

MICHIGAN FARMER

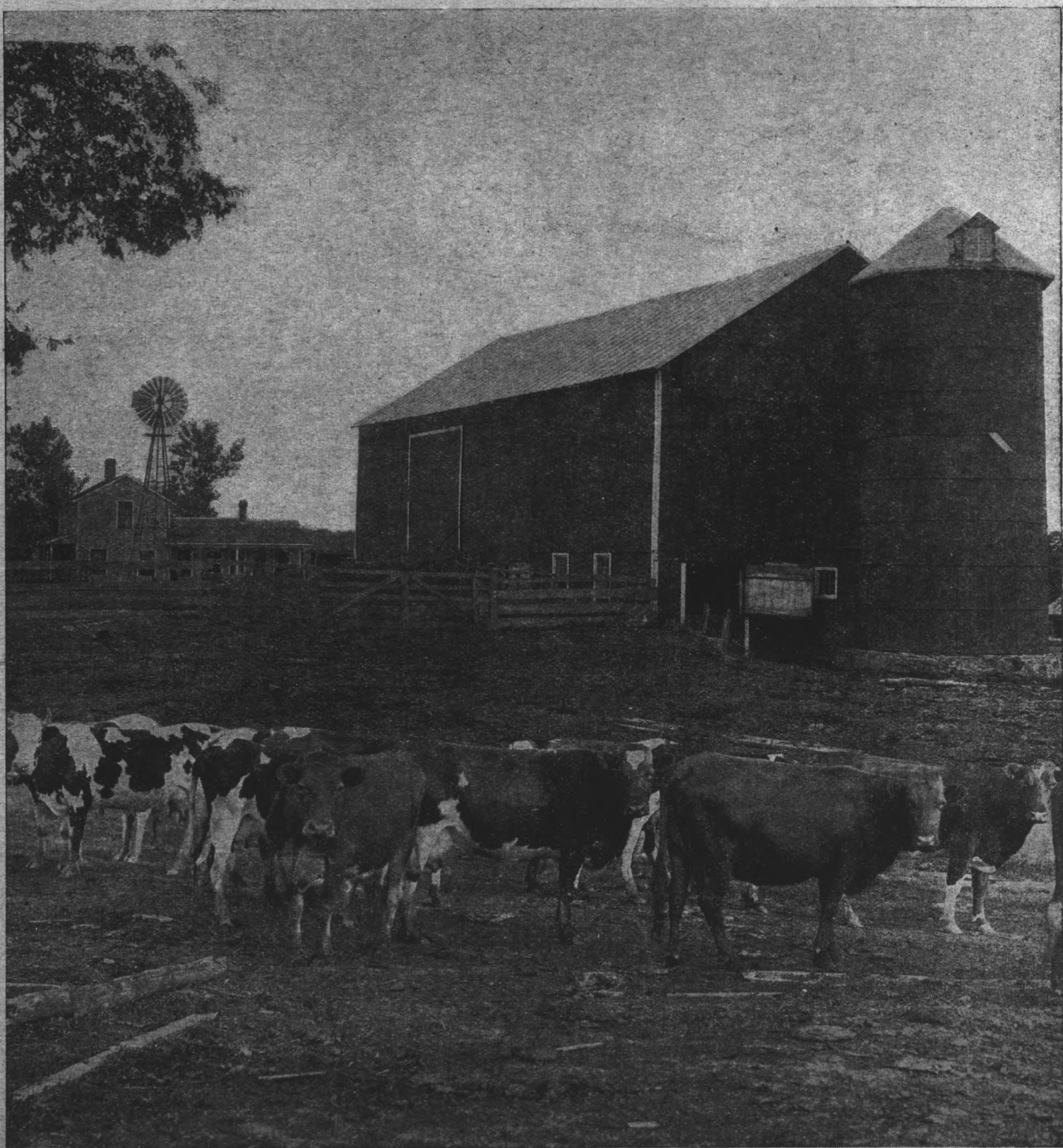
AND
LIVE STOCK
PUBLISHED WEEKLY.

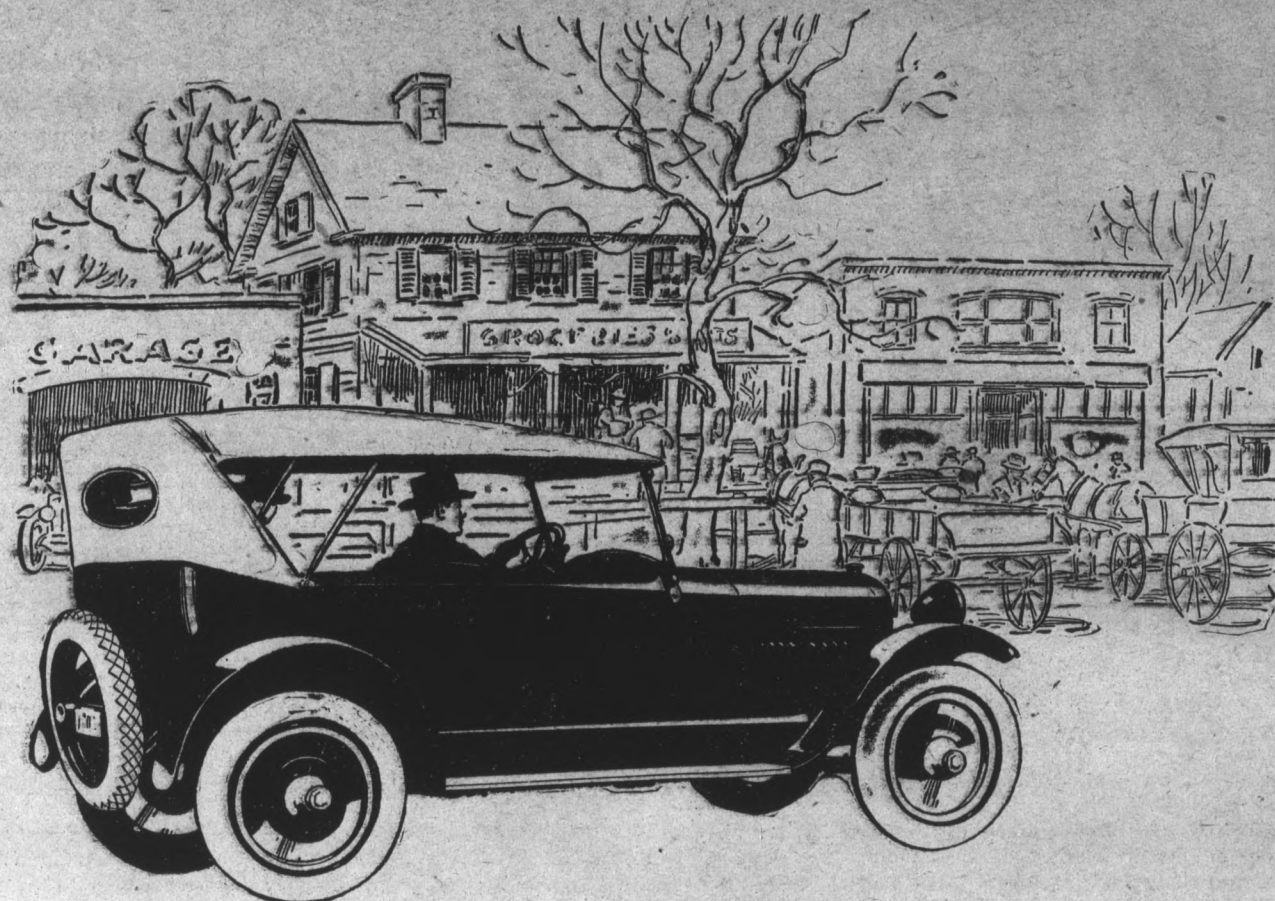
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\$1.00 A YEAR
\$3.00 FOR 5 YEARS





PAIGE

The Most Beautiful Car in America

Our Prices and Our Policy

The list prices of the Paige five-passenger Six-39 and seven-passenger Six-55 models have been definitely fixed at \$1555 and \$2060 respectively. These prices are based upon the present cost of high grade materials and skilled labor. It is our conviction that there can be no further reduction in motor car prices for many months to come.

As every business man knows, labor is the element which determines the cost of any manufactured product. It is, in final analysis, more than 90% of a production investment. A ton of ore in the ground is worth 75 cents. When it has been mined, transported to the mill, converted into steel, forwarded to the machine shop and fashioned into automobile parts it is worth \$1500. And practically every penny of the enhanced value is a labor charge.

The same thing is true of farm products. The bushel of wheat that formerly sold for ninety cents now brings two dollars and twenty cents, because of the greatly increased cost of production. Until we have cheaper wheat it is idle to think of cheaper flour or bread.

So it is quite evident that the cost of labor must come down before commodity prices can be reduced. Furthermore, it must be a general reduction of the wage scale—a National movement. And the process, as we see it, is going to take a long time.

Both the farmer and skilled mechanic are receiving

greater rewards than ever before. But no men have a better right to fair compensation, and they will undoubtedly continue to receive it. Where, then, can the manufacturer look for a reduction in his manufacturing costs?

As we have said, the list prices of our cars have been definitely fixed. These prices represent intrinsic value—the choicest of manufacturing material and highly skilled workmanship. Without a sacrifice of our own quality standards it would be absolutely impossible to produce such cars for one dollar less.

The point we want to make is this: We could not afford to build and you could not afford to buy on any other than a quality basis. In brief, while we agree that first cost is an important consideration, we are convinced that ultimate cost is vastly more important.

We believe that the only true test of economy is years of hard, gruelling service on the road.

We believe that freedom from repair bills and excessive depreciation is infinitely more desirable than a mere catch-penny list price.

These are our convictions. We have held them staunchly during many fitful periods in the motor car industry. So long as the Paige Company is a factor in the making and distributing of motor cars we shall continue to adhere to them.

The Linwood "Six-39" 5-Passenger—\$1555 f. o. b. Detroit

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PAIGE-DETROIT MOTOR CAR CO., DETROIT, U. S. A.

DEVOTED
TO
MICHIGAN

VOLUME CLII.

MICHIGAN FARMER

AND LIVE STOCK JOURNAL
PUBLISHED WEEKLY
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A Practical Journal for the Rural Family

QUALITY
RELIABILITY
SERVICE

NUMBER SEVEN

Herds and Flocks of Europe

FARMING and live stock raising are very closely associated in the United Kingdom. Soil and climatic conditions and the innate conservatism of British character are largely responsible for this condition. The British farmer, however, unlike his neighbors in Holland and Denmark, has usually been an individualist. Cooperative effort has had very little support, but it is now a matter of serious discussion among leaders in agricultural affairs.

Beef and mutton are produced in normal times on pastures in summer and by straw and roots in winter. Oil cakes form the chief supplements to the ration. Since the war the supply of oil cakes has declined so that meat production has suffered somewhat.

Dairying in England is unique. The dairy cow of England, and to a considerable extent of Scotland also, is a Shorthorn, bred to furnish abundant milk on the rich pastures and to drop a calf which can be fattened for beef. Guernseys and Jerseys have never made much headway commercially, but Holsteins are just now having quite a run in popular favor, the descendants of an importation made from Holland just before the war selling at very good prices.

The British farmer will continue to require large quantities of high protein cakes and will be in the market for them. The British consuming public will be in our markets for as much beef and pork products as we can spare.

The coming of peace will probably cause considerable demand for American horses, both for farm and city use, but this will be offset to some extent by the release of transport horses from the British army. It is an interesting fact to American farmers that the experience of the British army with grade Percheron horses from the United States has been extremely satisfactory, especially for transport and artillery purposes. It is believed that these horses have proved to be more hardy, more active and more courageous than the grades of other draft breeds. This fact is largely responsible for the growing interest in Percheron horses in England. Already some purchases have been made in France, and Percheron horses are found here and there throughout England. Just before the Commission left Great Britain a shipment of twenty-six mares and one stallion landed from Canada and are now in Norwich. A British Percheron Society has been organized, and I am confidentially informed that they propose to send a commission to the United States in 1919 to make purchases of Percherons in the United States for English breeders. The demand for commercial horses will probably develop as soon as it is known how many will be available by demobilization from the British army, as soon

How America Will Aid in the Reconstruction of the Industry.

By George M. Rommel



as shipping conditions become more normal, and as soon as feed supplies are available in Europe. In other words, we may look for this trade to manifest itself about July 1, 1919.

On account of the sharp reduction in stocks of chickens there may be trade with American breeders. It may also be possible to arrange for the importation of pure-bred Holstein cattle from America, but it will not be easy to bring about on account of the long-standing objection to the importation of live cattle.

With the foregoing possible exceptions, no restocking of British farms with live stock will be necessary, except perhaps in the case of pigs, which British breeders will be able to take care of without assistance.

On the whole, British breeders will be competitors with American breeders in the world's markets for pure-bred live stock. They are already looking forward to the demand from continental Europe for animals to restock the devastated areas and to replenish herds elsewhere which have been depleted on account of the necessities of war.

Live Stock in France.

The French farmer grows live stock for certain very definite and practical purposes, the most primary motive being the money he can make out of them—either directly in sales or indirectly through the maintenance and increase in soil fertility. The breeds of live stock found in France are unquestionably useful and practical and on their native pastures they not only fit in admirably with farm practice, but they are extremely attractive as well. Few more beautiful sights can be offered the traveler interested in live stock subjects than a group of Normandy cattle in a river-bound pasture, with a few choice Percheron colts grazing with them, or several teams of four or six white Charolais oxen in each, plowing in a field at sunset. However, one does not get the impression of personal attachment between the man and his animal which is so strongly evident in the case of the British farmer. The French peasant's great passion is the land, and

four-fifths of them own the land they operate. Although there are many distinct breeds of live stock in France, which are bred to a type in rather well-defined areas, we do not find the extraordinary development of systematic breeding with elaborate pedigree records which is such a feature of animal breeding in Great Britain and also in the United States.

Highly specialized dairy breeds do not seem to be common in France. Even the red Flemish cattle of the northeast are praised for their meat as well as for their milk. Cows apparently must be capable of fattening when closed out of the dairy and a calf not wanted for breeding must go to the block as veal or into the fields for work.

Except for Percheron horses, the pure-bred live stock business is a relatively unimportant feature of French farming and has not figured extensively in the foreign trade.

Poultry are scarce in France and very high-priced. Of all classes of poultry on the markets, geese seemed cheapest. Chickens sell in Paris at about \$1.00 per pound; geese at sixty to seventy cents per pound. Flocks of poultry are seen around the barnyards but rarely in fields. Colony houses on range are seldom seen. High prices and strong demand have combined to bring about what appears to be a considerable decline in the number of poultry.

How the United States Can Assist the French Farmer.

The greatest problem of the French farmer for the immediate future is to prevent the slaughter of the large supplies of young cattle which are now on hand. Not only does the meat and milk production for the next two years depend to a great extent on the successful solution of this problem, but an even larger problem, the restoration of the cattle industry in the devastated areas, is linked up with it. Some authorities believe that if the slaughter of young cattle can be prevented, that France will have in ten years more cattle than ever before. An ample sup-

ply of chilled or frozen beef will probably prevent this slaughter. Reference is made above to the expected shortage of beef during the winter and spring of 1918-19. If this shortage can be made up by importations from America, the solution of the problem may be found. There is a possibility of failure in the fact that French people do not like refrigerated beef. They usually eat meat quite fresh, often with some of the animal heat still remaining in it at the time of cooking. Experimental shipments at reasonable prices should soon establish whether this measure of relief could be made a success.

Feed supplies are low in France and importations in large quantity will be urgently needed during next winter and spring. It has been pointed out by another member of the Commission that France has been deprived of considerable quantities of cottonseed and other oil cakes which were formerly manufactured at Mediterranean ports, but which have not been available during recent years of the war.

In regard to live stock, the needs of France after the war are best indicated by the losses which she has sustained, particularly in the devastated area. Roughly, there has been a loss of nine hundred thousand cattle and eight hundred thousand sheep in the departments which have been invaded. Officials of the government estimate that of these numbers four hundred thousand were dairy cows and four hundred thousand were breeding ewes. What losses there were in pigs no official figures indicate. The loss in horses is represented mainly by the numbers which went into the army and were lost in warfare. An estimate that there are thirty per cent less horses on French farms today than before the war is probably not far wrong.

Authorities differ as to the relative importance in which animal reconstruction should be taken up. Some place dairy cows first, others horses; some believe that the stocks now on hand will enable the reconstruction work to be carried on without supplies from elsewhere; others believe that tractors will fill the need caused by the shortage of horses. All agree that sheep are badly needed.

So far as dairy cattle are concerned, the government has already in contemplation making an experimental shipment from the United States, as has been already reported by cable and letter. It is proposed to buy one hundred cows and place ten in each one of the ten departments which have been invaded. Wherever Holsteins have been tried in France they are said to have given satisfaction. Certainly they should be given a fair trial in Flanders. The results of this shipment will be valuable as indicating

(Continued on page 274)



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DETROIT, FEBRUARY 15, 1919



CURRENT COMMENT

A State Farm Bureau

ONE of the important developments of the Farmers' Week activities at the Michigan Agricultural College was the organization of a State Farm Bureau which was effected by representatives of the County Farm Bureaus throughout the state. The possibilities for good of such an organization are great. Such an organization can accomplish a large degree of the work for which a State Chamber of Agriculture has been repeatedly advocated in these columns.

An organization of this kind could also assume direction of county farm bureau projects to the undoubted advantage of this work. In the many counties where County Farm Bureaus have been established, leading farmers have been associated with the Bureau during the promotion days in order to put the plan across in the county, after which they have had little to do with the direction of the work or the selection of projects for development. This direction has come too largely from Lansing or Washington, as the case may be, to popularize the work with the rank and file of farmers. There is little doubt that if the farmers themselves would take the initiative in the selection of these projects, the result would be more uniformly satisfactory.

But the greatest opportunity of the State Farm Bureau and the National Farm Bureau, which it is proposed to organize, lies outside the ordinary scope of farm bureau work as it has been conducted. Such an organization might be made a needed avenue of expression for the farmers of the country during the trying reconstruction period. With the machinery at its command it might make a comprehensive study of production costs and other economic phases of agriculture. It might be made the medium through which a wide range of agricultural information could be disseminated, particularly to urban consumers who are very generally ignorant with regard to farm conditions and farm economies. It might also prove a valuable medium through which to present the American farmer's case to governmental departments, as may be required to se-

cure a proper consideration of their interests.

But these results can be secured through such an organization only by keeping its control and initiative in the hands of the progressive farmers of the state and free from the direct influences which have been essential to the development of County Farm Bureau work. Doubtless the public spirited men who joined in the inauguration of this movement will have the vision to strive for these results, but they will need the general support of the farmers of the state to accomplish the greatest good for Michigan agriculture along the lines above suggested. Let us aid them in making this new movement of the greatest possible value to Michigan agriculture by joining the County Farm Bureau in our respective counties and working with them in this larger field for the betterment of economic conditions on Michigan farms.

The Railroad Problem

WHAT to do with the railroads is one of the most important reconstruction problems confronting the nation. Its wise solution is absolutely essential to the future welfare and prosperity of the country and its industries. Transportation facilities and rates affect every business—every producer and every consumer—in a most vital manner. Adequate transportation facilities at reasonable rates are as vital to the future prosperity of agriculture as to that of any other business, and more vital than to many, if not most other industries, since its products are bulky and its best market in many cases at distant points. On this account, agricultural opinion regarding the best solution of this great reconstruction problem should be developed and crystallized in such manner as to be intelligently effective in helping to bring about a solution of this problem which will be constructive from the standpoint of the future welfare of American agriculture and fair to the people at large.

The railroads were taken over by the government as a war measure at a time when transportation facilities were overtaxed to the breaking point and unified operation seemed the only solution under the stress of war needs. Increased operating expenses were followed by large increases in both the freight and passenger rates and, notwithstanding the savings effected through economies in unified operation a deficit of something like three-quarters of a billion dollars piled up during the year. Further increases in freight rates and further economies of operation are now proposed to place the roads more nearly on a self-supporting basis under government operation with guaranteed returns to bond and stock holders. Among the proposed economies is a plan now said to be under consideration to make deliveries of freight to small country stations twice a week instead of every other day, as is the general rule at present. Both of these propositions will be detrimental to the interests of agriculture if made effective. They will serve to illustrate the importance of the railroad problem to farmers and the need for constructive agricultural thought on the general railroad problem.

This need is further emphasized by the fact that there is far from a general unanimity of opinion among our public officials as to the best solution of this vexed question. In his message to congress, President Wilson confessed that he had no solution to offer, but commended the problem to the careful consideration of the law-making body. Former Director-General of Railroads McAdoo confined his recommendations to the extension of government control for a period of five years, as a present expedient and further experiment in government operation. Director-General Hines recently announced himself

as opposed to government operation in principle, but advocated the extension of the period of government control for five years and a plan for the reorganization of the railroads into not less than six, nor more than twelve regional corporations, with capitalization based on valuation, the government to be represented on their several boards of directors and investors to be guaranteed a moderate return on the capitalization and moderate participation in additional earnings as a spur to private initiative. It may be reasonably expected that organized labor will favor continued government operation. Some of our leading farmers' organizations have expressed themselves as in favor of government operation and some in favor of government ownership, while many leading farmers have been heard to express themselves as vigorously against either policy, on the ground that the question should be kept out of politics so far as possible.

On one point only is there a practical unanimity of opinion. Nobody, except perhaps those with personal interest at stake, wants to go back to the old plan, under which transportation was in very many cases made secondary to exploitation by railroad manipulators. Legitimate investments in needed railroad development should be protected, and to such protection the public will not object. But guaranteed returns on over-capitalization which has resulted from manipulation will not long be countenanced, either under government control or private operation. The railroads have well earned the public distrust which is the primary cause of their present predicament. This situation must be remedied by putting the country's transportation business on a sound basis, and at the same time adequately protect the public interest. How this can best be accomplished is the question of the hour.

Manifestly, as this question is one of vital interest to agriculture, it should be given the most careful thought by our farmers, to the end that their views may be clearly presented to their representatives in congress. As an aid to such thoughtful consideration of this great public question the Michigan Farmer will present such facts, figures and views on all sides of the proposition as may from time to time become available.

