course in Auto Electricians is thorough and complete. Standard electric equipment for autos, trucks and tractors is in actual operation for students to work on. Students are taught to quickly and easily locate electrical troubles. Hundreds of graduates are filling high salaried positions in electrical service stations. Every quarter of the globe recognizes our school as the world's training place for Auto, Truck and Tractor Mechanics.

## Complete Tractor Course Included

You are given complete instruction on care and operation of Farm Tractors in our regular Auto Course. Constantly increasing use of tractors calls for trained tractor men. Manufacturers have placed machines with us to give our students the benefit of practical instruction. Hundreds of students are completing our course and returning to the farm, competent to care for their tractors and the tractors of their neighbors.

## Brazing, Welding and Tire Repairing

These two subjects are taught in separate courses. Hundreds of students take them with the Complete Auto Course. Others take them separately. Competent men are in big demand in both fields. Brazers and Welders are needed in every field—Tire Repair men are always in big demand.

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**Open All Year—Start Any Time**

Also latest copy of "Auto School News" both absolutely free. They tell about courses—show hundreds of pictures of equipment—give letters from big auto factories and graduates. Our courses are reasonable in price. In fact, they are so reasonably priced that many students write us when to expect them, jump on a train and come to Detroit without writing for Catalog. Come start training at once. ACT NOW! Get the coupon in the mail TODAY.

Our school is open the year 'round. Enter the classes any day. You can get started the same day you arrive. Our welfare department will assist you in finding a good room and splendid meals.

Read What Graduates Say of the M. S. A. S.

Thanks to the M. S. A. S. I have been getting along fine since I left Detroit. I have spent most of my time at auto repair and haven't been stalled on a car yet. I am ready to go in company with one of your graduates, Ed. Fursey, who is buying a garage. You have surely made a good repairman out of me. I would like one of your new catalogs and The Auto News. Hoping this will find you all well, and thanking you again, I am,  
Yours truly,  
**HERBERT FUHRWERK,**  
Harbor Beach, Mich.

I am making good (thanks to the "Old Reliable" M. S. A. S. faculty, par excellence), with every job that happens along, which is to say that I am kept more than busy, although I haven't opened a garage yet. I am out on the road nearly every day, starting autos and gas engines, locating electrical troubles, etc., etc. So you can see that I am busy. I can truthfully say that I have never regretted one minute of the time that I spent in the M. S. A. S. and would advise anyone who wanted a thorough training in the Auto Industry by all means to go to the "Old Reliable" M. S. A. S. and there they will find just the place for them. I intend to start a garage in this town, Vineland, next spring as I now own a nice large building 36'x60' and intend to fix it up this winter when I have a little time.  
One of your satisfied graduates,  
**FRED HAIST,**  
Vineland, Ont., Canada.

I am just getting along fine. Working in a Chandler Garage have more work than I can do, not just on Chandlers, but all makes. I have charge of the garage, am making \$300 per month at the least, have made \$375 but as an average between \$350 and \$375. That is pretty good, but will do better. Yes, and by the way, I rather hear a motor hit keen than eat.  
Your western M. S. A. S. friend and booster,  
**ED. WAMHOF,**  
Alva, Okla.

### Not A One Man School.

This school is founded on the best, newest and most practical principles in the Auto, Truck and Tractor business. Our course is built on the most liberal and closest co-operation of Manufacturers, Garages, Service Stations and Owners. It is not one man's ideas, but the combined ideas of the biggest and most successful men in each field.



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## Train in Detroit—and go back on the Farm