Good Roads Sentiment Growing

THE submission of the proposed constitutional amendment to enable legislation for the sale of bonds for highway improvement in an amount not to exceed \$50,000,000, is the result of a constantly growing sentiment in favor of permanent highway improvement in this state. This progress has been constant for a score of years during which permanent highway improvement has grown from a small beginning to its present considerable proportions in this state.

Efforts to establish a plan of state aid for road building were ineffectual until 1905 in which year a state appropriation of \$30,000 for aid to permanent road improvement was made. There has been a constant increase in state funds devoted to this purpose until the present time. In 1917 the state appropriated directly \$860,000 to this purpose, and turned into the road improvement fund \$1,272,246.66 of automobile license fees, and in 1918 \$960,000 of state funds were devoted to this purpose in addition to an increased amount derived from automobile licenses. The total of state funds devoted to good roads improvement during the period from 1905 to 1918 inclusive aggregates \$8,508,235. Likewise the sums appropriated for road improvement by townships and counties has similarly increased during this period. In 1901 the total of the township tax assessed in the state was \$2,253,039.48, while in 1917 the amount

was \$6,532,285.85. Similarly the county road tax in 1901 totaled \$166,471.76, while in 1917 it reached a grand total of \$2,953,782.15, in addition to the total of the automobile license fees apportioned to the several counties amounting to \$1,199,024.11.

No exhibit could be more indicative of the growth of sentiment for permanent road improvement than these figures showing the moneys which have been expended for this purpose in succeeding years, not alone in the state but the counties and townships as well. Perhaps no indication is more significant of the probable approval of the proposed constitutional amendment at the April election.

Absorbing Market Shocks

FARMERS' cooperative selling organizations are not exempt from the influence of suddenly or constantly declining prices for the commodity which they are selling. Under present conditions such experiences are unavoidable, and may prove a serious menace to the ultimate success of the organization unless its membership think clearly and properly analyze the cause instead of dwelling on the effect. The man who sells his product, say potatoes, for example, through a cooperative organization may not get his final returns on the sale for some days or even weeks after the product was delivered. When the returns are received, the net price may be lower than he expected, if the market declined during the period of delivery and sale. If in such cases comparisons are made with prices which prevailed at or before the date of the delivery of the product, such comparisons may seem unfavorable to the cooperative enterprise, and may tend to discourage the seller as to the economic benefit of cooperative selling.

But this should not be the case. The seller should remember that the cooperative selling organization as well as the dealer must take into account the law of averages in determining the relative profit of its business. He should remember that dealers do not always make money on their transactions; that they, too, have to absorb the shocks of declining prices. He should remember that next time he may sell on a rising, rather than a falling market, and that he will then get the profit which is the dealer's occasional "killing," and which enables him to withstand the occasional market shocks which at times are the inevitable accompaniment of the movement of farm products.

Fire Losses Should be Reduced

THE report of State Commissioner of Insurance Ellsworth for the year 1918 shows a total fire loss for the state of \$10,294,918. Of this amount a total of \$1,949,478 was directly traceable to defective heating plants, which were responsible for 2,072 fires in the state during the year.

A large part of this loss was undoubtedly preventable had proper attention been given to the condition of the heating equipment, particularly of chimneys. Such losses are naturally much in evidence during a severe winter such as obtained last year, but they are too frequent even under normal conditions and should be materially reduced.

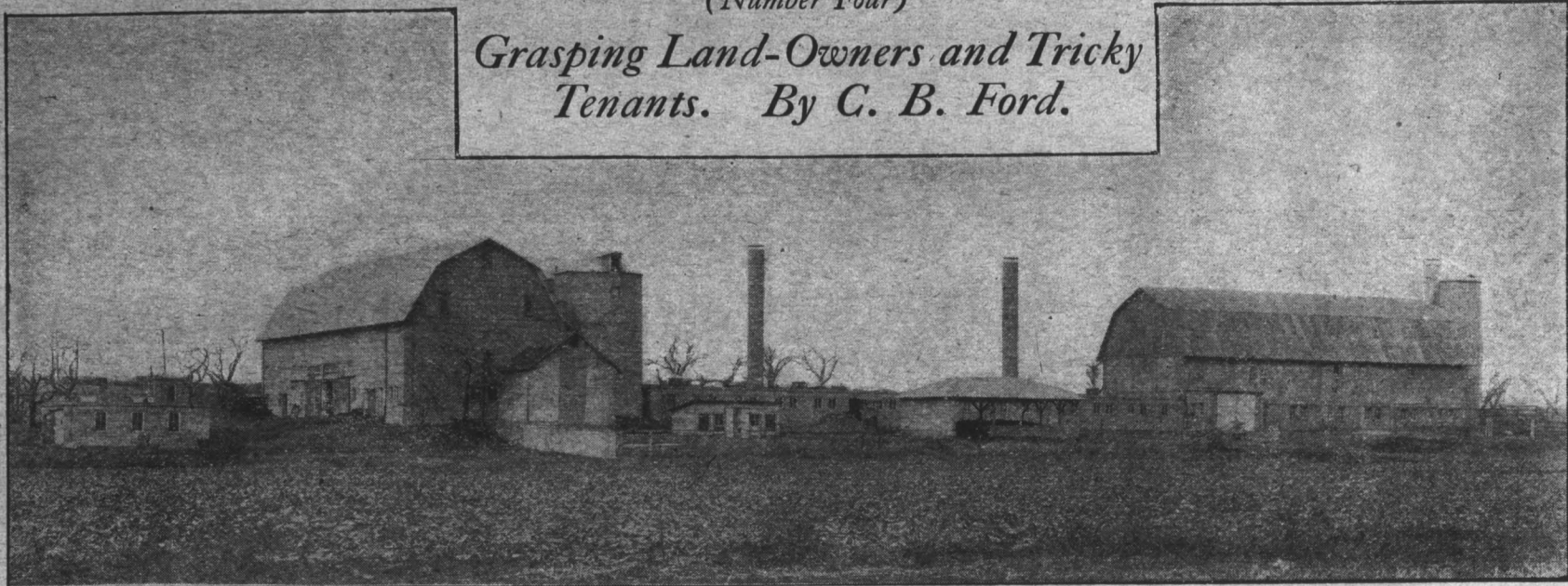
Fires of unknown and incendiary origin totaled a loss of \$3,014,917. This class of losses are less directly preventable, but could be materially lessened by providing better fire-fighting equipment, which is lamentably deficient on the average farm.

Fire losses are a direct loss of wealth to the community even though the loss is partly reimbursed through the medium of insurance, and the reduction of preventable fire losses is wise public as well as private economy.

A Cooperative Farm Tenancy

(Number Four)

Grasping Land-Owners and Tricky Tenants. By C. B. Ford.



IN many sections of the country dishonest land-owners and tricky farm tenants, engaged in the innocent pastime of continuously fleecing one another, are having a demoralizing effect upon agriculture. For example, a successful business man, who had invested \$20,000 in one of the best two-hundred-acre farms in this part of the country, sat in his office in a nearby city one day last winter and poured out his woes to the writer.

"I don't understand it," protested the owner of the farm. "I've been fair with this young fellow and then lost out. I gave him the best chance of his lifetime to make good. I furnished him with money to meet his necessary expenses and pay his hired help during the summer, and last fall I loaned him money to buy two work teams and fifteen good dairy cows to make up his half of the herd. I have treated him as I would my own boy; done everything to encourage him to take an interest in developing my farm. I have been good to him and he has stung me good and proper. I feel as if I had been hit below the belt."

I nodded assent, for it so happened that I knew both parties and had taken a keen interest in the owner's attempt to manage his farm under a liberal system of tenant farming. He was a man big in mind and heart and body. He had started the young man in business; been more than liberal in furnishing money, stock and equipment. Business moved along smoothly until after harvest time, when the owner of the farm called the young man into his office to go over their accounts for the season and make plans for the next year's business. One-half of the proceeds from the dairy had been paid to each party at the end of each two weeks by the city dealer; one thousand bushels of potatoes had been sold and that many more were in the cellar; about thirty tons of hay could be sold without putting the stock on short rations until time to turn them out to grass; and eighteen hundred bushels of grain were in the bins. It had been a good season for both parties. The following conversation took place in the land-owner's office:

"Well, James, I called you into the office to look over our old books and get business straightened up for the season. I am well satisfied with the way you have managed the farm; we have both made some money, and I suppose, of course, you will have a few hundred dollars to pay on the note as soon as we can sell the potatoes, hay and grain. If you can make out about \$900 I am willing to allow the rest to run for another year; that will make it easy for you and leave you something to work with during the

spring and summer. We have got a nice bunch of stock and should be able to keep more cows this year. If we stick together for a few years you will have a good start, and I will have my farm in good shape. I like the way you manage the business and mean to give you a good chance."

"I am very sorry, Mr. Jones, but I cannot pay you anything on the note this year. You see I owed my father-in-law something over \$2,000 and last month he insisted that I pay him or give him security. I gave him a chattel mortgage on my stock and my half of the crops and I must pay him before I can meet my note with you. This is really the best I can do. If you insist you can have your farm back at the end of the month. There is another farm where I can move and I would prefer not to bother with taking care of your stock the balance of the year."

"It seems to me that you were pretty easy to furnish this fellow with so much money and not protect yourself by holding a mortgage on his stock and crops until he made a substantial payment on his note," I remarked.

"Easy!" replied the land-owner, "I have been a mark. I have done business with all kinds of men. This is not the first time I have been stung, but I have always taken pride in my ability to judge human nature correctly and I have made but few mistakes. I don't blame this young man so much as I do his family. His wife's family are as crooked as they make them and they have corrupted him. I tell you, when a young fellow marries into that kind of a tribe, where dishonesty is practiced every day in the year, he soon loses his high regard for honesty and becomes dishonest enough to cheat another in order to get a few dollars for himself. When a man's faith in the golden rule is gone there is not much man left. I know that I have been lax in dealing with this fellow; more so than I should have been had I been doing business under other circumstances. He was my partner and I trusted him. I have learned my lesson and have paid dearly for my tuition. I deserve no sympathy. Business is business. No matter how much you want to do for a fellow, you should never leave an opening for him to fleece you. It is the fellow you least suspect who does you to a turn every time."

Another land-owner leased his dairy farm and moved to the city. He had a large farm, well stocked and well-equipped for producing milk for a condensary. His tenant had taken hold of the farm and showed every sign of being a hard-working, intelligent manager. The cows were doing well. The owner had made a practice of buying

his grain feeds during the spring and summer, thus saving from five to ten dollars a ton on the feed bills. He made the suggestion to the tenant that they could save quite a sum by buying feeds early. The tenant did not have the ready money to pay for his half, but the owner readily consented to sign a note with him, the same to be paid the next February. Things moved along smoothly until that time. The tenant in the meantime had sold his share of the crops, fed out nearly all of the feed and pocketed the money. The result was that the owner of the farm had to meet the note while the tenant left him with his cows and farm on his hands and moved to newer and fresher pasture in an adjoining township.

The owner of the farm had been a good fellow and had been viciously stung. He had signed the note in good faith, thinking of course, that the tenant would promptly meet his share when it became due. He had faith in human nature and had left a dangerous opening. Many owners of farms make it a practice to sign notes with their tenants to tide them over a certain season of the year. It is a dangerous practice. It is better to furnish them with the money and keep control of the farm and business in your own hands.

A few years ago a New York land-owner visited one of his farms rather unexpectedly during the spring and found his tenant's man seeding clover and timothy with oats and the drill was set to sow two quarts to the acre of the mixed seed. After investigating the matter he discovered that the tenant had sold more than \$150 worth of clover and timothy seed to one of his neighbors. This is only one of the many instances we could refer to where a tenant through dishonesty, had virtually broken up the rotation of crops prescribed for in the lease, by seeding a small quantity and selling the balance. In the above case, however, the owner of the farm ousted the tenant and seeded the clover and grass in time to prevent the loss of the next year's seeding.

Land Owners Sometimes Get Stingy.

It would be unfair to expect that the practice of leasing farms be exempt from rascals and rogues, tricky tenants and grasping land-owners. These, however few by comparison, are among the powers that prey, and how careful of them must be the honest tenants and land-owners, these stories may prove. They may also prove that as nothing succeeds like success, so nothing tends to discourage honesty more rapidly than dishonesty, for as a rule the man who has been fleeced is corrupted by the hard process; he loses

his high regard for human nature and grows cynical enough to be quite willing to do as he has been done. Brown, for instance, leases his farm to White and is viciously "stung." The crops are sold, he has his stock left on his hands to winter; they are in a weak, emaciated condition. His meadows have been plowed up and his whole system of rotation broken up. The place has been turned upside down, and he has been fleeced out of a large share of his rent. He consults a lawyer who advises him to let the matter drop when he discovers that Smith holds a chattel mortgage on all of White's property. Instead of setting down and bemoaning his fate, he says to himself: "I'll do as I was done by. If it is a game of fleece, I'll do the fleecing myself."

Green who has been saving up his earnings for years and can wait no longer until he finds a farm to lease, is told that Brown has a farm that is ready for a tenant and he promptly rushes to Brown's place to close a deal. Brown, who has been "stung" once, compels him to put his name on a one-sided lease, tightens his purse strings, compels Green to carry out his part of the contract to the letter and demands his share of the rent the very day it comes due. Green is forced to sell his crops and stock, and is mighty glad to pocket his loss and move off the farm. Now the chances are that if Green had rented Brown's farm the year before, everything would have moved along smoothly, for Brown was naturally a liberal man, but after being so viciously "stung" by White he had lost faith in all tenants and had made up his mind to do some fleecing himself. In any community where there are enough Browns, Whites and Greens playing the land-owner and tenant game it would be incomprehensibly strange if a few of them didn't get "stung" good and proper.

Many land-owners have had disheartening experiences with tricky farm tenants who have been dishonest in dividing crops. Human nature is about the same everywhere, no matter in what line of business one is engaged. If there is an opening for dishonesty it is sure to creep in. There are so many chances for petty stealing, withholding proper food from the owner's stock, allowing stock to trample and damage crops and meadows and a vast number of other things which dissatisfied tenants may do that it would require a whole issue to enumerate all of them.

Suggestions for eliminating trouble are few and simple. Let the land-owner decide just what he wants and how he wishes it to be done. Then let him state his requirements and if the ten-

ant is not willing to do business along that line, go further and find another who is. Make a hard and fast agreement that is just and equitable to both parties. Keep a close watch of the business, be liberal and fair, but never leave an opening for trickery and dishonesty and live up to the terms of the agreement. This will eliminate trouble.

As a rule land-owners are shrewd men who have made their money by sharp dealing and consequently a tenant should be always on his guard to avoid entering into any kind of an agreement he cannot carry out. There

is need for honest and well-educated land-owners as well as a better class of tenants. As it becomes more difficult to hire good help and find good, reliable tenants, land-owners who resort to unfair business tactics are finding it hard to find honest tenants to lease their farms or enter into any kind of a long-term partnership agreement to feed a sufficient amount of live stock on the farms.

The best remedy is square dealing by all concerned and a liberal system of leasing which takes into consideration the improvement of the farm as well as the immediate profits. Good

farming will always improve an average farm as we find it today. The land-owner who understands the situation will not only do his part by the way of adding needed buildings and improvements, but he will give the tenant such a share as will enable him to make a reasonable profit without robbing or neglecting the farm.

It takes two men to develop a better system of farm tenantry—the land-owner and the tenant. The part each plays and his interest in the undertaking should be clearly understood; their interests are identical. The land-owner must be honest and liberal and do

everything possible to encourage stock feeding and long-time leases. The tenant should take an active interest in developing a system of farming which will pay good profits and leave the farm in as good shape at the end of the lease as he found it. Men who desire a home where they can make money and provide for their families, will find that a sound system of tenantry, in which the owner is equally anxious to have them stay, offers such opportunity. What is best for the tenant is best for the land-owner. This is the basic principle upon which the ideal farm lease is founded.

Shall Land Owners Pay all Taxes?

RECENTLY the Michigan State Value-Tax League circulated petitions for an amendment to the state constitution whereby all personal property and "improvements in and upon land" were to have been exempted from taxation. Land, on the other hand, so the petitions reads, was to submit to "assessing at its cash value." We are at a loss to know why the farmer who is among the chief land owners of the state should be "hit" in this way. Personal property we learn from the 1917 report of the State Tax Commission pays roundly \$15,000,000 per year of taxes and no one can doubt that land must be more heavily taxed if all this personal property tax is lost. Unfortunately the contributions of taxes made by "improvements in and upon land" cannot be given, since in Michigan these are assessed with land.

The section of the constitution which the petitioners wish to amend now reads as follows: "All assessments hereafter authorized shall be upon property at its cash value." These words have been in the organic law of the state from the beginning and their sweeping defense in the famous "equal taxation" fight of Governor Pingree is a matter of easy memory. Although the basis of this great contest was not real estate vs. personal property as is the case in the pending amendment but, instead, was general property vs. railroads, nevertheless the principle of equal taxation, namely, cash value for all property was the same as now. Indeed, the one addition which was made to our state government by this great "equal taxation" reform was the Michigan State Tax Commission—an agency charged with the task of seeking out property and assessing it at cash value. The successes of this commission in bringing property to the assessment rolls would total many millions if exactly stated, and it has furthermore upheld the Michigan notion of "equal taxation" by bringing all general public utilities to the assessment rolls exactly as is done with the railroads.

The proposed amendment offers no increase of tax revenues to the township, county, city and state governments. In fact, since it distinctly urges the exemption from taxation of personal property it actually cuts down the sources from which these governments have in the past drawn their incomes. Doubtless then, this amendment is not one which will be favored by the various officials who have charge of these different governmental divisions. Because, if any one difficulty looms higher than another to officials in these days—whether local, state or national—it is the difficulty of getting money whereby to meet the big public expenses which are everywhere looming up. But this amendment proposes to exempt personal property from taxation regardless of whether or not governments can stand the loss.

Should the wishes of governments be considered in framing tax laws? We think they should. That taxes exist

Dr. W. O. Hedrick, Head of the Department of Economics, M. A. C. Thinks the Single Tax Scheme Inadequate to Meet Our Needs. Read His Story.

at all is due to the fact that they furnish cash support to governments. Taxes would hardly be endured except for the fact that governments are thereby supplied with funds. Governments are impossible without taxes. Here, however, is a proposed scheme of taxes which no government has asked for and since it cuts off a much used source of revenue, no government desires. To the already worried and hard-up treasury officials in our different governments, always needing new sources of taxation there must be in the action of this League, an especial irony to the old maxim, "Beware of the Greeks when they come with presents in their hands."

Taxing schemes which are not advocated by any government nor are not planned primarily with the needs of any government in view have usually

some social or moral reform purpose which they wish to promote. This is probably the case with the proposed amendment. Through exempting personal property and as a result burdening land with the expenses of government the new plan is apparently that of the "single taxers," or as they were called in former years, the followers of Henry George.

It is not altogether clear that tax laws should be made in this way "dual purpose" laws. They were enacted to supply governments with money support and social reform is using them for a different purpose. Nevertheless, we have used in the past tariff taxes to foster "infant industries," high license taxes to curb the liquor traffic, oleomargarine taxes to promote the butter industry, etc., so that two-faced tax laws are not unknown by our citi-

zens. However, the proposed amendment suffers from whatever ill-repute there is in the policy of using a law designed for one purpose to accomplish a purpose quite different in nature—a purpose in fact, which might be arrived at much better in some other way.

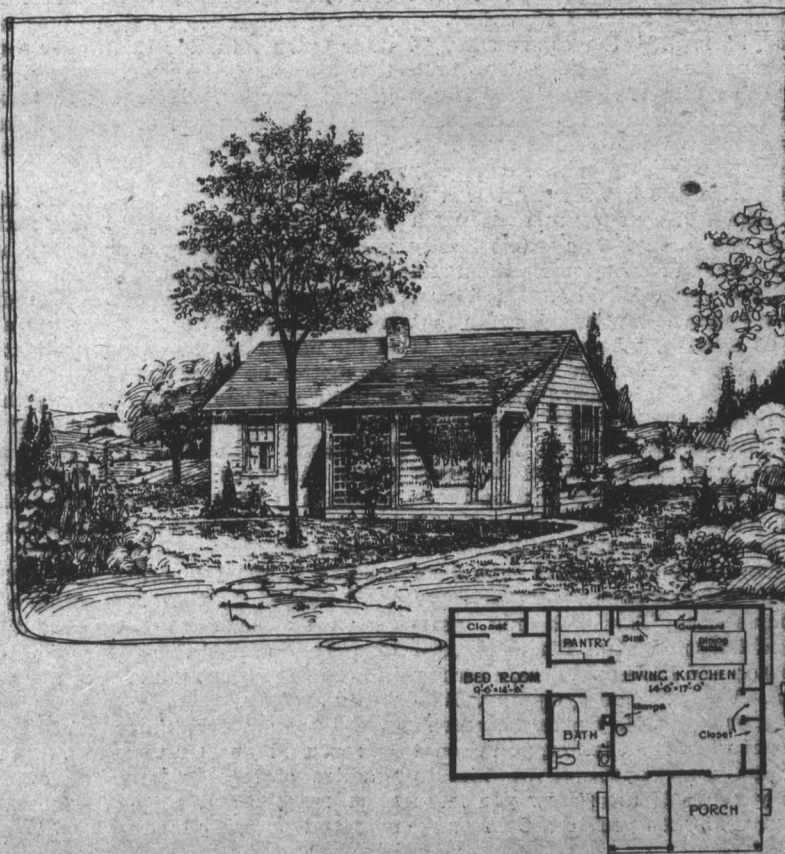
The teachings of the "single tax" school of reformers have been urged upon the public so thoroughly and for so many years that everyone knows what they stand for so that only a word of description is needed here. The social reform which the "single tax" advocates have in mind and to gain which they would use the taxing machinery of the state is that in brief of securing a better division of wealth between land-owners and non-land-owners. "Single taxers" there have been in all ages and many teachings have appeared upon the subject. Usually these disciples have come to believe somehow or another that a single object of taxation—hence the name single tax—can be picked out upon which all the present and future expenses of the government can be placed. Then, by some natural law of trade relations, this chosen object of taxation will shift its burden to other objects until the entire burden will be justly distributed. The champions of the constitutional amendment do not go as far as this. The reform which they have in view is simply to get for public use the so-called "unearned increment" of value in land.

Few broad-minded persons we think would have the will to oppose this desire. In a moral world the term "unearned" is enough of itself to condemn property acquired in that way. That the mere holding of a deed to a piece of land until, through the growth of the neighborhood, it has increased in value shows an unearned increment of gain to the title holder or else the term itself is meaningless. Increases of this sort in land values, however, are not the only "unearned" incomes in the world of affairs and the promoters of the constitutional amendment should be prepared to extend their plan to other objects than land if they are to have a just system of taxation.

Not to speak of natural monopolies, such as oil, hard coal, fuel gas, etc., which give very large returns of income over expenses to their owners one must remember that public privileges of all sorts, such as franchises and business and professional "good wills," patent rights, etc., often give profits which are unearned but which would not be touched by this proposed single land tax. Indeed, apply this proposed tax to the Michigan Central Railroad for a test example. The land value of this road itself, that is the stretch between the two fences along its right of way and its city parks, would yield no vast amount of value. Its equipment, however, its buildings, its trade connections and franchises would afford a very great deal of value and none of these latter would be touched by the proposed tax.

(Continued on page 250).

For the Tenant



THE tenant house here illustrated consists of a two-room structure—one bed-room and a combined living-room and kitchen. A desirable feature is the two entrances to the living-room, one from the open porch and the other, which can be used as a work entrance, from the latticed section of the porch. The latticed section provides the convenience of the back porch without detracting from the appearance of the cottage. The house is comfortable, convenient, and inexpensive, and of a type that will appeal to married farm hands.

Our Correspondent at Denver

THE great week for Colorado cattlemen and ranchmen is that of the Live Stock Show at Denver, which closed January 25. This meeting is a general clearing house for buyers and sellers. Here men buy bulls by the carload and stockers by the trainloads; Kansas, Missouri, Nebraska and Iowa breeders are on hand with choice bulls and heifers to sell the western cattlemen. He in turn brings up carloads of alfalfa-finished beef and feeders from the range to go to the corn belt, and stockers for the Missouri-Mississippi valley pastures.

This diffusion of good beef blood is reciprocal and mutually profitable. It has been a good year for the cattleman and he is a liberal spender. Several cars of alfalfa-fed cattle at the show went to the block at fifteen and a half cents per pound. These were western slope animals where the claim is made for the best alfalfa in the world.

The leading hotels were made show-rooms for farmers' and cattlemen's needs. Several large trucks, automobiles, road machinery, pumps, concrete works, etc., filled the hotel lobby. These were crowded with anxious buyers. The cattleman is known by his headgear and the female has no edge on the male when it comes to expense and extravagance in size and color of hats. Large Stetson Velours with a six to eight-inch rim surmounted by a crush in a twelve-inch cone, were the favorites. These lids in various distinct colors made small men appear top-heavy and had cost their wearers

Mr. McBride's Report of Western Meeting Reflects the Trend of American Live Stock Industry

not less than twenty-five dollars for genuine beaver.

The southern states are making great bids for the cattleman and sheep man to come to the sunny south where western ranges are overcrowded and younger men want to embark in the lines of their fathers, but with range now limited. The movies have been well supplied with southern scenes which presents the opportunities of that section most alluringly. Great herds of sleek black cattle feeding in Alabama, cared for by negro help, is a change from the arid range and picturesque cowboys. The southern land man is in evidence with the distinct musical intonation so delightful and pleasing when he tells of the "con," velvet bean, cottonseed and peanut meal for finishing and "neanness" to market.

All the growing qualities of the bean stalk so dear to our childhood days in the story of "Jack the Giant Killer," seems to be inherent in the velvet bean, which we are assured will grow seventy-five feet of vine in a single season.

The southern man is not so gorgeous in hats, but still clings to his peculiar type of a broad brim black lid and a flowing tie. The west and south seem

to affiliate and have a mutual understanding somewhat to the exclusion of consideration of the cut-over lands of the great lakes states.

Last year was distinctly the time of the sheep man, but this year the cattleman is in the ascendancy. Breeding ewes have dropped in some places as much as \$10 per head. The west seems full of stock cattle and all in splendid condition; notwithstanding there has been a great flow of stock toward the markets and some tendency towards liquidation because of high prices.

All in all, one can see and hear more of the great meat producing section at the Denver meeting than any other place in the United States. Chicago has the other end at the International where the finish is, but the real throbbing live interest in the growing end, together with the human interest of the cattleman from the range, is the week at Denver.

Danger of Over-Production.

In his address, President I. T. Pryor said:

"If it be the policy of this nation to foster artificially and to promote an increased export trade in our manufactured articles, in exchange for larger imports of raw materials and food

and meat products from wherever available, it is now time for those engaged in the live stock and agricultural industries to consider how they will be affected," said Mr. Pryor. "Shall we plan our business on the basis of a continuance of large exports of meat and other food products, or on the theory of a speedy decline in both volume and value of such exports, and the possibility of increased importation, instead of exportation, of some classes of meat-food products?"

"You may remember that in 1914—the year following the passage of the Underwood Free List Bill, placing live stock, meats and wool on the free list—this country imported about thirty-six million dollars' worth of meat products—mostly beef from Argentina. This exceeded the value of our exports of beef products for that year. Had it not been for the war, the imports of beef into this country from Argentina and other South American countries might have materially increased. The situation of 1914 may return.

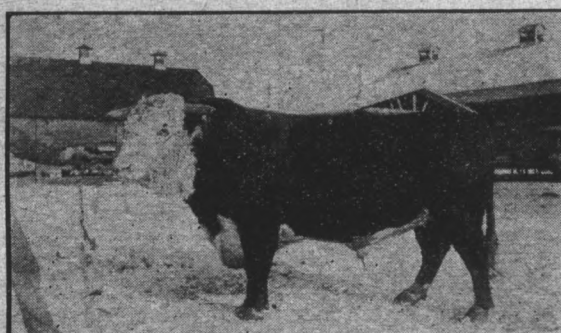
Government Figures Disagree.

"During 1918 our exports of meat food products of all kinds were the largest on record by a wide margin. Recently the Food Administration has estimated that the foreign requirements of such products for 1919 will greatly exceed those of 1918. Reports as to live stock conditions in England and on the continent are conflicting. Under date of December 9, 1918, the Bureau of Markets of the Department (Continued on page 257).

Are You Improving Your Herd?



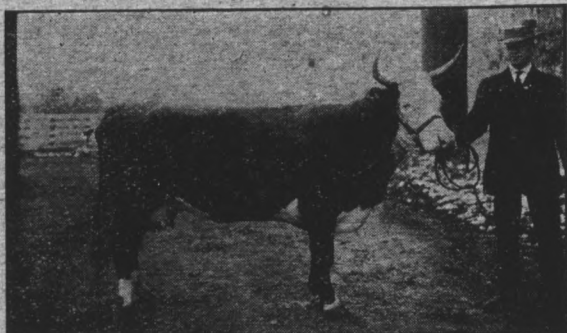
One (scrub cow)



Two (pure-bred bull)



Three (1/2-blood cow).



Three (1/2-blood cow)



Four (pure-bred bull)



Five (3/4-blood steer).

Or Is It Deteriorating?



Scrub Bull



Grade Cow



Scrub Steer.

Do You Know When Your Land Needs Lime?

PRACTICALLY 95% of Michigan land needs lime to counter-act the acid condition of the soil.

Do you know about your land?

Do you know if it needs lime?

It is important that you do—for acid soil will never produce full yields.

Here Are Three Tests:

First, and perhaps the most satisfactory way of answering the question, is to ask your County Agricultural Agent. He is familiar with the conditions applying in the case of your soil. He will gladly tell you how to test it for acid re-action. He is a state and county employee. You can depend upon his advice.

Secondly, write us for an envelope of litmus paper. Full instructions and an analysis of the results will be given you.

Thirdly, the big practical test is to know whether or not your land will grow clover. Clover as you know, is an essential part of every farm crop rotation. If your land will grow good crops of clover, it is not acid. If it will not, it needs lime.

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A Great Week at M. A. C.

THREE thousand farmers—most all of the many associations met together for a common program, in wires" of the state, and all of which affairs of world interest, as well as of agricultural, were discussed by their own farms—were guests of the Michigan Agricultural College for five days last week. It was Farmers' and Housewives' Week at the state college—and incidentally the most largely attended of any ever conducted by the East Lansing institution. The college had intended playing the host and taking the visitors unto its bosom, but as it happened the agriculturists of the state took the college unto themselves, filling class-rooms and hallways and buildings with a tide of humanity that virtually swamped all accommodations of the school.

A consequence of the over-crowding, accordingly, was the lifting of voices in a chorus of protests and appeals to the state legislature for an appropriation sufficient to provide the college with a building that will enable it in the future to furnish the farm associations of the state with a meeting place ample for their needs. Many of the associations embodied formal appeals to the legislature in their resolutions.

Still, while the over-crowding occasioned some discomfort and inconvenience, the large attendance made the many meetings the most successful that have been held in the state in years—and if the farmers of the state have heretofore been talked to more than they have talked, most of them made up for it before the week's sessions were over. The various conventions and congresses went on record for two things—first, a more progressive agriculture in Michigan, and second, a more aggressive agriculture.

Members of the Michigan Crop Improvement Association took up the cause of the farmers of the state in the matter of wheat prices, and took steps to bring to the notice of congressmen and senators the fact that the wheat growers of Michigan expect the promised war price to be maintained. Delegates from the county farm bureaus of the state organized the Michigan Farm Bureau, by which all the county bureaus have become united in a central state association for better teamwork. This was probably the most outstanding achievement of the week.

Live stock men went on record almost unanimously for the elimination of scrub sires from Michigan. Muck farmers came together for the first time and formed a Michigan Muck Farmers' Association. Drain commissioners met and joined in a petition to the legislature for reforms in the drainage laws that will make the financial burden of county drainage lighter and will add to the value of the work. The Michigan Potato Growers' Association convened and lined up for another year of effort in the direction of securing more efficient grading systems, better markets and higher prices for Michigan spuds. Both the Holstein-Friesian and the Michigan Horse Breeders' Association conducted successful sales. An exhibit of championship poultry did much to help along the poultry industry within the state—and finally, more than two hundred members of boys' and girls' clubs, the farm leaders of the future, were present for the week's session and showed something of the result of their own labors in making rural Michigan a more wholesome and prosperous place to grow up in.

During the afternoon and evenings

the sessions closed Friday with practically unanimous endorsement by the assembled farmers of the state college and its work. This endorsement, in the case of the Michigan Improved Live Stock Breeders' and Feeders' Association and the Michigan Crop Improvement Association, took the form of a resolution asking the state legislature to support the agricultural extension service by the necessary appropriations.

Potato Growers Review Work.

One of the most satisfied groups of men who participated in the week's meetings, were members of the Michigan Potato Growers' Association. The convention of this body of producers in 1918, when certain evils of the potato grading system were given a thorough airing, was found at last week's session to have been fruitful during the year. It was reported from practically every section of the state that dealers have corrected their screens, and that further, great strides had been taken in the direction of cooperative marketing. Much credit was accorded growers' organizations for securing more favorable prices than would have been possible without their assistance.

The same officers were elected as served last year. These were: President, Arthur M. Smith, Lake City; vice-president, M. B. McPherson, Lowell; treasurer, Dorr D. Buell, Elmira; secretary, Lawrence A. Siple, Greenville.

Demand Wheat Price Be Held Up.

Sessions of the Michigan Farm Crops Improvement Association, while they were notable for one of the finest pedigreed grain shows the association ever put on, were made most important to farmers by reason of the petition filed with congress for the keeping up of the price promised last fall for wheat. It was the unanimous opinion of every grain grower present that the government should hold absolutely to the price promised when farmers were urged last fall to plant a maximum acreage. In this connection the suggestion was made that if the farmers would make it a point to write to their congressmen and senators, it would do much towards encouraging them to oppose any attempt by the millers and other factions to knock the price down. The corn show of the Crop Improvement Association, arranged for under the direction of the farm crops department of the college, was one of the most pretentious that admirers of improved corn have had the privilege of inspecting.

A New Force in Michigan Agriculture.

With the organization last week at (Continued on page 250).



Kinds of Farm Leases

By John R. Rood

FROM time immemorial agricultural leases have been classified according to the character of the rent reserved, into two classes of leases, viz: black rent and white rent. Black rent is rent payable in crops; white rent is rent payable in silver, or the coin of the realm. Long-term white rent leases proved very disastrous to the lessors in England because of the constantly depreciating purchasing power of the money reserved. A lease to run over a hundred years, and reserving a fair rent at the beginning, of ten shillings, for instance, might at the end of the century scarcely purchase for the lessor accommodations at the hotel for the day the rent accrued. But a rent reserved in kind—six bushels of wheat, or the like—remained a fairly constant amount. Most black rent leases made in this country run for only a year or two, and these considerations are of very small consequence.

In this discussion it is proposed to speak of black rent leases, reserving white rent leases for another occasion.

Partnership Hiring, or Lease.

These leases which are commonly called "Farming on Shares," are quite generally a sort of flying lizard, neither fish, flesh, nor fowl; because the makers of the agreements never had any very definite notion as to what sort of an agreement they were trying to make; and when litigation arises over them, the courts are in great difficulty to ascertain what the intention was, principally for the reason that the parties never had any definite intention in regard to it. For example, the agreement is that one party shall furnish labor and use of team and tools to raise crops on a certain piece of land belonging to another party, and the person furnishing the labor, team and tools, is to have one-half of the produce harvested and the owner of the land one-half.

When this contract comes into litigation, one party claims that it was a partnership agreement by which one was to put in labor and team and tools, another to put in the use of property, and the produce of the venture should be owned jointly. The other party to the agreement contends that instead of being a partnership, it was a contract of hiring, whereby the employer was to pay for the labor performed and the use of machinery and team for two-thirds of the crops produced. Or perhaps the other party would claim that instead of being a partnership agreement, or a contract of employment, it is a lease whereby the lessee agrees to pay to the lessor one-third of the crops raised as rent.

Ownership of the Crops.

Now, it makes all the difference in the world upon the rights of the parties, whether it is a partnership, a contract of employment, or a lease. If it is a partnership, the produce of the venture belongs to the parties jointly and each has the power to sell such

part as the parties contemplated should be sold, and can bind the other by the title so passed, although he could not, as in the case of trading partnership, bind the credit of the other for money borrowed, etc.

In the next place, if it is a contract of employment, the title to the crops is entirely, and only, in the employer, the owner of the land, and the employee has no title to any part of the crops which can be levied upon an execution against him, or which he can bind by any contract of sale which he can make, and no part of the property becomes his until it is actually upon the whole crop to secure this proper division, as against any person having actual notice of the contract.

Again, if instead of being a partnership, or a contract of employment, it is a lease, then the lessee cannot be ousted at the mere whim of the lessor as he could if it were a contract of employment. If it were a contract of employment, then the employer might discharge the employee at any time, for cause or without cause, and remove him and his effects from the premises without notice, providing he could do it without breach of the peace, subject only to liability to an action for damages if the discharge were without justifiable cause. But if it is a lease with rent reserved payable in crops, then the lessor could not oust the tenant without the legal notice to quit and proceedings as in any other case to remove a tenant from possession, and could not get rid of the tenant at all, so long as the lease remained in force, and fully performed by the tenant.

These observations are not made with any design to present every phase of the question which might be involved by litigation arising under the agreement, but merely for the purpose of showing by illustration how confusion, dispute, and litigation, may result from the parties having no definite notion of what sort of agreement they are attempting to draw at the time entered into the contract, and the results which are likely to follow from a person without legal training attempting to be his own lawyer.

Assignments.

One principle holds good in every phase of the agreement, whether it be of partnership, employment, or lease, that the operator cannot substitute another in his place by assignment without the consent of the land owner; and on the other hand, the land owner cannot assign and substitute another in his place if it were a partnership agreement, or a contract of hiring, although he could, if it were a lease.

The conclusion of the whole discussion is this: It is a matter of the first importance that the parties should come to an understanding before they start to draw their agreement whether it shall be a partnership, a contract of employment or a lease; and having arrived at this decision, draw their contract accordingly.



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Back The Better Roads Movement!

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The day of the heavy motor truck is at hand. Its economical use spells good roads. Good roads in turn spell prosperity for the farmer, lower cost of living for the city dweller. Everybody benefits. The laborer is employed; the farmer comes in direct contact with his market; the consumer deals direct with the producer of his food.

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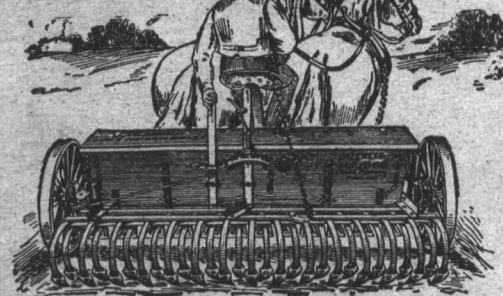
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Powerful on Soft Ground

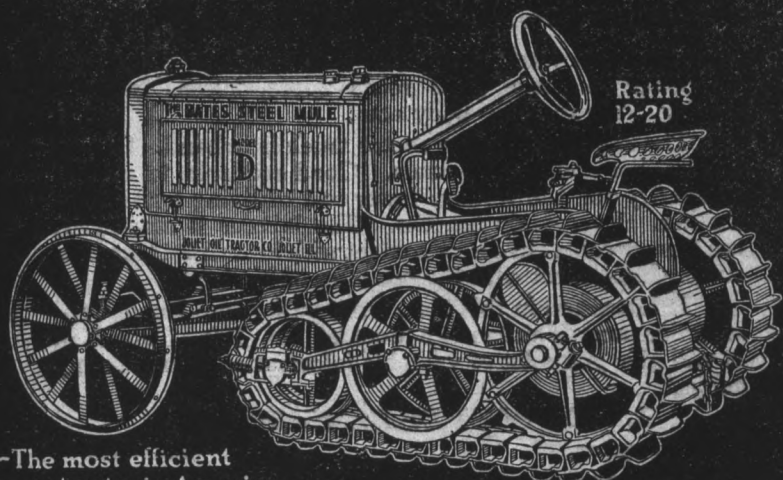
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489 Benton St., Joliet, Illinois

Michigan Joliet Oil Tractor Co.
Distributor
Lansing, Mich.



-The most efficient tractor in America-

R. K. TIRES Are Retreaded Tires

Contain twice as much fabric and as much rubber as ordinary new tires—are cemented and double chain stitched together to make them practically puncture-proof. So durable they take to rough, frozen roads with ease—yet their price is about one-half that of a new tire—and they are guaranteed.

The following are the little prices of our guaranteed tires.

| Size | Price | Size | Price |
|----------|---------|----------|---------|
| 30x3 | \$ 7.00 | 34x4 | \$12.00 |
| 30x3 1-2 | 8.50 | 34x4 1-2 | 13.50 |
| 32x3 1-2 | 9.00 | 35x4 1-2 | 14.00 |
| 33x4 | 11.50 | 36x4 1-2 | 14.50 |

Add \$1.00 to the above for Non-Skid Tire
2 percent off for cash with order.
10 percent deposit required with all C.O.D. orders

R. K. Tire Company
837 No. Broad St. Philadelphia, Pa.

Send for descriptive booklet and price list.

Get Our Silo Book Too

If you want to get some real facts and figures about the strongest, most durable, most useful silo built, don't fail to send for our new, big silo free book that tells about the 25 superior features of **NAPPANEE SILOS**. Guaranteed the most serviceable, convenient and economical silos you can buy. Will pay for themselves in one year. A size to fit any farm. A price to fit any pocketbook. A postal brings our big silo book free.

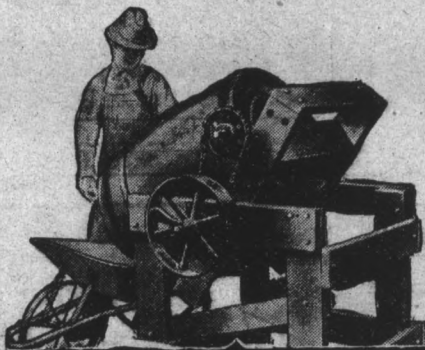
Nappanee Lumber & Mfg. Co.
Box 62
NAPPANEE, IND.

Its FREE

FENCE BARGAINS

Heavily Galvanized Fence. Freight prepaid 42c per rod up. Rubber Roofing \$1.45 per roll. Guaranteed House Paint \$1.75 per gallon. Prices smashed on Plumbing and Heating Supplies. Write for Catalog. Money back if not satisfied.

KOLLER BROTHERS 145 A ROLL
6910 Cedar Ave., CLEVELAND, O.
PLUMBING BARGAINS
ROOFING



PUT THIS CONCRETE MIXER ON YOUR FARM

You can save many times the cost of a Sheldon Farm Concrete Mixer on a few small jobs. What is more, you can do the work when you please, in otherwise idle time. It is made especially for farm use, and will handle large jobs as well as small. With a **SHELDON CONCRETE MIXER**

you can, at lowest possible cost, build your own Concrete Feeding Floors, Foundations, Walks, Posts, Tanks or Silos. Sheldon Mixers mix 3 cubic feet at a batch; have continuous chain drive, clutch pulley, easy tilting discharge, handy dumping lever and sand-proof bearings. No other mixer excels its quality of work. No other mixer approaches its wonderfully low price.

Send for FREE Catalog Today
My catalog fully describes all types of Sheldon Mixers, and gives all of the remarkably low prices. It tells how you can build a Sheldon Mixer yourself, and tells you a lot you ought to know about concrete work. It's FREE. Get your copy today. A postal will bring it.

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NEHAWKA, NEB.

Wade Gasoline Drag Saws save money, musclete time and labor. One man does the work of several men. A few agents wanted. Agt., implement men preferred.
S. N. CASTLE & CO.
Agents For The State of Michigan
Look Box 102, Constantine, Michigan.



A Great Week at M. A. C.

(Continued from page 248).

East Lansing of the Michigan Farm Bureau, a new force made its appearance in the agricultural affairs of Michigan which observers of events in the world of farming expect will become one of the most powerful influences within the state in supporting and furthering the cause of tillers of the soil. While the Farmers' Week meetings were in progress at M. A. C., delegates from farm bureaus in sixty counties met and formed the new association, which its sponsors count upon to do for Michigan as a whole, what the smaller bureaus are accomplishing in the various counties. In the course of two days of stirring meetings the delegates laid the foundation and erected the framework for a state bureau binding the individual county farm bureaus into one for the furtherance of their common interests.

The individuals assisting at the birth of the lusty youngster, who almost overnight promises to assume a position of leadership—were two hundred of Michigan's most esteemed farmers, (such men as Roland Morrill, of Benton Harbor; F. H. Vandenberg, of Marquette; Fred Cornair, of Saginaw, and L. Whitney Watkins, of Manchester).

The aim of the new organization, as set forth in its constitution, "shall be to encourage, aid and correlate the efforts of the county farm bureaus and to provide ways and means for concerted action in the solution of agricultural problems of state and national scope."

There was some misunderstanding of the real objects and motives of the proposed organization when the meeting opened, but this was quickly dispelled by Dr. Eben Mumford, of Michigan Agricultural College.

"This is not intended to be a college association in any sense," said Doctor Mumford. "What we desire to assist in bringing about is the formation of an organization by farmers themselves for the interests of farmers, that will do for the state as a whole, what the county farm bureaus do for the individual counties."

Following the adoption of a constitution, Roland Morrill, of Benton Harbor, was elected president of the new Michigan Farm Bureau.

"We farmers are beginning to learn," declared President Morrill, "that in order to gain a hearing with the government and with the people we must gain access to legislative bodies and to those agencies that work with the farmer. Of recent years we have seen the development by the federal department of agriculture and by the Michigan Agricultural College, of an extension service for carrying certain needful information to the farmer, and for doing much important work for the improvement of farming. If we wish to make the most use of these services, and have these services in turn do for us the things we most want done, we must be in a position to reach the ear of the men who direct these enterprises."

"We cannot do this very effectively as individuals. We must act together and decide what it is we need in Michigan. Then we can meet with extension leaders and map out the lines of activity of most advantage to the farmer—and that is what we propose to do."

"We propose, also, to work towards the unification of all the agricultural forces of the state. These should be cooperators and not competitors. We are not a labor union, but among labor unions we see something that as farm-

ers we can well afford to emulate. There are scores of different varieties of labor unions—plumbers, carpenters, machinists, garment workers, printers—all independent. But are they competitors? Not at all. All are united in the American Federation of Labor for the furtherance of their mutual interests. That is what we must have among farmers of Michigan, and that is the goal we propose to strive towards."

"We have a vast number of problems that are common to all of us. We desire better marketing arrangements; there are inter-county drainage problems to be solved; the extinction of scrub sires is something we must work towards, and if we will put our shoulders to the wheel and act in concert we can win results."

"We hope to make this state farm bureau do for Michigan what the county bureaus are doing for the various counties, only more so."

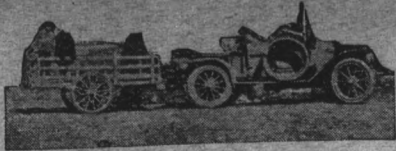
The state body has been divided into a number of departments for the carrying out of its program. One department will endeavor to bring about some kind of common agreement between such bodies as the Gleaners, Grange and Farmers' Clubs, and such special bodies as the Milk Producers' Association, the Potato Growers' Association, etc., on matters of common interest to all. A second department will look up soils question in the state; another matters relating to farm crops; a third fruits and vegetables; a fourth live stock and poultry; a fifth dairying; another, questions of buying and selling; still another matters of farm management; and eighth, boys' and girls' club work; a tenth, problems of the farm home; an eleventh, legislative matters, and the twelfth, publicity.

A prominent farmer has been elected to head each of the departments in the new association (all without compensation of any kind), and each of these will choose two associates to work with him. These will constitute an executive committee, and this will make the recommendation of the things it believes will be best for the agricultural interests of Michigan.

Every member of a farm bureau in the state—which means every farmer in the state—is eligible to membership in the new body, without the payment of other dues than those paid to the county farm bureaus. The whole organization has been created on a strictly business basis.

The officers elected were as follows: President, Roland Morrill, Benton Harbor; first vice-president, Ray Potts, Macomb county; second vice-president, F. H. Vandenberg, Marquette county; treasurer, Fred Van Orsdahl, St. Joseph county; secretary, C. A. Bingham, Oakland county; vice-presidents, Fred Cornair, Saginaw county, farm crops; J. P. Munson, Kent county, fruits and vegetables; A. E. Illenden, Lenawee county, live stock; Alfred Hendrickson, Oceana county, dairying; James Nicol, Allegan county, department of buying and selling; Austin Cowles, of Clinton county, farm management; Mrs. John C. Ketcham, Barry county, boys' and girls' club work; Miss Jennie Buell, Lenawee county, home economics; Arlie Hopkins, Manistee county, legislative department; Earl R. Trangmar, East Lansing, publicity.

Meetings of the executive committee of the bureau will be conducted at various times during the year. The secretary will be a paid employee of the association.



More Service for Farm Machinery

CONSERVATION is the watch-word of the United States today. Conservation has always been the aim on a certain farm in Berrien county. A description of one or two little "saving" devices which have been in satisfactory use for the past five years may be of some assistance to those who are now, more than ever, feeling the need of getting more service out of their farm machinery.

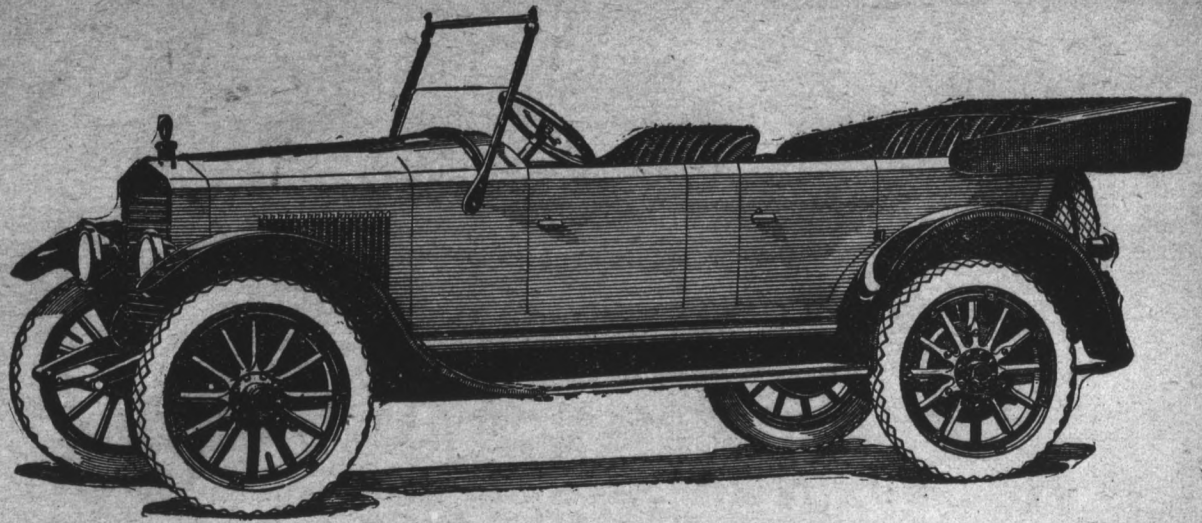
In the center of the engine house on this particular farm is the gasoline engine, to the left, the air-compressor tank and the dynamo, the corn-sheller and feed grinder on the right. At the extreme left is the well-pit. On the opposite side of the room are the storage batteries and a work-bench.

The five horse-power engine is run for half an hour night and morning. It is capable of filling the air-compressor, running the dynamo, which charges the batteries for a thirty-five-light electric plant, and shelling and grinding corn all at the same time. The air-compressor furnishes the motive power for an air-pump in the six-inch well, supplying fresh water, direct from the well, for all parts of the farm, including three residences. In this system there are four fully equipped bathrooms, three kitchen sinks, two laundry tubs, and various out-door faucets for lawn-sprinkling. Four residences, the barn, engine room and henhouse are electrically lighted. The owner's house is installed with electric iron and washing machine. The motor for the latter also runs the churn.

The well, which is over ninety feet deep, overflows during the greater part of the year. And at all times, the exhaust from the air-pump throws a small stream of water into the pit. This surplus water is piped to the henhouse, where it flows through a cement trough. This trough is built along the front of the house, just beneath the windows, and is of proper height to make it easily accessible for the hens. It runs the entire length of the fifty-six-foot house and is connected at the farther end with a pipe which carries the water off beyond the yards. A stiff brush is used to clean the trough, making it possible for the hens to have plenty of fresh water at all times without any trouble to the poultry-keeper.

A galvanized tank is set in front of the engine. This was a hot-water tank, discarded because of a small leak. During the winter the tank is connected with the engine in such a manner that the exhaust enters it below, leaves it at the top and passes through a pipe leading along the ceiling, down the wall and thence through the wall to the rim of the horse-trough outside. There the pipe is connected with a rectangular frame of gas pipe resting on the floor of the trough. An elbow over the rim permits the exhaust to escape into the air. When the engine is running there is sufficient heat generated by the exhaust and radiated from the tank to raise the temperature of the room to a degree which prevents the storage batteries from freezing, and also warms the drinking water for the cattle. By this simple device a waste product is made of practical use—which is carrying "conservation" to its highest efficiency. H. G. R.

The more power a man can control the less help he will have to hire and the more work he can do in a shorter space of time and be able to follow scientific tillage methods.



Have You Ridden In The Essex?

It Is The New Moderate
Priced Fine Car—Price **\$1395**

The Essex must have made a hundred thousand friends since January 16th, the day on which it was first shown in all parts of the country by hundreds of dealers.

It is the new light, moderate priced car that has the endurance, comfort and rich completeness that you expect only in large and costly automobiles.

Most of the hundreds of dealers who will sell the Essex have been doing business with us for a long time. They know the kind of cars we build.

Under those circumstances they were not as skeptical as they might otherwise have been about a car of which no details were given. But even if they had felt uncertain because of the newness of the Essex, all doubt was removed as soon as they had ridden in it.

That is a distinctive characteristic of the Essex. It is remarked by nearly everyone. Pride of ownership does not alone spring from beauty and richness of detail and finish. It is mechanical as well as optical. Something more than the sense of sight must be gratified.

**A Light Car Anybody
Will Be Proud To Own**

The Essex is beautiful to behold. The very feel of the

comfortable cushions, with their high backs, associates the moderate priced Essex with costly cars. The owner need never apologize for either its appearance or performance. Squeaks do not develop, as in other cars of its type, because an unusually heavy frame assures absolute rigidity. Body bolts cannot work loose. The finish will long retain its freshness.

Ride In The Essex Over Rough Roads

Every dealer is demonstrating the Essex over the roughest pavements in his locality. It reveals a new distinctive motor car quality. You might easily think you are in a long wheelbase car weighing two or more tons. This feature alone will appeal to you with more than ordinary interest.

The Essex motor deserves your special attention. Note how it is arranged to get the maximum power from every drop of gasoline. See how stable it is and why it is free from the need of tinkering and attention. The Essex has stability. It has quality as well as lightness; endurance and comfort as well as a low first cost. These things will be apparent when you see and ride in the Essex.



Seed Corn!

Northern Grown Early Maturing Varieties

Adapted to the climatic conditions and short seasons of Michigan and other northern states. Your corn crop is important. Make it profitable by planting Isbell's improved, high-yielding varieties. You will be sure to harvest a good crop of sound, ripe Corn before frost. Write for Isbell 1919 Seed Catalog and FREE Seed Corn Samples. We specialize in the following leading sorts and many other varieties:

Isbell's First Choice—the best early yellow dent corn.
Silver King—the prize winner white dent.
Northwestern Dent—the earliest dent corn.
Michigan Yellow Dent—a sure cropper.
White Cap Yellow Dent—for the lighter soils.
Flint Corn and Ensilage Corn.

Isbell's Seeds
As They Grow Their Fame Grows

S. M. Isbell & Co., 1106 Mechanic St., Jackson, Mich.



LA PLANT CHOATE STUMP PULLER
Land Clearing Book M FREE, also Blue Prints on Stump Pulling, Write 851 EAST LACK CT LA PLANT-CHOATE MFG. CO. CEDAR RAPIDS, IOWA

TIMOTHY \$4.50 PER TON
Save money—Buy direct from grower. New cleaned Iowa Timothy, free from noxious weeds. Guaranteed satisfactory or money refunded. Low prices on Clover and grass seeds. Big catalog. Samples free. Write for advance seeds. A. A. BERRY SEED CO., Box 331 CLARINDA, IOWA

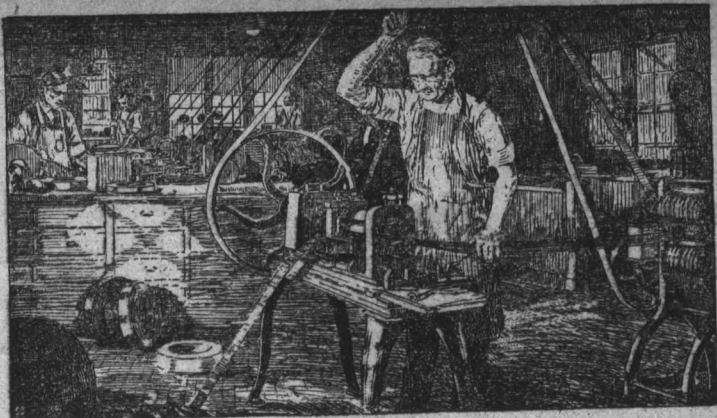
TIMOTHY Wholesale Prices
Extraordinary big values. New tested re-cleaned seed. Quality guaranteed. Sold subject to your approval. Lowest prices on Sweet Clover, Alsike, Blue Grass, Clover, Alfalfa and mixed grass and all field seeds. Samples, prices and big valuable profit-sharing Seed Guide Free. AMERICAN MUTUAL SEED CO., Dept. 332, CHICAGO, ILLINOIS

SCOTT'S FIELD SEEDS
Our seeds are selected and cleaned to be WEEDLESS and free from dead grains. They will go much farther than ordinary field seeds, nearly always adding enough to the crop to pay for themselves. Samples and catalogue including "How to Know Good Seed" free. Write today. O. M. SCOTT & SONS CO. 264 Sixth St., Marysville, Ohio

A Grand Stock of all kinds of fruit trees berry plants, grapes, shrubs vines, roses, the choicest varieties. Also seed corn and garden seeds. Prices right. Catalog free. ERNST NURSERIES, Box 2, Eaton, Ohio.

WALTHAM THE SCIENTIFICALLY BUILT WATCH

AND THE FOREIGN BUILT WATCH



The
Main
Spring



Pendant
and Bow
Patented



Colonial A

Extremely thin at no sacrifice of accuracy. 21 and 19 jewels \$125 to \$240 or more depending upon the case

THE watch presents the same elements of mystery that once surrounded the automobile. Now, nearly every one knows something about a motor car's mechanism. It is to make the "works" of the watch an "open book" that these Waltham advertisements are designed—to instruct and protect you in buying a watch.

The mainspring is the power of a watch. It is a piece of specially hardened and tempered steel, about twenty inches long, coiled in a barrel between the upper and lower plates of the movement.

It is subjected to varying conditions of service in temperature and tension. The variation in thickness of two one-thousandths of an inch, or lack of uniformity in hardening and tempering, will decide the time-keeping quality of your watch.

The Waltham Watch Company produces fourteen tons of mainsprings every year. It is the largest mainspring maker in the world. The Waltham mainspring is cut from long rolls of steel of uniform and special quality, then tempered in resilient form by a secret process, and is placed in the watch coiled into a hardened and tempered steel barrel. This is exclusively a Waltham practice.

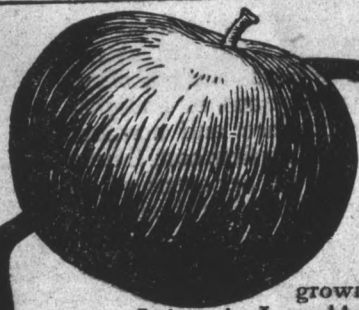
The foreign mainspring is not only cut in short lengths, but hardened and tempered in short lengths—therefore every foreign mainspring is an individual spring of uncertain temper, making the watch a liability.

The foreign maker of watch movements buys his springs in the open market. That is one reason why the imported watch gives such varying service. An inferior mainspring means an inferior watch—no matter how much you pay for it.

The uniform superiority of the Waltham mainspring is one of the reasons why the horological experts of the leading nations of five continents chose Waltham in preference to watches of any other make.

WALTHAM

THE WORLD'S WATCH OVER TIME



"Finest Apples I Ever Grew"

"The finest apples I have ever grown were sprayed with Pyrox. One year I thought I would save a little in the price, and was talked into trying 'something just as good,' but never again, for the crop that year was far from being as good as when I used Pyrox."—C. H. STOKES, Medford, N. J.
If you want the highest quality fruit, spray with

Pyrox

"The Spray That Adds to Your Profits"

Pyrox is a smooth, creamy paste which is all ready to use by simply mixing with cold water. It sticks like paint and protects the fruit throughout the growing season. Pyrox is just as good for potatoes, tomatoes, currants, strawberries, etc., as it is for apples.

Get this Pyrox Crop Book. It tells how to protect your crops against bugs, worms and disease. Send for a copy today. A postal card will bring it.

Bowker Insecticide Company

43-E Chatham St., Boston

1005 Fidelity Bldg., Baltimore



Tix-Ton-Mix

Keeps away Worms
and Ticks

with salt the year around keeps flock healthy and free from stomach worms and ticks. A \$5.00 box makes \$60.00 worth of medicated salt—saves you big money—A \$2.00 size box of "TIX-TON MIX" by parcel post will medicate a barrel of salt.

Write for club offer—booklet on "Nutrition and Care of Sheep"
PARSONS CHEMICAL WORKS, Grand Lodge, Michigan



Things Learned in the Strawberry Patch

STRAWBERRY growing would offer an attractive field of operation to those looking for highly paying propositions were it not for the many obstacles to be encountered. Not only are there insects and fungous pests to be dealt with, but untoward weather conditions often shatter the brightest prospects when hope's fulfillment seems within our grasp. It may be an untimely frost that comes in a night, leaving blackened desolation in its wake, or cold cloudy weather, or copious rains, accompanied by low temperature, preventing proper pollination, resulting in imperfect worthless fruit. Or again, it may be excessive rains during the spring preventing normal growth and development in the plants. To be sure adequate drainage will in a large measure do away with this type of injury, but not altogether, for it is possible for precipitation to be so great as to maintain an over-saturated condition of soil even with a perfect system of tile drains working to the fullest capacity.

This type of injury that worked against our realization upon a full crop some seasons. In 1916 the lower end of the bed was all but ruined and the upper end, though several feet above the water level, was considerably injured by the excessive rains. Nor was this all; for rains and low temperature during bloom prevented pollination. When the season of ripened fruit was at hand, fruit did not materialize, and this was true also, even on sandy soils having good soil drainage.

When the consumer is paying sixteen cents a quart for strawberries, he possibly envies the grower who, he thinks, is raking in the wealth in handfuls. But this is not necessarily the case. Indeed! it is rarely if ever so; for it is a short supply that creates abnormal or high values, and of what use are high values to the grower if there is a short crop? There is a great deal more in it for the grower with a bumper crop and values round ten cents a quart, than with a short crop and values at sixteen cents; and there is far greater pleasure in it for him, too. I am speaking from a personal viewpoint here.

The picker, too, gets more out of the harvest when the crop is large. When the fruit in its perfection lays in clusters and in heaps, the quart box is soon filled; and it is great fun to gather it, too. But when the clusters are small and the fruit inferior the box fills slowly and the work soon becomes tedious. Now, if the grower had the making of the weather there would be no difficulty in securing large crops, but as such is not the case we have to take what chance gives us.

Skill and care can be employed in setting the plants, and caring for them through the extended period incident to the plant's growth and development. Knowledge and skill can provide a rich soil and well prepared seed bed. Neither is it difficult to maintain the proper degree of soil tilth and moisture when one understands the principles underlying these conditions. One may even provide a fairly good substitute for precipitation during the fruiting season; but present knowledge and skill cannot provide the proper temperature and amount of sunshine necessary during the period of bloom and fruitage; nor can it ward off excessive precipitation during this period.

Following excessive soil saturation plants appear more susceptible to the ills that accompany deficient soil moisture. Having become accustomed, in a measure, to the greater supply they appear to suffer more greatly under evaporation and drying out of the soil. Excessive over-saturation tends to pack the soil so that when precipitation is withheld, the soil bakes.

Our strawberry bed was a comparatively small affair the present season and located at a distance from our irrigating outfit; so the plants were tided over a short drouth by drawing water in barrels and pouring it along between the twin rows from pails. Irrigating in this way is mighty slow, but it kept the plants going until a good shower came.

The thing that helped us out the most though was the heavy mulch that protected the entire surface. Had the plants not had the help of this protection the crop would have been of little value. Strawberry plants go down very quickly under a drouth when heavily loaded with ripening fruit. Especially is this true of the Warfield. The season that preceded the one just past was also unfavorable to a full strawberry crop. As it doesn't seem probable that we will have three poor seasons in succession we have strong hopes that next season the weather man will be with us. And we have a fine large field to realize upon if this proves to be the case.

M. N. EDGERTON.

PREDATORY VARMINTS.

ANY political economist will agree with the statement that governments should shear, not skin, their people. Americans, reading the new revenue bill, feel that they will be skinned; but that's because they will be shorn so close.

But our amiable Uncle Sam does take off the hide sometimes and puts the proceeds in his treasury. Last year he got \$96,000 by skinning predatory animals—"varmints"—as stock and range men call them. Wolves, coyotes, mountain lions, and bears annually destroy more than \$12,000,000 worth of live stock. In one year a single wolf, before he was captured, ran up a bill of \$3,000 for steaks and chops. The government met this invasion by organizing a permanent force of expert trappers and hunters, who have all the fun of hunting, and get paid for it. One season's bag included 543 wolves and 19,176 coyotes, besides other unnamable animals. These varmints' skins are sold and proceeds put right alongside that from the income-tax wool-pulling.

Termination of the British sale of accumulated army horses last week relieved the Chicago market of a heavy load. The sale was successful, and many farmers purchased good bargains in horses and mules. The present trade on the open market is of fairly large proportions, with southern buyers wanting mares weighing around 950 to 1000 pounds at \$95@150 per head, the highest-priced ones being easiest sold. The drafter trade was on a \$200 to \$300 basis. The southern demand for mules exceeded the supply, and dealers made substantial profits. Little mare mules are worth from \$150 to \$175, and spans of mules are selling at \$400 to \$500.



UNHULLED SWEET CLOVER SEED.

In threshing our sweet clover it was impossible to hull the greater share of seed. Will the unhulled seed grow? If so, when should it be sowed?

Gladwin Co.

McK Gros.

It is the judgment of the majority of people who have made a success in growing sweet clover that it is better to sow the seed that is unhulled rather than the hulled seed. I know of people who would not buy the hulled seed. It is a little bit more particular operation to sow the unhulled seed, that is, to get even distribution of the right quantities, but you almost invariably get a better stand and a larger per cent of the seed seems to germinate and do well.

ENSILOING BEET TOPS.

Next year I expect to have enough feed to put one carload of steers through the whole winter, beginning in the fall. Or by waiting until the winter is half gone I could feed two carloads. This plan would give me twice as many cattle in the spring. However, I expect to raise seventeen acres of sugar beets and these tops must be fed up during the fall and first half of the winter unless they are put in the silo. If put in the silo they would necessarily have to be put on top of the corn silage and stay there until February 1 before I commenced to feed them. My question is this: Do beet tops make good silage and will they keep until the latter part of the winter? Would you recommend doing it this way or would it be better to feed them up out of the field in fall?

Ionia Co.

H. C. P.

Beet tops keep well in the silo even without cutting them up or crushing them. Put in the whole top as it is cut from the beet. It will settle down, form a compact mass, exclude the air and will keep almost indefinitely except that on top there will be considerable loss. The beet tops are so coarse that the air penetrates on top for a foot or more and this will be all waste. They will rot down until the silo is sealed over, then all decomposition stops.

Beet tops can be fed with the least expense direct from the field. It costs considerable to put them into the silo, but what cannot be consumed before cold weather comes can be preserved by ensiling. It will be all right to put the beet tops on top of the corn silage. The only question here is one of labor in elevating the beet tops.

If you would get from the factory a carload of wet pulp and put this on top of your beet tops as soon as you have them in the silo you will prevent all loss because the wet pulp will exclude all air from the beet tops.

FERTILIZER FOR OATS AND CORN.

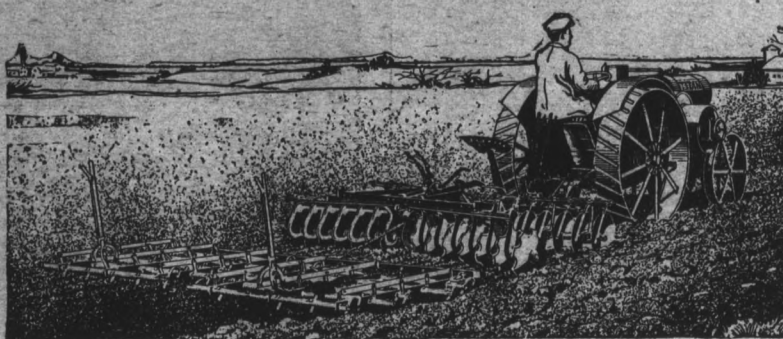
Please advise me on the kind of fertilizer for oats and corn, how much to sow and where to buy it to the best advantage.

L. J. T.

On most of our Michigan soils acid phosphate gives the best results for the money. This simply shows that this element of fertility, phosphorus, is deficient in our soils, and the war has proved that we were undoubtedly using more potash than there was any use of. In many instances we get practically as good results without the potash; the phosphorus always gives good results.

If the soil is somewhat run down and hasn't had any stable manure for some time or there hasn't been any clover sod plowed down, then undoubtedly it would pay to use a little nitrogen, but a farmer ought to have such a rotation of crops that would furnish him with the required amount of nitrogen. If you need nitrogen, a fertilizer containing two per cent ammonia and ten or twelve per cent of phosphoric acid would be good.

C. C. L.



International Tillage Brings Bigger Yields and Better Grades

MANY are the uses, and great is the value of a good disk harrow. More than any other farm tool, its proper use takes the gamble out of crop raising. The perfect seed bed that causes quick, strong germination of the seed, rapid growth of the plant, and even maturing of the crop, cannot be made without a disk harrow. A good one costs so little, and plays such an important part in determining the yield and value of your crops, that its purchase deserves really serious consideration.

Knowing the character and condition of your soil as you do, you will know whether to buy a two or three-lever harrow, a tandem, or one of our new leverless tractor disks, but, whichever style is best for your work, you will find a high-grade, up-to-date harrow of that style in the International line, and of a size, suitable to your power equipment. We have sold disk harrows for years, but never was the line so complete, or of such high quality, as the line we offer for 1919. The local dealer will explain the value of the many features we have not space to mention here.

Other useful implements in this line, each built for its own special work, are open end, closed end, and flexible peg-tooth harrows, spring-tooth harrows with single and double end teeth, and one-horse cultivators with every kind of tooth and shovel equipment. These, too, can be seen at the local dealer's place of business, or we will send catalogues on request.

Glance over the list of machines in this advertisement and write us for full particulars about any in which you may be interested.

International Harvester Company of America

CHICAGO

(Incorporated)

U S A

Evans Potato Planters



Plain and fertilizer styles. Double drive. Vibrating feed hopper bottom. Constructed with two feeding channels, insuring an even and steady flow of potatoes. Adjustable feed gates regulate the flow of seed into the picker basin. The Evans will drop seed 10, 12, 14, 16, 18, 20, 28, or 36 inches apart. The driver can see the potatoes dropping, which is a great advantage. Runner or double disc furrow openers.

Five to Eight Acres a Day

One man or a boy can operate the Evans. No other potato planter can compare with the Evans for lightness of draft. Fertilizer attachment is a positive force feed. The device can be thrown in and out of gear while the machine is in motion. Fertilizer may be deposited on both sides of the furrow by means of a spreader, which is furnished regularly with each planter. Easily put on a plain machine.

Send for the Evans Potato Planter Folder. Your dealer will be glad to show and explain to you the many exclusive patented features not found on any other planter.

The American Seeding-Machine Co., Inc. - Springfield, Ohio



USE NATCO DRAIN TILE

Farm drainage demands durable tile. Our drain tile are made of the best Ohio clay, thoroughly hard burned—everlasting. You don't have to dig 'em up to be replaced every few years. Write for prices. Sold in carload lots. We are also manufacturers of the famous NATCO Silo, NATCO Corn Crib, NATCO Building Tile and NATCO Sewer Pipe. Send for the new edition of our book, "Natco on the Farm".

National Fire Proofing Company,

1115 Fulton Building, Pittsburgh, Pa.

The Full Line of International Harvester Quality Machines

Grain Harvesting Machines

Binders Push Binders
Headers Rice Binders
Harvester-Threshers Reapers
Shockers Threshers

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Disk Harrows
Tractor Harrows
Spring-Tooth Harrows
Peg-Tooth Harrows
Orchard Harrows Cultivators

Planting and Seeding Machines

Corn Planters Corn Drills
Grain Drills Broadcast Seeders
Alfalfa and Grass Seed Drills
Fertilizer and Lime Sowers

Haying Machines

Mowers Side Delivery Rakes
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Baling Presses Rakes
Sweep Rakes Stackers
Comb. Sweep Rakes & Stackers
Bunchers

Belt Machines

Ensilage Cutters Corn Shellers
Huskers and Shredders
Hay Presses Stone Burr Mills
Threshers Feed Grinders
Cream Separators

Power Machines

Kerosene Engines
Gasoline Engines
Kerosene Tractors
Motor Trucks
Motor Cultivators

Corn Machines

Planters Motor Cultivators
Drills Ensilage Cutters
Cultivators Binders Pickers
Shellers Husker-Shredders

Dairy Equipment

Cream Separators (Hand)
Cream Separators (Belted)
Kerosene Engines
Motor Trucks Gasoline Engines

Other Farm Equipment

Manure Spreaders
Straw Spreading Attachment
Farm Wagons Stalk Cutters
Farm Trucks Knife Grinders
Tractor Hitches Binder Twine

GOOD SEEDS

GOOD AS CAN BE GROWN

Prices Below All Others

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

Big Catalog FREE

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

CLOVER

Buyers Save Big Money.

Seed \$3.00 per Bu. lower when we bought our supply. Our prices ridiculously low. The big saving to you is due to our early purchase. Every lot tested, pure Illinois grown, High grade Buckthorn free. Guaranteed satisfactory or money refunded. Crop short. Don't wait for higher prices. Our big bargains in seed will astonish you. Have Alfalfa \$3.50 per Bu. Timothy \$4.75; Sweet Clover \$5.25 and all Grass Seed at greatly reduced prices. We can save you money and give you quick service. Write today for free samples, low prices and big money saving Seed Guide. All Free. Don't delay. American Mutual Seed Co., Dept. 431 Chicago

SEED CORN

12 varieties, sack gathered, Northern grown, shipped upon approval. Our 112-E holds world's record yield for Northern variety. Free cir. C. H. & J. Graves, Antwerp, O.

Seed Corn 5,000 Extra selected, sure to bushels grow. 20

rieties. Highest yields. Best show corn. Also seed oats, barley, alfalfa, spring wheat. 1200 acres. Sample on request. Write today for catalog. W. N. SCARFF & SONS, New Carlisle, Ohio

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FURNACE HEAT *without* PIPES

When Marconi announced that he could telegraph without wires, using the air to carry his message, he was considered an impractical dreamer. Yet to-day wireless messages are encircling the globe to the great benefit and profit of humanity.

When we announced that we had perfected a furnace which would heat any home up to eighteen rooms through one register without the use of pipes to carry the heat, people would not believe it; but to-day more than fifty thousand homes in America are heated better, more uniformly and more economically than ever before, by the



The Caloric is also heating churches, halls, factories and stores. It does this at a saving of one third to one-half the amount of fuel formerly required, be it coal, coke, wood, gas or lignite. Easily installed in new or old buildings, frequently in one day and without interfering with your present heating arrangements.

The Caloric is sold and fully guaranteed by thousands of leading dealers. Let us send you our interesting literature with letters from satisfied users, come in your section. Send us your name to-day—a postcard will do.

THE MONITOR STOVE COMPANY

Established 1819—A Century of Service—"Pioneers of Pipeless Heating"

2429 Woodrow St.

Cincinnati, Ohio

Immediate shipment made from Burlington, Ia., Green Bay, Wis., Harrisburg, Pa., Minneapolis, Minn., Omaha, Neb., Lansing, Mich., Salt Lake City, Utah, Spokane, Wash., Seattle, Wash., Aurora, Ill., Baltimore, Md., Columbus, Ohio, Louisville, Ky., New Haven, Conn., Newark, N. J., Peoria, Ill., Philadelphia, Pa.



General View of First Annual Macomb County Farm Bureau Corn Show
Made up of Exhibits from the Entire County, Comprising 140 Entries.

Macomb Farmers' Corn Show

DURING the year just passed the need of standardization of crops has been brought home with considerable force.

Prices have been stabilized on products without a great deal of effort toward stabilizing the product itself, and this has resulted in considerable criticism from both factions, the producer and the consumer. The old idea of production was to create two blades of grass where one grew before, without due regard for the kind of grass, which was instilled into the soil, and it took time and loss of money before the American farmer awoke to the fact that it was not so much the question of production, as it was a standard product thrust upon a stable market, and in order to create a stable market a standard product was necessary, not for one man nor one community, but county and state-wide standardization begins to take definite form and assume true relation in American agriculture.

In looking over the corn situation of our county, the idea of a lack of definite varieties of corn was emphasized on every hand, and while a great deal of splendid corn is raised, it occurred to us that if the variety could be found which was best adapted to our condition and which would give the maximum yield, and every man in the county raise that standard variety, that we would be able to offer assistance in the very near future, as a pure-bred seed corn county.

Carrying Idea Home.

To get the idea before every man in the county is a big undertaking, and in order to carry out this plan, the means of comparison will probably give quicker returns, than any other method. It gives the individual, who knows his corn is the very best in the county, an opportunity to see what someone else is doing, who lives ten or twenty miles away; in other words it makes what has heretofore been a forty-acre problem one of county-wide

importance, and when the county becomes unified, and begins to think constructively along one line, and the minds of from three to four thousand men begin to think collectively instead of individually, the most gigantic problem will soon melt into a mere atom.

Annual Event Necessary.

We consider that the first three years of our efforts will be a gradual weeding out of varieties, which add nothing to the county's welfare along corn breeding lines, and we also feel sure that it will be that long at least before we can begin to offer prizes for variety breeding. If we are successful in creating or finding the corn, which is adapted to our section in that period certainly our time and energy has been well spent.

It has been a noticeable fact that we, as counties of our state, are continually purchasing corn for feed, and corn for seed from other sections, this in itself has and will hold back any opportunity for real constructive work. Any county, which has soils and climatic conditions especially adapted to the growing of a staple crop like corn, and does not begin to supply its own demands, must do one of the two things at the present time, either import the product from corn-growing sections at an exorbitant price, and purchase other concentrates which are more costly, or go without and continue in the same rut that has characterized agriculture for the last few years.

Men have become so used to asking

themselves the question in the spring, as to whether it would be a good corn year or not, that the whole situation has become a big interrogation mark in some of Michigan's best counties, and as a result they have neglected to look to the vital factors of the situation, and those are the varieties, the plant, the ear and the kernel.

Corn Breeding Difficult.

The art of breeding corn is one of (Continued on page 271).

**GREATER
PRODUCTION
PER COW**

How Dairymen Can Get Extra Dollars

Greater production is the need of the hour—greater and more efficient production per man, per dollar. For dairymen, the urgent cry is "Greater production per cow."

The efficiency of your cows in making milk depends on the feed. And the feed that will make more milk without increasing the cost of production is the efficient feed—the feed that gives the dairyman extra profits.

International Special Dairy Feed Increases the Milk Flow—Cuts the Cost

This feed ranks all others as the leading efficiency feed. It has earned the commendation of dairy experts after thorough tests. It has won the praise of its increasing thousands of users. In fact, its record since the beginning has completely justified the confidence the International mills placed in it in establishing it as the first feed guaranteed to make more milk.

TRY A TON!—ORDER TODAY

The leading feed dealers in most communities are most likely to have International Special Dairy Feed on hand. Go to your dealer and order a supply. Find out for yourself why we are able to guarantee it.

If there is no International dealer near you, write us direct.

International Sugar Feed Co.
Minneapolis, Minnesota

Also manufacturers of International Ready Ration—a guaranteed, ready mixed dairy feed.



Some of the Winners of the First Annual Macomb County Farm Bureau Corn Show. From left to right: Fred K. Miller, Mt. Clemens; Fred'ck Bush, Warren; J. Melon Reed, Warren; Henry Flue, Romeo; George True, Armada; E. A. Schoof, Romeo; John Crumie, Romeo; Edward Eckley, Romeo. Henry Flue, Romeo, winner of sweepstakes over all in the ten ear lot.



Feeding Rape and Mangels

I am interested in raising mangel-wurzels and rape for hogs and sheep. Would you give me some information in regard to planting, handling and feeding these crops, and how to manage hogs and sheep so that these crops will help out on the feed bills?

Jackson Co. H. W. H.

Mangel-wurzels are an excellent feed for hogs and sheep, especially during the winter months when other kinds of succulent feed are scarce. Plow the land deeply and prepare the seed-bed by repeated discing and harrowing. The seed of mangels germinates slowly and the young plants grow slowly at first. It is, therefore, very important to have the bed free from weeds before sowing the seed. It is impossible to regulate the seeding so that thinning the plants in the rows may be avoided. The rows should be from twenty-eight to thirty inches apart to permit of cultivation. About ten or twelve pounds of seed is sufficient for an acre. Cover the seed about one inch deep. Mangel seed should be sown as early in the spring as the weather will permit.

Cultivation consists of thinning the plants to from eight inches to one foot in the rows and further cultivation to keep down weeds and keep the soil loose and moist.

Rape thrives best in a moist, rich soil containing an abundant supply of organic matter. It is a gross feeder and capable of making a wonderful growth on any soil where conditions are favorable. In Michigan rape is used almost exclusively as a pasture crop for sheep and hogs. Animals usually do not relish rape at first, but are very fond of it after they acquire a taste for it.

Rape may be seeded alone or with other crops. When seeded alone prepare a fine seed-bed and seed any time

during the spring or early summer according to the time the pasture is desired. Rape is a rapid growing crop and is usually ready for pasture in from ten to twelve weeks after the time of seeding. If pasture is desired throughout the season, you can supply it by successive seedings a few weeks apart. When broadcasted, sow four or five pounds of seed per acre, and when drilled in rows twenty-eight to thirty inches, two or three pounds of seed per acre is sufficient. As a rule rape seeded in rows produces more good feed and furnishes more suitable conditions to graze without trampling down the growing plants. When planted in rows the early growth of the plants may be hastened by cultivation.

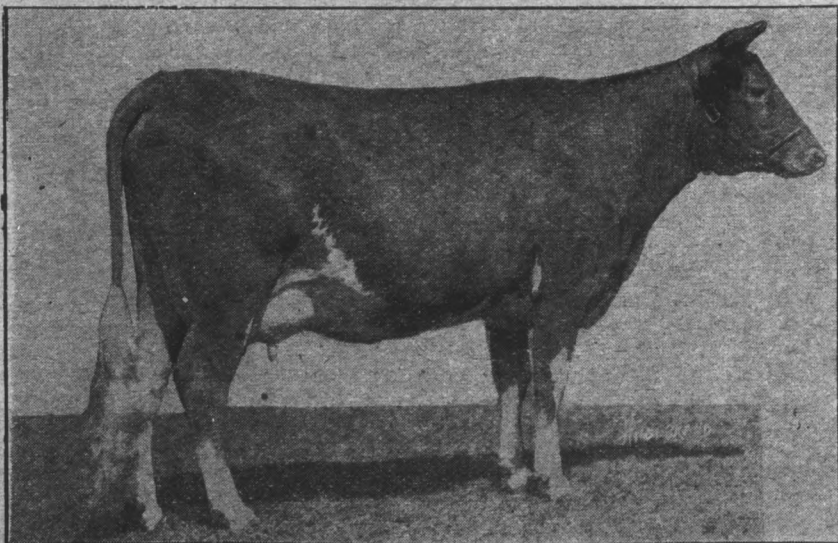
Many growers seed rape with small grain crops, but when grown for grazing for sheep and hogs there is no advantage in doing this unless the fields are properly fenced. Seeding rape in the corn field at the last cultivation and hogging down the corn and rape crops saves a lot of labor in the fall, and makes a very desirable ration for fattening hogs. Lambs, also, thrive exceedingly well when they have a corn and rape field to run in during the fall months.

W. M. K.

SHEEPMEN ORGANIZE TO PROTECT INTERESTS.

The Kalamazoo County Sheep Owners' Association have employed a special deputy sheriff to make a thorough canvass of the county and search out every dog on which tax is not paid by February 1, and the association proposes not only to apprehend the unlicensed dog but also to cause the arrest of every owner of a dog who neglects or refuses to pay the tax.

A Guernsey Champion



Record: 13288.4 lbs. of Milk; 746.23 lbs. of Butter-fat.

LANGWATER PHYLLIS 70607, the first daughter of Langwater Fashion 23660 to come in milk, began her record October 7, 1917, calving at two years and four and one-half months of age. She, as her photograph shows, is a large heifer with an excellent udder and conformation. She weighed approximately 1100 pounds just before calving. She started off in her first full month, November, with 73.39 pounds of fat, milking as high as fifty-two pounds in one day. About the middle of December she came down with pneumonia, and dropped from forty-six pounds to twenty-four pounds. It seemed at that time that she would have to be dropped from test, but she gradually recovered and got back to around forty pounds a day again during January. Her performance seems all the more remarkable after this trying setback.



Whenever The Weather's Dirty Wherever The Work Is Rough

At your work outdoors, these days of rain, snow and slush, you need and must have thorough foot protection.

Put your feet in U. S. "Protected" rubber footwear and you'll laugh at the weather. You'll be warm, dry and comfortable under the roughest conditions. You'll get better service and longer wear and save money into the bargain.

U. S. "Protected" rubber footwear stands up under the severest tests. The Government probably used more U. S. "Protected" rubber footwear during the war than of all other makes combined. "U. S." is the heavy-service, double-duty rubber footwear—sturdily built—reinforced where wear is greatest—roomy and full of comfort.

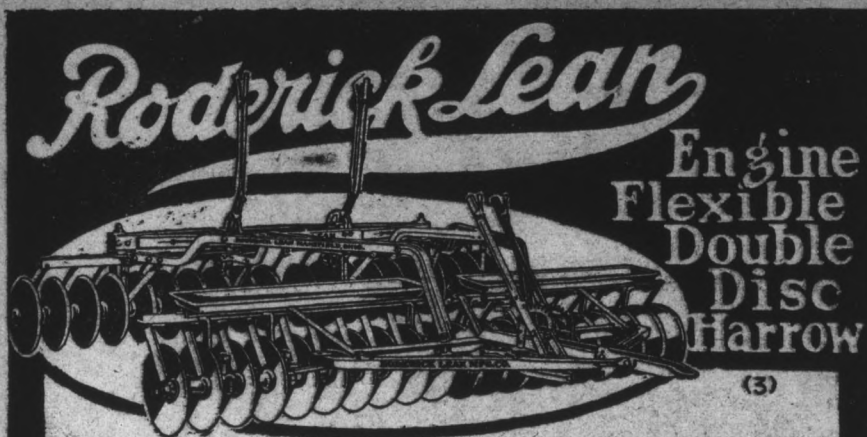
U. S. "Protected" rubber footwear comes in all kinds and styles suited to the special needs of all who work in the open. Your dealer has the kind you want or can get it quickly.

The "U. S. Seal," trade mark of the largest rubber manufacturer in the world, is on every pair of U. S. "Protected" rubber footwear. Look for it. It is your protection—insures the superior "U. S." quality.

United States Rubber Company
New York



U. S. Rubber Footwear



ONCE OVER and Your Field Is In Prime Condition For Planting

Hook on to this big, strong, Roderick Lean Engine Flexible Double Disc Harrow and quickly produce the finest kind of seed bed, all ready for planting at the most favorable time. Works the ground twice with one operation, leaves it level, penetrates deep and pulverizes every clod—even at the turns.

Endorsed and Recommended By Leading Tractors Builders

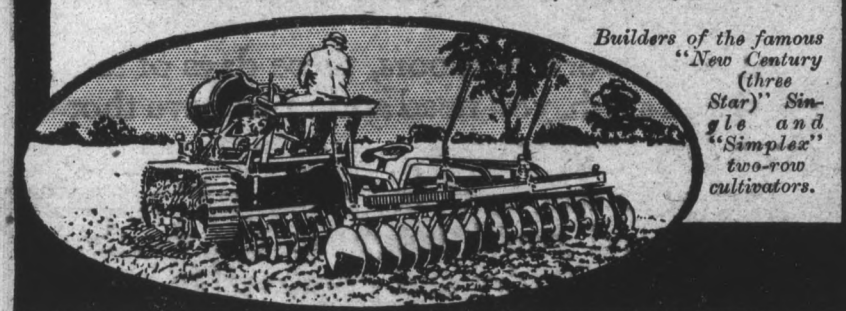
This disc is designed and built especially for power use. Because thorough working equipment of this kind means tractor economy, many leading tractor manufacturers have endorsed the "Roderick Lean" for good results.

Made in 8, 9 and 10-ft. widths, with oversize axles and bearings, strong, heavy frame and patented double draft bars that prevent the rear section from ever tracking with the front. The only disc of its kind.

This special equipment is essential to the most profitable use of your tractor. Don't try to get along with horse discs, because they lack the necessary strength and work too little ground. The "Roderick Lean" helps solve the farm labor problem and pays for itself over and over.

Get full information at once by writing for our interesting descriptive literature and name of nearest dealer where harrow may be seen.

RODERICK LEAN MFG. COMPANY, Mansfield, Ohio.



Builders of the famous "New Century" (three Star) Single and Simplex two-row cultivators.

Kalamazoo

"The World's Standard"
TILE AND WOOD-SILOES

CONSIDER the name. It means perfection. It means the *best*—in every sense of the word "best". It means Silo satisfaction for your lifetime and for generations yet to come.

The Kalamazoo Silo is a permanent, profitable investment—not an expense, and whether you choose wood or the more permanent tile, you are sure of getting extra value for your money.

Glazed Tile Silos

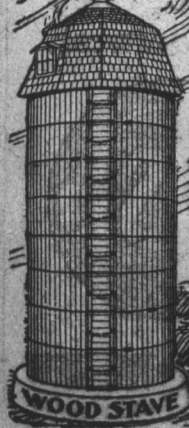
Made of hollow tile blocks—as "permanent as the Pyramids"—and absolutely fire-proof, frost-proof, moisture-proof, acid-proof, storm-proof and vermin-proof. Galvanized reinforcing and equipment. Saves all paint and repair expense. Easy to build—plans and instructions for erecting furnished free.

Wood Stave Silos

Shipped complete and ready to set up. Easily erected even by inexperienced home labor. Your choice of four time-defying woods. Many exclusive features including Kalamazoo continuous doors and galvanized steel door frame. Made right—priced right.

Easy Payment Plan

Don't buy any Silo until you investigate the Kalamazoo. If not convenient to pay cash we will make you the easiest kind of easy terms. Write today for our illustrated catalog and price list.



KALAMAZOO TANK & SILO COMPANY
Dept. 223 KALAMAZOO, MICHIGAN

When You Write to Advertisers Please Mention This Paper.

Wool Prices to Decline

FARMERS have been wondering, since the war is over and the great demand for wool to clothe and bed the army is ended, what prices to expect for the 1919 wool clip.

On April 5, 1918, at the suggestion of the quartermaster general's department, the government requested the wool trade of the United States to turn over its entire stock at current prices. This was done and the government retained control until the signing of the armistice. Prices were held up to the government standard until December 31, by the announcement to dealers December 4 it would accept their wool at the price ruling before the signing of the armistice.

When the armistice was signed the government had under its control between four hundred and five hundred million pounds of wool. All of this will be sold by the government. The first auction sales of wool by the government were held December 18-19-20. The sales were attended by manufacturers from all over the country, and while some of the choicest grades of wool sold at a price little below that paid by the government, other grades were sold at a loss to the government of from ten to twenty per cent.

Price Bound to go Down.

According to C. J. Mustion, president of the C. J. Mustion Wool Commission Company, the price of wool is bound to go down, although Mr. Mustion believes it will not go as low as the price paid before the war.

"The feeling of the trade," said Mr. Mustion, "is that the 1919 clip will be in open trading. While it is certain prices will not drop to pre-war levels, nevertheless they are bound to be low-

er than the government prices. Especially will this be true if American manufacturers are forced to compete with British manufacturers, or our wool has to sell in accordance with Great Britain's prices.

"The British government a year ago took over the wool clip of Australia for a period of three years. The price is fixed and must remain as it is now for the next two years, and unless some government protection is given to prevent competition by Great Britain there will be a decrease in the price of our wool of at least forty per cent from the price the government paid us.

Hits High-grade Wool.

"This means the higher grades of wool, which the government bought at from sixty to seventy cents a pound, must be sold at from thirty-six to forty-two cents, while the western wool bought by the government at from fifty to sixty cents a pound, must be sold at from thirty to thirty-six cents. This, however, is far in advance of the prices paid in 1913, when the best grades of wool sold at sixteen to twenty cents, and western wool brought only twelve to sixteen cents."

However, sheepmen feel, even with wool at from thirty to forty-two cents a pound, wool growing will still be a profitable business, and there will be no serious shortage of wool within the next few years due to any great number of growers going out of the business. On the other hand, they believe wool production will be increased owing to the fact that many farmers are adding small flocks to their farms to utilize weeds and other forage which on the average farm go to waste.

Applying the Fire Insurance Money

By A. B. Brown

WHEN John Brown bought a farm from Thomas Barrett for \$10,000 he paid \$4,000 down and gave Barrett a mortgage to cover the balance of \$6,000.

"I should have at least half down," Barrett suggested, "and if I didn't think you would pay the balance anyway, I wouldn't have done business on these terms."

"Well, if your farm's worth \$10,000, and you claimed I was getting a bargain when I bought, it surely ought to be good security for \$6,000," Brown argued.

"Yes, but the buildings are what gives it its value, and if the buildings were burned and anything happened to you I might not be able to collect \$6,000 out of the land alone," retorted Barrett.

"Well, there's \$4,000 insurance on the buildings now, which you made over to me, and I'll make that payable to you to protect your mortgage," suggested Brown.

"That's satisfactory," Barrett declared, and the insurance policy was made payable to "Thomas Barrett, mortgagee, as his interest may appear."

Inside of nine months, and before any payment fell due on the mortgage, the buildings were burned, and the insurance money \$4,000, was paid to Barrett, according to the terms of the policy.

A day or two after Barrett received the money, Brown demanded that it be paid over to him.

"I'll do nothing of the sort," declared Barrett, "as the money was made payable to me to protect me on my mortgage."

"But there's nothing due on your mortgage yet, and I'm entitled to the money," Brown maintained.

"No, I contend that you are not," argued Barrett. "I held the mortgage on your farm, including the buildings, and the policy was made payable to me as

mortgagee. When the buildings burned it destroyed part of my security, and the money simply represents the buildings and I am entitled to hold it for my protection, whether the mortgage is due or not."

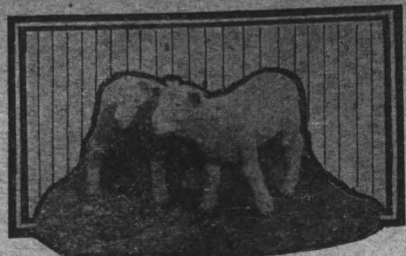
On this point Barrett was right, as the law is that in such a case insurance money paid to the mortgagee represents the destroyed property, and the mortgagor cannot compel the mortgagee to hand over the money any more than he can compel him to release a part of the mortgaged property from the mortgage itself.

Another important point arose in connection with the same mortgage, as when the first payment fell due, Barrett demanded the amount of it from Brown.

"But you've got \$4,000 of my money in your hands now," said Brown, "and surely you don't expect me to turn around and pay you any more—take this year's payment out of the insurance money."

"No," declared Barrett, "I am holding that money for my own protection and I'll apply it to the last payments on the mortgage, so it's up to you to make this payment just the same as if the buildings had not been burned."

"Well, I'll see about that before I'll let you put that over on me," snapped Brown, and when he did "see about it" by consulting an attorney, he found that this time Barrett was wrong and that Brown was entitled to have the payment made out of the mortgage money in Barrett's hands, as the general rule which has been laid down by the American courts is that where a mortgagee collects insurance money under the above circumstances he must hold it until the first payment on the mortgage falls due, and then apply the insurance money to that payment, and so with the following payments, until the mortgage money is exhausted.



OUR CORRESPONDENT AT DENVER.

(Continued from page 247).

of Agriculture sent out a compilation of the last official figures showing estimates of live stock in the United Kingdom, France and Denmark, compared with the pre-war period. These figures show a shortage in those countries of four million cattle, six million hogs, and fourteen million sheep. They do not at all confirm the startling shortages repeatedly claimed by the Food Administration. According to the estimates of the Department of Agriculture, the United States had on January 1, 1919, ten million more cattle and thirteen million more hogs than on January 1, 1914, and about the same January 1, 1919, ten million more cattle to offset the shortage in the countries named. The marketing of live stock in this country plainly indicates an increased supply. Some shortage abroad exists, but its extent and the necessities of foreign consumers have not yet been accurately determined. Everything points to a large foreign demand for meat products during 1919, and possibly in 1920, but in lesser volume. After that our exports of meat products will likely return to the pre-war basis.

Hint at Overproduction.

"The marketing and slaughter of cattle and hogs last year was the largest on record. The fifteen per cent increase in hog production desired by the Food Administration was more than fulfilled. Stocks of meat in storage are large, and apparently adequate for all demands; and still the Food Administration and the Department of Agriculture are urging increased production of meat-food animals, on the theory that foreign demand will increase rather than decrease. I hope their conclusion is correct. I believe the United States has more than a normal supply of meat animals, and that it is ample to meet all reasonable anticipated demands on us from abroad, and for our domestic consumption, despite the liquidation during the last year. With our export of meat products decreasing after 1919 and our supply increasing—or, expressing it another way, with a marked increase in our meat supply, which is possible, and a decrease in our export of meat after that period, which is probable—it may prove disastrous to our industry. Therefore, the problem that confronts the cattlemen is to regulate supplies in 1920, and thereafter, to the needs of domestic consumers; for that is the only sure and unflinching market for our product. Even our home market may be affected by importations of beef from other surplus countries.

Cost Plan Falls Down.

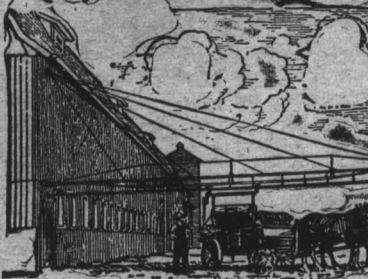
"Our government is not prepared to protect live stock producers from the disasters that would follow overproduction. No plan has been evolved to satisfactorily determine costs of production and to stabilize prices on such a level. The work of ascertaining the cost of production of farm products and live stock was undertaken by a bureau of the Department of Agriculture; but, after more than a year's work, the data assembled and the basis used were not considered by the Secretary of Agriculture, as dependable; so the entire work will have to be gone over. The plain fact is that we stock men are asked to assume all the risks that might follow the plea of our government for an increased produc-

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Advice on planning and ventilation and floor plans FREE.



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Tells how to plan and equip a Dairy Barn



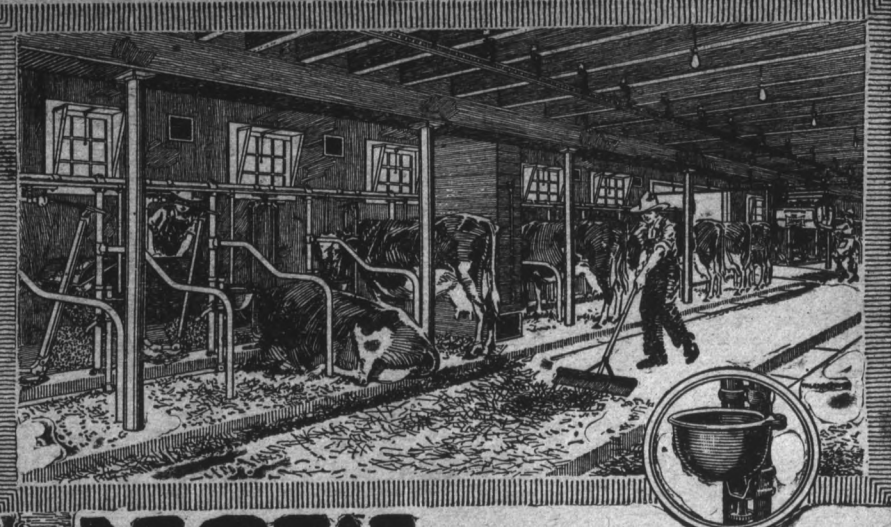
From Cutter to Field with but one handling



JAMES
Mor-Milk
Labor Saving
Barn Equipment



EMPIRE STEEL WHEELS
Cheaper than any other wheels when you figure years of service. Make any wagon good as new. Save labor—easy to load. No repairs. Write for FREE book. Empire Mfg. Co., Box 139 Quinby, Ill.



NOW BOYS and GIRLS DO MEN'S WORK- With James Equipment

In the barns that are James Equipped the task is not too great for children's strength; for James Equipment makes barn work easy. The light running James Carriers make chore time almost play time, turning a disagreeable, dirty task into a near-pleasure. The James Carrier makes a boy's job of what used to be shirked by all—an investment paying a profit of 25% a year in labor saved. The James Feed Truck or Feed Carrier saves much walking to and from feed rooms—makes unnecessary the lifting of heavy baskets.

James Drinking Cups not only save time—cows have fresh water before them day and night—but they do away with the nuisance of tending bothersome tank heaters in blizzard weather; save fuel expense; increase milk yields. Drinking cups earn 200% and more a year on their cost. And so with other James Equipment—stalls, stanchions, scrapers, steel pens for cows, calves and bulls, ventilators, bull stiffs and swinging cranes. The 320-page book "The James-Way" tells all about these James inventions that save labor, increase milk yields, promote better cow health, make

easier the care of animals in the barn. It explains the easy way of putting up carriers, erecting stalls and pens, and attaching drinking cups. It tells about the James barn plan service; the James barn experts who know what not to do as well as what to do in planning convenient, money-saving barns. Their advice on barn planning, ventilation and other barn problems is free. No charge for floor plans. Let James Equipment solve your labor problem. Mail the coupon now—get full details of how you can cut barn work in half and make more milk.

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James Mfg. Co.—Send free book on barn planning, ventilation and equipment. Also James Barn Magazine (free).
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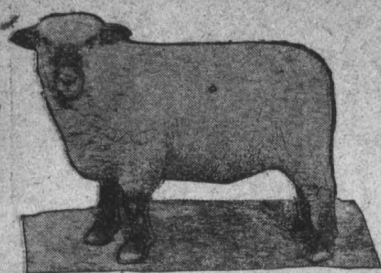
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a fair return. If the Food administration were to continue, and there were a certainty of large orders for our Allies and others being placed through it, on prices under its control, the situation would be different. Stockmen have not forgotten the many ruinous seasons when prices were far below the actual cost of production, resulting in the loss of millions of dollars. These periods of heavy supply and unprofitable prices, followed by general discouragement in the industry and resultant lighter supplies and higher prices, have been all too frequent. They are the great evil in our industry.

"In his last annual report Secretary Houston, of the Department of Agriculture, well said: 'The restoration and maintenance of conditions which will justify confidence in the live stock markets and the meat packing industry is the greatest single need in the present meat situation in the United States. It seems desirable, therefore, that the necessary legislation be enacted at the earliest possible moment.'

"One of the war agencies of this government that should be continued, at least in some modified form, is the United States Food Administration. It is necessary to justly distribute our surplus meat and other food products where they are most needed among the hungry in Europe. It is also essential in order to prevent any over-exportation of such products as may be needed for home consumption, and it can be of material benefit in stabilizing our markets. Its pledges to producers must be fulfilled."

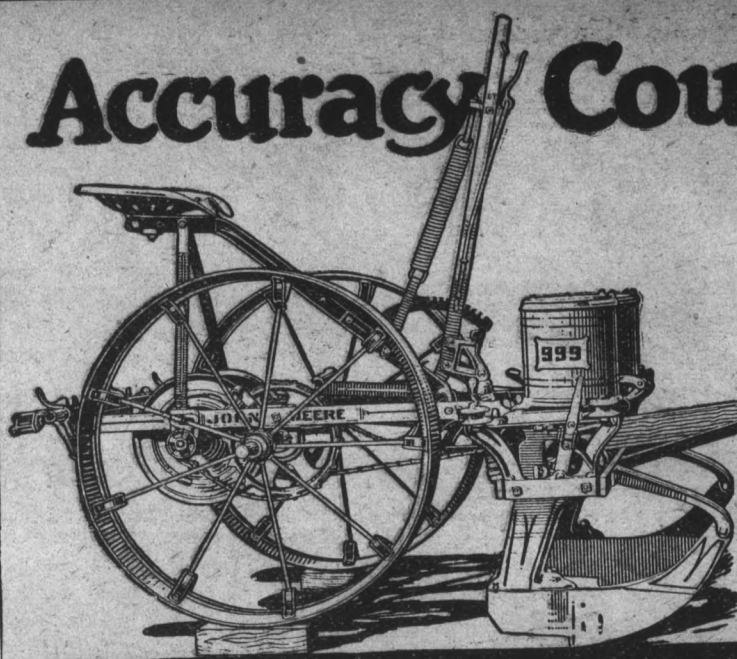
A MERE SEED.

THE dairy cow has reason for worry. She is being crowded into second place by a mere seed—the cotton seed. It is estimated that there are 22,000,000 dairy cows in the United States, about one to every five persons. The south can produce 14,000,000 bales of cotton and the oil made from the cotton seed of such a crop provides almost as much fat as all these cows can produce. The fat produced from the seed of one bale of cotton is the equivalent of two hundred and eight pounds of hog lard, which is more fat than the average dairy cow produces in a year. But the cotton seed isn't wasted when the oil is pressed out for salad dressings. It is turned into meal and a bale of cotton gives as much nutriment in cotton meal as sixteen bushels of corn. The meal is fed to the dairy cow, incidentally, or furnishes nitrogen for fertilizers. Last of all, the hulls of the seed are also used for cattle feed and a year's crop of hulls is the equivalent of 1,000,000 tons of hay. No wonder the United States saved the world from a fat famine!

GRAIN EUROPE NEEDS.

THE Department of Agriculture estimates European countries will need to import this year, and next, about 65,000,000 bushels of rye; 179,000,000 bushels of barley; 118,000,000 bushels of oats, and 225,000,000 bushels of corn. The United States can supply, from its 1918 crop, all the oats required, and will still have a surplus of 166,000,000 bushels, but will lack 8,000,000 bushels of rye, 59,000,000 bushels of barley, and 402,000,000 bushels of corn, for domestic consumption, and net requirements for Europe, which cannot be supplied elsewhere.

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Results from Accurate Planting

CORN planter accuracy is essential to the biggest yields. An inaccurate planter covers up its mistakes. It does hit-and-miss work. It is a "thief in the field" and you don't realize how much it has stolen until the corn plants are above the ground and you compare the results with those obtained

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The same accuracy that you would get if you painstakingly counted out the kernels of corn and dropped them by hand—that is the accuracy of the John Deere No. 999 Planter.

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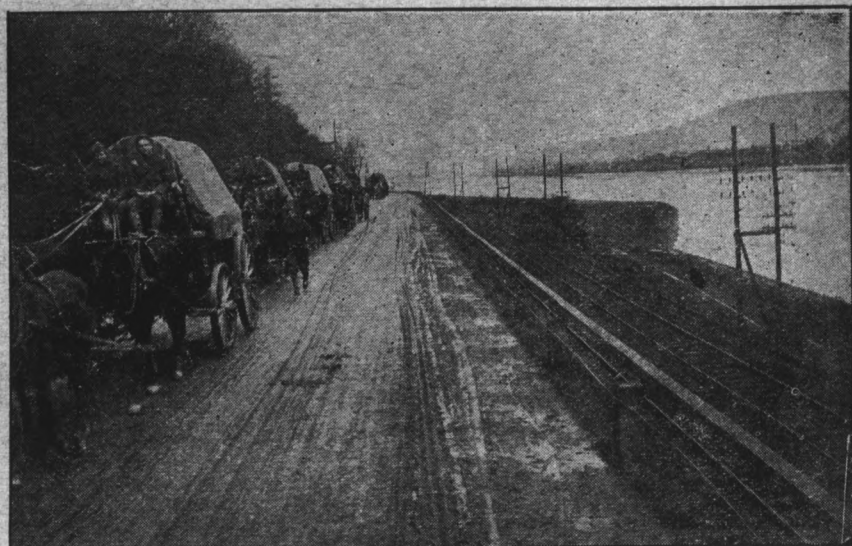
40 W. Logan St., Noblesville, Ind.



WORLD EVENTS IN PICTURES



Americans Crossing Rhine River at Coblenz, One of the Gateways to Germany, Occupied by Allies in Accordance with Terms of Armistice.



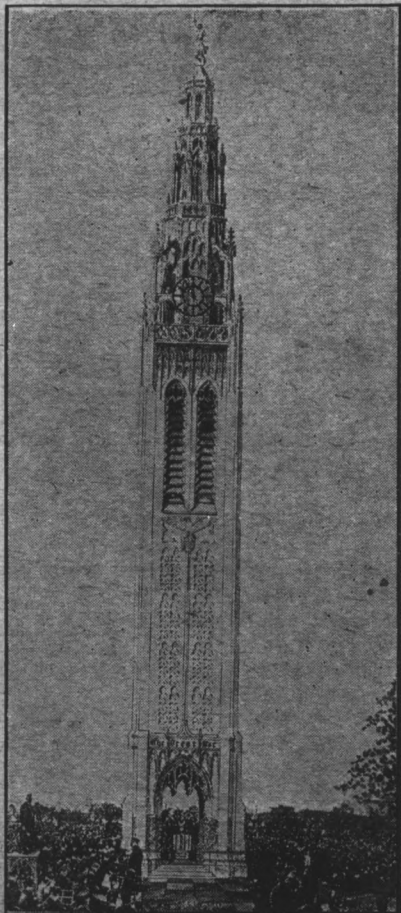
First Trucks of American Army of Occupation on the Road Between Coblenz and Bonn on the Left Bank of the Rhine River.



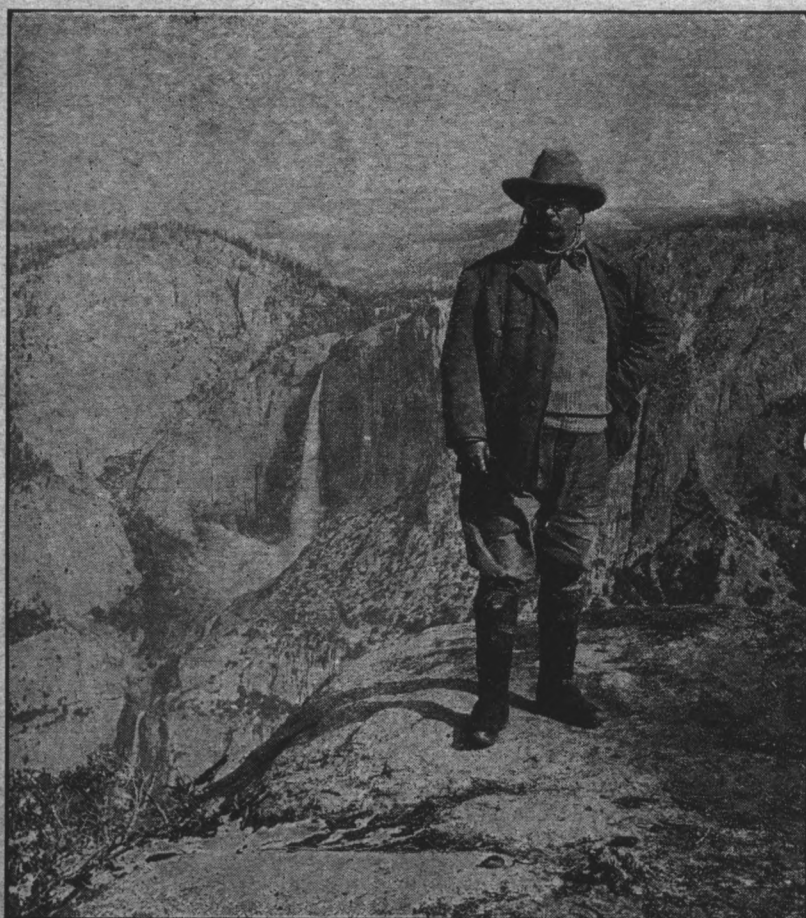
An Aged French Couple, Liberated from Hun Oppression by the Advance of Americans on Sedan, try to Express their Gratitude and Appreciation to these Yankee Soldiers for their Noble Deeds.



Photograph Taken at Opening of the Coconut Grove of the Ponciana Hotel at Palm Beach, Showing Clearly the Beauties of that Famous Winter Resort, where in the shade of the Palms, Society Dines and Dances.

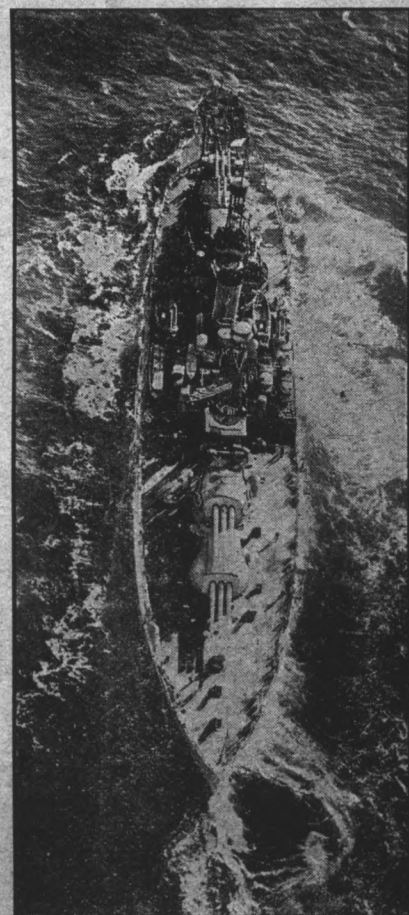


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This Photo of the Late Colonel Roosevelt Made in the Spring of 1903, Shows Him Amid America's Rugged Grandeur of the Yosemite Valley, with the Famous Yosemite Falls in the Background.

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Super-dreadnaught Pennsylvania at Full Speed at Sea. Photo was Taken from a Naval Seaplane.



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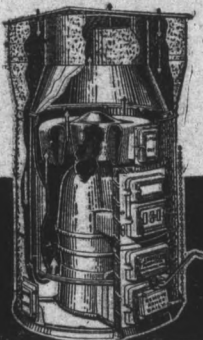
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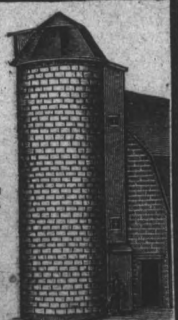
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Shall Land Pay all Taxes

(Continued from page 246).

A small amount of observation will, in fact, show a world full of these unearned increments which the single taxers would so vigorously prune off in the case of land. Are industry and carefulness and honesty the only roads to success in personal matters? Certainly not. A Jenny Lind, a Daniel Webster or a Charles Schwab have "unearned" natural (and very profitable) gifts which the industry, effort and care of all the rest of us may not equal. Are they always the deserving, the public spirited, the dependable who reap the large public or social rewards in our times? No, indeed. Quite likely it is the accidental membership through birth in some political party which gives the lucky candidate his unearned public office, or perhaps it is membership in some "old first family" which rewards in a social way. Some one has estimated that a white man through color of skin alone has in comparison with a negro an unearned advantage in almost any human situation of one-half to two-thirds. The "taxing off" of inequalities then, which flow from unearned advantages should extend much further than does the proposed tax on land if a genuine social reform along this line is to be secured.

Modern governments the world over use the tax principle of assessing each subject according to his ability to pay. Property, whether real estate or personal, is merely one of the tests of this ability. The selective draft of the past two years was simply an extension of this same principle. Here, however, instead of one's property it was his person, perhaps his life, which was asked for by government. The demands of government were universal, too; every subject made his contribution; perhaps only "his bit" or perhaps his fortune or his job. It seems quite certain in the greater social living which will mark human life of the future that the close personal dependence between governments and subjects implied in "ability to pay" and "selective draft" will be vastly extended. It seems like a poor time, then, for us to change our principle of tax payments from that of "ability to pay" universally applied to that of land when so relatively few own land.

The clause in the suggested amendment proposing "to assess land at its cash value" should mislead no one. Land is now assessed at its cash value and the State Tax Commission is charged with keeping it so. The burden of the new tax will lie in the rate which is levied rather than in the higher valuation of land. The state, together with its subdivisions—counties, cities, townships—now collects roundly \$75,000,000 annually of taxes. In no probability will this amount ever be diminished. But the "exemption of personal property" and "improvements on land" as proposed by this amendment, will reduce the taxable property of the state by nearly one-half. On the other hand, \$75,000,000 of taxes must still be raised. This simply means that the rate of taxation upon land must go up since a rate which would give \$75,000,000 when levied upon both land and personality will not be high enough when levied on land alone. Any farmer may figure out roughly what this new tax will cost him by simply doubling his present tax rate and then multiplying it into the value of his land.

The "unearned increment" value or neighborhood growth value of a man's land may be taxed off the single taxers say without sacrifice to the man. This

is true, say the single taxers, because it is the increased prices for land products or for land uses which come with community or population growth which causes the "unearned increment." Community growth and population growth mean high prices for farm products and high rentals for city real estate, therefore these are the causes of the "unearned increment" value in land. Suppose, however, that these land taxes are paid by the members of a community the prices of whose products are made for them by a people who do not pay these taxes. This is actually the case with the Michigan farmer. The price of his staple wheat is made in Chicago side by side with the wheat from Illinois—a state where this land tax is not levied. Will it be fair to the Michigan farmer receiving the same price for his wheat as does the Illinois farmer to pay this unearned increment tax upon his land while the Illinois farmer goes scot free? We think not. We think it would be decidedly unfair to the Michigan farmer and would prove so burdensome to him that he would prefer to be a farmer in any other state of the union rather than in one where this tax is levied.

At the request of Governor Osborn in 1911 a tax commission of three, the Hon. Roger Wykes, Congressman Patrick Kelley and Dr. Henry Adams canvassed the needs of this state with regard to taxation. After an entire summer spent in investigation during which many public hearings were held the report of this commission showed that manufacturing businesses—the very ones which this proposed amendment would exempt through being "improvements in and on land"—made the least proportionate payments of taxes of any of the taxpayers within the state. In fact, it was possible to find factory plants whose owners valued them at many millions which appeared upon the assessment rolls as worth only a few thousands of dollars. Local town and city dependence upon manufacturing for their existence and prosperity was a frequent reason given for the non-appearance of these great wealth producers at full value upon the assessment rolls.

It is against tax delinquents of this sort—these factories and business houses—then, that the farmers of the state should take united action in order to get more "equal taxation." Campaigns of this sort are not unknown to the Michigan farmer. There was the very successful "drive" against unequal railroad taxation under Governor Pingree two decades ago. The improved taxation of our upper peninsula mines followed a few years later; now only the factories and businesses remain to be dealt with. A campaign for extending the same treatment to them that was given the railroads would be much more timely and fruitful than a revolutionary social reform campaign of the single tax sort. One can hardly commend too highly the special tax report referred to above and the nine or ten biennial reports from the State Tax Commission to anyone who wishes to ascertain what the real needs of Michigan are in the way of taxation.

The United States Food Administration is endeavoring to complete the cottonseed season under the stabilization program that has obtained since last September and which was based on a recommendation of representatives of the producers with reference to price of cottonseed, and agreements with various elements of the industry regarding prices of products manufactured therefrom.

When writing to advertisers please mention
The Michigan Farmer.

News of the Week

Wednesday, February 5.

PRESIDENT WILSON presides over the commission which is considering the project for constituting a society of nations.—The Allies direct war costs are estimated at \$200,000,000,000.—A majority of the government buildings in Königsberg, East Prussia, are seized by Spartacans.—The situation at Weimar where the German national assembly is to meet shows much improvement since the disorder of last week.—The United States government is doing away with all unnecessary red tape, that discharged soldiers' claims may be speedily adjusted.—Sweeping investigation of Bolshevik, I. W. W., and other propaganda is ordered by unanimous vote of the United States Senate.—More than 22,000 additional textile operators are granted a forty-eight-hour week in New Hampshire and Rhode Island mills.

Thursday, February 6.

THE Bolshevik government accepts the invitation of the Allies to participate in peace conferences.—Turkish leaders are pleading to have the United States entrusted with control of Turkish affairs.—The English railroad strike spreads beyond the city of London.—A strike of union men engaged in the building trades throughout the United States, is threatened because of the lock-out of 25,000 metal workers in New York City.—The U. S. Navy Department orders the release of forty per cent of the naval reserves and forty per cent of the men enlisted for the duration of the war.

Friday, February 7.

THE commission on the society of nations announces that the program for the society will be completed next week.—The housing problem in London is becoming more and more pressing.—French representatives object to the raising of the blockade on raw materials to Germany, claiming it would greatly handicap industries destroyed by German troops in northern France.—The railway strike in England is ended through drastic action being taken by the amalgamated society of engineers.—Federal troops are called out to preserve order in Seattle, Wash., where 25,000 workmen have joined in a sympathetic strike with the shippard workers.

Saturday, February 8.

PRESIDENT WILSON abandons his trip to Belgium.—The Polish national committee in Paris is asked to urge the acquiescence of the Allied Powers in sending to Poland the Polish army now in France for protecting people from invasions by Czech-Slav troops.—The U. S. War Department refuses general amnesty to military offenders.—The War Department asks congress for \$60,000,000 to provide storage for the enormous amount of surplus war supplies in the possession of the department.—The chair factory at Jackson prison is burned, causing a loss estimated at \$300,000 and rendering 265 inmates jobless.

Sunday, February 9.

THE German assembly at Weimar elects Dr. Edward David as head of the assembly, he receiving 374 votes out of 399.—The Allied troops in northern Russia are reported to have launched a drive on the Reds south of Kadish.—The Consolidated Steel Company is formed at Washington to promote the export trade in that product.—The Department of the Interior asks congress for \$13,800,000 to complete the work on the Alaskan public railroad.—It is estimated that twenty-one persons were killed in yesterday's gas explosion at Platteville, Wis.

Monday, February 10.

PREMIER CLEMENCEAU of France warns the Allies that Germany still has the ability to quickly restore her industry and finance and mobilize a large army.—The supreme war council decides upon the necessity of imposing more severe conditions upon Germany because of her attitude toward fulfilling her obligations.—Poland will forbid emigration to the United States.—Costa Rica is reported to be massing an army near the Nicaraguan frontier.—Forces of the republican government of Portugal are concentrated about Oporto, the stronghold of the royalist movement.—Thirty-four alleged liquor smugglers were arrested in Monroe on Sunday.

Tuesday, February 11.

SERIOUS attention is given to the defiant attitude of the Germans towards the idea of the league of nations and to the rumor that plots to bolster up their military forces are under way.—Peace conference may be removed to a neutral point.—Allied troops are using planes in northern Russia to good advantage.—Troops are protecting mines in Montana against strikers.



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That's what you will say, too, when you send and get our new **FREE** interesting book entitled "BIG PIGS AND HOW TO RAISE THEM." Here is a book that gives you the very latest tried and proven methods of raising hogs—methods that the foremost men in the hog raising industry endorse—it's a book that is different. It deals with every question that interests the hog raiser—not merely expert's opinions, but actual, tested and proven practices. For example, this book tells how to build your own self-feeders and explains in detail the popular

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60 Bushels Per Acre in Illinois

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Olds' 1919 Catalog

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"Beyond the Frontier"

By RANDALL PARRISH

We Reach the Lake.

HE was between me and the deer trail, and enough of daylight yet remained to enable me to perceive the man clearly. How long he may have been there observing me I could not know, but when I first saw him he was bent forward, apparently deeply interested in some sudden discovery upon the ground at his feet.

"You thought me long in returning, Monsieur?" I asked carelessly, and taking a step toward him. "It was cooler up here, and the view from the bluff yonder beautiful. You may gain some conception of it still, if you care."

He lifted his head with a jerk, and stared into my face.

"Ay! no doubt," he said harshly, "yet I hardly think it was the view which held you here so long. Whose boot print is this, Madame? Not yours, surely?"

I glanced where he pointed, my heart leaping, yet not altogether with regret. The young Sieur had left his trail behind, and it would serve me whether by his will or no.

"Certainly not mine," and I laughed. "I trust, Monsieur, your powers of observation are better than that—'tis hardly a compliment."

"Nor is this time for any lightness of speech, my lady," he retorted, his anger fanned by my indifference. "Whose is it then, I ask you. What man has been your companion here?"

"You jump at conclusions, Monsieur," I returned coldly. "The stray imprint of a man's boot on the turf is scarcely evidence that I have had a companion. Kindly stand aside, and permit me to descend."

"Mon Dieu! I will not!" and he blocked my passage. "I have stood enough of your tantrums already in the boat. Now we are alone, and I will have my say. You shall remain here until I learn the truth."

His rage rather amused me, and I felt not the slightest emotion of fear, although there was threat in his words and in the gesture accompanying them. I do not think the smile even deserted my lips, as I sought a comfortable seat on a fallen tree trunk, fully conscious that nothing would so infuriate the man as studied indifference.

"Very well, Monsieur, I await your investigation with pleasure," I said sweetly. "No doubt it will prove interesting. You honor me with the suspicion that I had an appointment here with one of your men."

"No matter what I suspicion."

"Of course not; you treat me with marked consideration. Perchance others have camped here, and explored these bluffs."

"The print is fresh, not ancient, and none of the men from my camp have come this way."

He strode forward, across the narrow open space, and disappeared into the fringe of trees bordering the edge of the bluff. It would have been easy for me to depart, to escape to the security of the tent below, but curiosity held me motionless. I knew what he would discover, and preferred to face the consequences where I was free to answer him face to face. I wished him to be suspicious, to feel that he had a rival; I would fan his jealousy to the very danger point. Nor had I long to wait. Forth from the shade of the trees he burst, and came toward me, his face white, his eyes blazing.

"'Tis the fellow I thought," he burst forth, "and he went down the face of the bluff yonder. So you dared to have trust with him?"

"With whom, Monsieur?"

"De Artigny, the young fool! Do you think me blind? Did I not know you were together in Quebec? What are you laughing at?"

"I was not laughing, Monsieur. Your ridiculous charge does not amuse me. I am a woman; you insult me; I am your wife; you charge me with indiscretion. If you think to win me with such cowardly insinuations you know little of my nature. I will not talk with you, nor discuss the matter. I return to the camp."

His hands clinched as though he had the throat of an enemy between them, but angry as he was, some vague doubt restrained him.

"Mon Dieu! I'll fight the dog!"

"De Artigny, you mean? 'Tis his trade, I hear, and he is good at it."

"Bah! a bungler of the woods. I doubt if he ever crossed blades with a swordsman. But mark you this, Madame, the lad feels my steel if ever you so much as speak to him again."

There was contempt in my eyes, nor did I strive to disguise it.

"Am I your wife, Monsieur, or your slave?"

"My wife, and I know how to hold you! Mon Dieu! but you shall learn that lesson. I was a fool to ever give the brat place in the boats. La Barre warned me that he would make trouble. Now I tell you what will occur if you play false with me."

"You may spare your threats—they weigh nothing. The Sieur de Artigny is my friend, and I shall address him when it pleases me. With whatever quarrel may arise between you I have no interest. Let that suffice, and now I bid you good night, Monsieur."

He made no effort to halt me, nor to follow, and I made my way down the darkening path, without so much as turning my head to observe his movements. It was almost like a play to me, and I was reckless of the consequences, intent only on my purpose.

I was awake a long time, lying alone on my blankets, within the silent tent, staring out at the darkness. I saw Cassion descend the deer path, perhaps an hour after I left him, and go on to the main camp below. He made no pause as he passed, yet walked slowly as though in thought. Where he went I could not determine in the gloom, yet was convinced he had no purpose then of seeking De Artigny or of putting his threat into immediate action. In all probability he believed that his words would render me cautious, in spite of my defiant response, and that I would avoid creating trouble by keeping away from the younger man. He was no brawler, except as he felt safe, and this young frontiersman was hardly the antagonist he would choose. It would be more apt to be a blow in the dark, or an overturned canoe.

I cannot recall now that I experienced any regret for what had occurred. Perhaps I might if I had known the end, yet I felt perfectly justified in all my actions. I had done no conscious wrong, and was only seeking that which was mine by every standard of justice. I knew I despised Cassion, while my feelings toward De Artigny were so confused, and indefinite as to be a continual puzzle. I knew nothing of what love was—I was merely aware that the man interested me,

and that I felt confidence in him. I recalled his words, the expression of his face, and felt the sharp sting of his rebuke, yet all was strangely softened by the message I read in his eyes.

He had not approved of my course, yet in his heart had not blamed; he would not lend himself to my purpose, yet remained no less loyal to me. I could ask no more. Indeed, I had no wish to precipitate an open quarrel between the two men. However it ended such an occurrence would serve me ill, and all that my plan contemplated was that they should distrust each other, and thus permit me to play the one against the other, until I won my game. I felt no fear of the result, no doubt of my ability to manipulate the strings adroitly enough to achieve the end sought.

The one point I ignored was the primitive passions of men. These were beyond my control; were already beyond, although I knew it not. Fires were smouldering in hearts which out yonder in the dark woods would burst into flame of destruction. Innocent as my purpose was, it had in it the germs of tragedy; but I was then too young and too inexperienced to know.

Nor had I reason to anticipate the result of my simple ruse, or occasion to note any serious change in my surroundings. The routine of our journey gave me no hint of the hidden passions seething below the outward appearance of things. In the early dawn we broke camp as usual, except that chosen boatmen guided the emptied canoes through the rapids, while the others of the party made portage along the rough shore. In the smooth water above we all embarked again, and won slow way against the current. The advance company had departed before our arrival, nor did I again obtain glimpse of De Artigny for many days.

I would not say that Cassion purposely kept us apart, for the arrangement might have been the same had I not been of the party, yet the only communication between the two divisions occurred when some messenger brought back warning of dangerous water ahead. Usually this messenger was an Indian, but once De Artigny himself came, and guided our canoes through a torrent of white, raging water, amid a maze of murderous rocks.

During these days and weeks Cassion treated me with consideration and outward respect. Not that he failed to talk freely, and to boast of his exploits and adventures, yet he refrained from laying hand on me, nor did he once refer to the incident of the bluff. I knew not what to make of the man in this new role of gallant, yet suspicioned that he but bided his time, and a better opportunity for exhibiting his true purpose.

There were times, when he thought I was not observing him, when the expression of his eyes brought me uneasiness, and I was soon aware that, in spite of his genial manner, and friendly expression, his surveillance was in no degree relaxed. Not for a moment was I alone. When he was not beside me in the canoe, Pere Allouez became my companion, and at night a guard kept vigilant eye upon my tent. Twice I ventured to test this fact, only to be halted, and turned back within three yards of the entrance. Very polite the soldier was, with explanations of danger from prowling beasts, and the strictness of his orders. At first such restraint angered me, but on second thought I did not greatly care, humiliating though it was; yet the protec-



tion thus afforded was not altogether unwelcome, and was in itself evidence of Cassion's determination to conquer me in the end.

Nor was the journey lacking in interest or adventure. Never shall I forget the charm of those days and nights, amid which we made slow and toilsome passage through the desolate wilderness, ever gaining new leagues to the westward. Only twice in weeks did we encounter human beings—once a camp of Indians on the shore of a lake, and once a Capuchin monk, alone but for a single voyageur, as companion, passed us upon the river. He would have paused to exchange words, but at sight of Pere Allouez's black robe, he gave swift command to his engage, and the two disappeared as though fleeing from the devil.

But what visions of beauty, and sublimity, were those that swept constantly past us as we thus advanced into the wild depths of the woods. No two views were ever alike, and every curve in the river bank brought a fresh vista. I never tired of the vast, silent forests that seemed to shut us in, nor of the dancing silver of the swift water under our keel, nor of the great rocky bluffs under whose grim shadows we found passage. To me the hardships even were enjoyable; the clambering over rough portages, the occasional mishap, the coarse fare, the nights I was compelled to pass in the canoe, these only served to give zest to the great adventure, to make real the unusual experiences I was passing through.

I was scarce more than a girl, young, strong, little accustomed to luxury, and my heart responded to the exhilaration of constant change, and the thrill of peril. And when, at last, we made the long portage, tramping through the dark forest aisles, bearing on our shoulders heavy loads, scarcely able to see the sun even at midday through the leafy screen of leaves, and came forth at twilight on the shores of the mighty lake, no words can express the raptures with which I stood and gazed across that expanse of heaving, restless water. The men launched their canoes upon the surface, and made camp in the edge of the forest, but I could not move, could not restrain my eyes, until the darkness descended and left all before me a void. Never had I gazed upon so vast a spectacle, so somber in the dull gray light, stretching afar to the horizon, its wild, desolate silence adding to its awful majesty. Even when darkness enshrouded it all, the memory haunted me, and I could but think and dream, frightened and awed in presence of that stupendous waste of waters. The soldiers sang about their fires, and Cassion sought me with what he meant to be courteous words, but I was in no spirit to be amused. For hours I lay alone, listening to the dull roar of the waves along the shore, and the wind in the trees. De Artigny, and his party, camped just beyond us, across the mouth of a narrow stream, but I saw nothing of him, nor do I believe I gave his presence a thought.

It was scarcely more than daybreak when we broke camp, and headed our canoes out into the lake. With the dawn, and the glint of sunlight over the waters, much of my dread departed, and I could appreciate the wild song of delight with which our Indian paddlers bent to their work. The sharp-prowed canoes swept through the waters swiftly, no longer battling against a current, and the shore line ever in view was fascinating in its green foliage. We kept close to the northern shore, and soon found passage amid numerous islands, forest covered, but with high, rocky outlines.

Of life there was no sign, and the silence of the vast primeval wilderness surrounding us rested heavily upon me. Whether the same sense of loneliness and awe affected the others I cannot say—yet the savage song died away,



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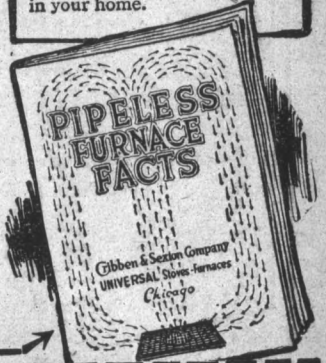
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"Beyond the Frontier"

and the soldiers sat motionless, while the Indians plied their paddles noiselessly. Cassion even restrained his garrulous tongue, and when I glanced at him in some surprise, he was intent on the shores of a passing island, forgetful of my presence.

For four days we coasted thus, never out of sight of shore, and usually with islands between us and the main body of water. In all that time we had no sign of man—not even a wisp of smoke, nor heard the crack of distant rifle. About us extended loneliness and desolation, great waters never still, vast forests grim and somber, tall, menacing rocks, bright-colored in the sunlight.

Once it rained, drenching us to the skin, and driving us to shelter in an island cove. Once a sudden storm swept the lake, and we barely made land in time to save us from wreck, Chevet's canoe smashing an ugly hole in its bow, and a soldier dislocating his shoulder in the struggle. The accident held us for some hours, and later, when once more afloat, retarded our progress.

This misfortune served also to restore Monsieur Cassion to his natural ill temper, and led to a quarrel between himself and Chevet which might have ended seriously had I not intervened. This incident, however, left the Commissaire in ugly mood, and caused him to play the bully over his men. To me he was sullen, after an attempt at insolence, and sat glowering across the water, meditating upon revenge.

At last we left the chain of islands behind, and one morning struck out from the shore into the waste of waters, the prows of the canoes turned westward, the steersman guiding our course by the sun. For several hours we were beyond view of land, with naught to rest the eye upon save the gray sea, and then, when it was nearly night, we reached the shore, and beached our canoes at St. Ignace.

CHAPTER XIV.

At St. Ignace.

SO much had been said of St. Ignace and so long had the name been familiar throughout New France, that my first view of the place brought me bitter disappointment. The faces of the others in our party pictured the same disillusion.

Hugo Chevet had been in these parts on fur-trading expeditions, and 'twas probable that De Artigny had stopped there on one of his voyages, with La Salle. But to all the others the place had been merely a name, and our imagination had invested it with an importance scarcely justified by what we saw as our canoes drew in toward the beach.

The miserable little village was upon a point of land, originally covered with heavy growth of forest. A bit of this had been rudely cut, the rotting stumps still standing, and from the timber a dozen rough log houses and been constructed facing the lake. A few rods back, on slightly higher land was a log chapel, and a house, somewhat more pretentious than the others, in which the priests lodged. The whole aspect of the place was peculiarly desolate and depressing facing that vast waste of water, the black forest shadows behind, and those rotting stumps in the foreground.

Nor was our welcome one to make the heart rejoice. Scarce a dozen persons gathered at the beach to aid us in making landing, rough engages mostly, and not among them all a face familiar. It was only later, when two priests from the mission came hurrying forward, that we were greeted by cordial words. These invited a few of us to become guests at the mission house, and assigned the remainder of our party to vacant huts.

Cassion, Chevet and Pere Allotiez ac-

companied me as I walked beside a young priest up the beaten path, but De Artigny was left behind with the men. I overheard Cassion order him to remain, but he added some word in lower voice, which brought a flush of anger into the younger man's face, although he merely turned on his heel without reply.

The young Jesuit beside me—a pale-faced, delicate appearing man, almost emaciated in his long black robe—scarcely breathed a word as we climbed the rather steep ascent, but at the door of the mission house paused gravely, and directed our attention to the scene unrolled behind. It was indeed a vista of surpassing beauty, for from this point we could perceive the distant curve of the shore, shadowed by dark forests, while the lake itself, silvered by the setting sun stretched afar to the horizon, unbroken in its immensity except for an island lifting its rock front leagues away.

So greatly was I impressed with the view, that after we had been shown into the bare room of the mission, where scarcely a comfort was to be seen, I crossed to the one window, and stood there staring out, watching the light fade across those leagues of water, until the purple twilight descended like a veil of mist. Yet I heard the questions and answers, and learned that nearly all the inhabitants were away on various expeditions into the wilderness, none remaining except the two priests in charge of the mission, and the few engages necessary for their work. Only a few days before five priests had departed to establish a mission at Green Bay, and visit the Indian villages beyond.

The young Jesuit spoke freely when once convinced that our party journeyed to the Illinois country, and was antagonistic to La Salle, who had shown small liking for his Order. The presence of Pere Allouez overcame his first suspicion at recognition of De Artigny, and he gave free vent to his dislike of the Recollets, and the policy of those adventurous Frenchmen who had dared oppose the Jesuits.

He produced a newly drawn map of the great lake we were to traverse, and the men studied it anxiously while the two priests and the engage prepared a simple meal. For the moment I was forgotten and left alone on a rude bench beside the great fireplace, to listen to their discussion, and think my own thoughts.

We remained at St. Ignace for three days, busily engaged in repairing our canoes, and rendering them fit for the long voyage yet before us. From this point we were to venture on treacherous waters, as yet scarcely explored, the shores inhabited by savage, unknown tribes, with not a white man in all the long distance from Green Bay to the Chicago portage. Once I got out the map, and traced the distance, feeling sick at heart as I thus realized more clearly the weary journey.

Those were dull, lonely days I passed in the desolate mission house, while the others were busy at their various tasks. Only at night time, or as they straggled in, to their meals, did I see anyone but Pere Allouez, who was always close at hand, a silent shadow from whose presence I could not escape. I visited the priest's garden, climbed the rocks overlooking the water, and even ventured into the dark forest, but he was ever beside me, suave but insistent on doing his master's will. The only glimpse I had of De Artigny was at a distance, for not once did he approach the mission house. So I was glad enough when the canoes were ready, and all preparations made for departure.

Yet we were not destined to escape thus easily from St. Ignace. Of what occurred I must write as it happened to me then, and not as its full signifi-

cance became later clear to my understanding. It was after nightfall when Cassion returned to the mission house. The lights were burning on the table, and the three priests were rather impatiently waiting their evening meal, occasionally exchanging a few brief sentences, or peering out through the open window toward the dark water.

As long as daylight lasted this had been my post of observation, while watching the distant figures busily engaged in reloading the canoes for the morrow's journey. They were like so many ants, running across the brown sands, both soldiers and Indians stripped to the waist, apparently eager enough to complete their task. Occasionally the echo of a song reached my ears, and the distance was not so great but that I could distinguish individuals. Cassion sat upon a log directing operations, not even rising to lend a hand, but Chevet gave of his great strength freely.

De Artigny was back among the huts, in charge of that end of the line no doubt, and it was only occasionally I gained glimpse of his presence. An Indian canoe came ashore just before sundown, and our men knocked off work to cluster about and examine its cargo of furs. Angered by the delay Cassion strode in among them, and, with bitter words and a blow or two, drove them back to their task. The loss of time was not great, yet they were still busily engaged when darkness shut out the scene.

Cassion came in alone, yet I observed nothing strange about his appearance, except that he failed to greet me with the usual attempt at gallantry, although his sharp eyes swept our faces, as he closed the door, and stared about the room.

"What! not eaten yet?" he exclaimed. "I anticipated my fate to be a lonely meal, for the rascals worked like snails, and I would not leave them rest until all was finished. Faith, the odor is appetizing, and I am hungry as a bear."

The younger priest waved his hand to the engage, yet asked softly:

"Monsieur Chevet—he is delayed also?"

"He will sup with his men tonight," returned Cassion shortly, seating himself on the bench. "The sergeant keeps guard of the canoes, and Chevet will be useful with those off duty."

The man ate as though nearly famished, his ready tongue unusually silent, and at the conclusion of the meal, appeared so fatigued, that I made early excuse to withdraw so he might rest in comfort, climbing the ladder in one corner to my own bed beneath the eaves. This apartment, whose only advantage was privacy, was no more than a narrow space between the sloping rafters of the roof, unfurnished, but with a small window in the end, closed by a wooden shutter. A partition of axe-hewn planks divided this attic into two compartments, thus composing the priests' sleeping chambers. While I was there they both occupied the one to the south, Cassion, Chevet, and Pere Allouez resting in the main room below.

As I lowered the trap in the floor, shutting out the murmur of voices, I was conscious of no desire to sleep, my mind busily engaged with possibilities of the morrow. I opened the window, and seated myself on the floor, gazing out at the night. Below extended the dark gloom of forest depths. A quarter moon peeped through cloud rifts, and revealed in spectral light the familiar objects. It was a calm, peaceful scene, yet ghostly in the silvery gleam and silence—the stumps of half-burned trees assuming grotesque forms, and the wind tossing branches as though by some demon hand. Yet in my restless mood that outside world called me and I leaned forth to see if it was possible to descend.

(Continued next week).



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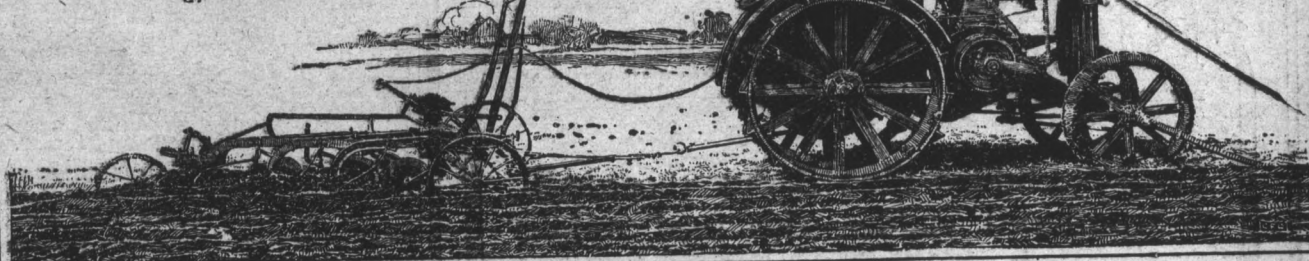
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Stock Ads. Continued on Page 275

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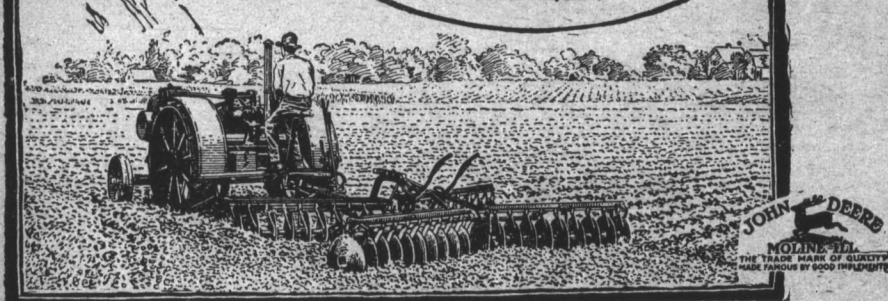
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Cutting the Wood

By J. H. Brown



I Never Saw a Saw Saw as this Saw Saws.

THIS winter we have seen more with and fail to fully understand what farmers cutting wood throughout it means. And some of the boys the southern tiers of counties in who read the Michigan Farmer will Michigan than for more than a third ask their dads what it means and of a century. Riding from Detroit to more than a few of the dads will Battle Creek recently on an interurban scratch their heads and ponder for a limited car we noticed scores of big spell. Then they will refer the solu-wood piles around as many sets of tion to grandfather. And he will be farm buildings. Much of this was sure to explain all the details connect-green block wood that has recently ed therewith.

The farmer in the picture below is resting a minute after he has cut an acute-angled kerf in a log in his old chipyard, ready to split off another slab. This illustrates the way logs were cut up into stove wood in the early days before Michigan became a state in 1837, and until some time after the close of the Civil War.

Before the champion-tooth cross-cut saw was perfected our fathers and grandfathers, as pioneers of this state, had to use their axes for nearly all the work of cutting down and cutting up a tree, big or little, into stove wood. The farmer who could use an axe both more or less (apparently less in some places), trees were cut down each side of the track for a few feet, but in many places for years each recurring heavy storm would throw down one or more big trees across the roadbed so that travel by vehicle was stopped until the tree could be cut up enough to turn the trunk sections out of the way. In several localities there are still small timber strips through which the road runs wherein a small portion of the original forest still remains, although all the larger trees have been cut out from time to time.

There are many of the younger farmers in every county of the lower half of the lower peninsula who will look at the lower picture shown here—

log. The axe blade was thrown into



Cutting a Kerf in the Log.

the wood at two angles across the grain of the log, as the picture illustrates. By cutting large and deep kerfs it was not a hard job to split off fairly good-sized slabs.

A good woodsman in those days would cut up a large tree trunk much faster than the best farmer that can stand up against a log with an axe in these days. This, of course, does not refer to some of the older farmers who are still living and will look at these pictures with a reminiscent smile of recognition. On some of the nice oak logs we remember seeing our father and grandfather make the chips fly in this slab work. They would cut some kerfs all the way across the log and cut off some slabs full width, when the splitting was easy. But many of the present-day farmers would have hard work trying to earn very big wages cutting wood.

When the champion-tooth cross-cut saw came along it was quickly appreciated in almost every neighborhood. Some well-to-do pioneer would buy one for his own work and occasionally lend it to a neighbor. It was quite a knack to become a good hand on this job and the lazy man was never wanted on the other end of the saw by any of the farmers we ever saw.

The first picture shows a farmer at work on his chip-yard with his hired man. It also fairly illustrates the moves of the game. This farmer has chopped and sawed wood for nearly every season, more or less, ever since he was a boy on his father's farm, and he has also read the Michigan Farmer nearly all these long years. This picture shows that farmers are now cutting up some wood that they would hardly have looked at a half century ago. In the background is a pile of wood of all varieties, shapes, sizes and previous conditions of servitude. Nothing that can be classified as fuel is thrown away.

The farmer that can put his axe and saw into good working condition, and keep them so, is not to be sneezed at, even these days. And the pioneer who could not keep both his axe and saw sharp was in danger of freezing to death during those long winter days and nights before it became the style to burn coal on the farm.

Later on we will have some more wood-cutting and lumber-sawing pictures to present in these columns.

WOOL CONSUMED IN THE UNITED STATES IN 1918.

SEVEN hundred and forty million pounds of wool, grease equivalent, were used by manufacturers in the United States during 1918. Much of this wool went into clothes for soldiers, while the old clothes man called in vain for the shiny and patched garments worn by civilians at home.

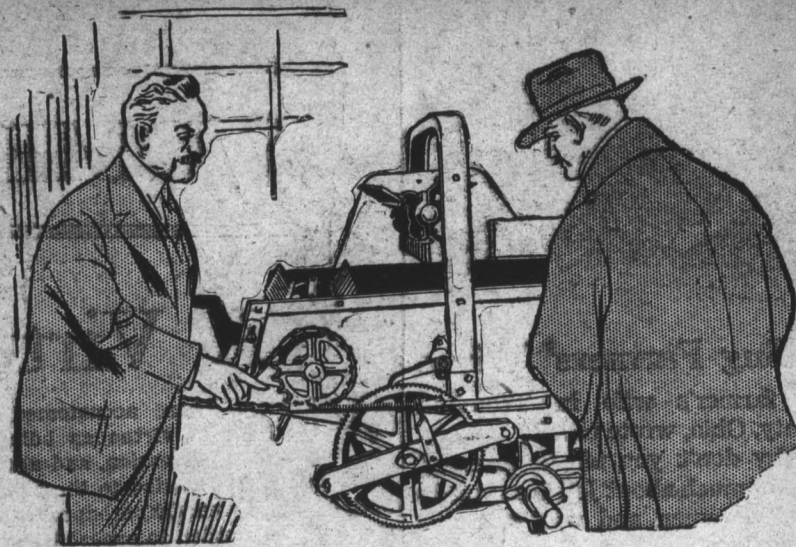
Military needs kept the monthly consumption of wool to an average of 65,500,000 pounds, grease equivalent, for the first ten months of 1918, but in November it fell to 47,000,000, and in December to 38,200,000 pounds, as announced by the Bureau of Markets, United States Department of Agriculture.

Massachusetts mills used more wool in 1918 than any other four states combined. After Massachusetts in order came: Pennsylvania, Rhode Island, New Jersey, New York, Connecticut, New Hampshire, Ohio and Maine.

During May mills used 74,600,000 pounds of wool, grease equivalent, the largest monthly consumption reported, while March and April each showed more than 70,000,000 pounds used by manufacturers.

Both Emmet and Cheboygan County Farm Bureaus have appointed committees to work together in an effort to eliminate the scrub sires. If every farmer will help the good cause along, the work will be easy, and make this part of Michigan as great a live stock center as any in the United States.

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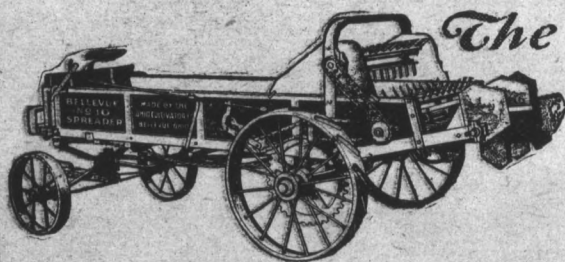
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I too, served our Government as best I could and now I am ready to serve you again with the same reliable Carhartt Overalls made from Carhartt Master Cloth which stood every Government test.

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"To Love and to Labor is the Sum of Living"—Moore

WOMEN'S SECTION

A Virtue May Become a Vice

WE have been accustomed to thinking of virtue as being a precious possession, and always good, but virtue carried to the nth degree becomes vice. Or perhaps I should say a virtue carried to excess becomes a vice—is intemperance as truly as any form of overdoing. Perhaps the fact is born in on me just now because I've recently had a great deal to do with one or two persons who pride themselves on certain virtues which to their friends are their chief faults. And of course, no one can make them see their mistake. They know that the thing they pride themselves upon is in itself a virtue, and can not see how they are overdoing it.

One is a woman who prides herself on plain speaking. She says she simply tells the truth at all times. Now, of course, truth in itself is a virtue and one greatly to be desired. But one can go to excess even with the truth. I remember it used to puzzle me as a child to get my mother's fine distinction.

She would sometimes tell us that we must always speak the truth, and then knock the whole thing over, for me at least, by saying the truth should not be spoken at all times. It was some time before I found out that she meant it is often better to keep still than to speak the truth. If telling the truth is only going to wound someone and do no good, then say nothing. If it can do good, then tell it.

But the woman of whom I write

draws no lines in her truth telling. "I tell them all just what I think," she says. And she does. Friend and foe, saint and sinner, old and young, rich and poor, all have the benefit of her views. No one is ever left in doubt as to what she thinks about them personally and all their family. Wherever she goes she leaves behind a trail of wounded and bleeding, or wrathful and apoplectic individuals, according to the temperament of her auditors. Needless to say she is about as welcome as the flu. Invitations never come her way, and welcome signs are hastily torn down when she appears round a corner.

Her acquaintances regard her as a wicked woman, but she believes herself to be unusually good. They think her excessive truth-telling is a vice, a cloak for venting her spite, but she really believes she is doing the right thing.

Directly her opposite is a man of her family who has her as an awful example. Seeing where overmuch speaking has led with her, he has gone to the other extreme and won't talk at all. Claiming that silence is golden, he has over-played his part, too, and keeps still when he should talk. He is secretive, in the extreme, withholds his confidence where it should be given, never blames anyone and never praises. It is as easy to get an opinion from him as it is to converse with an oyster.

His policy has estranged everyone he knows. His children shun him, his wife is as far from him as one pole from the other, and his business associates have as little to do with him as possible. His uncommunicativeness kept him from advancement in business and shut him out of all social life. And his entire family have to suffer with him.

So every virtue becomes a vice if it is worked too hard. The over-neat woman who keeps her family from enjoying their home is a sinner. Honest inquiry becomes inquisitiveness when carried too far. Ambition which interferes with one's fellows is autocracy. So we might carry it into everything. It simply resolves itself into the axiom that over-indulgence is intemperance, or vice.

DEBORAH.



Square-Necked Blouse of White Satin and Lace.

Intelligent Food Saving

No. 2, A Standard Daily Ration

THE question of sufficient proteids has always been the chief consideration in settling the question of a balanced ration. Partly because the proteids are the most expensive foods—milk, meat and eggs even at pre-war prices, were beyond the pockets of a large mass of the people as the under-nourished, anaemic children both of city and country, testified. Sufficient proteids had to be furnished not only to insure normal growth, but to take care of the daily waste of bone, muscle and nerve cells. And on the other hand, we needed to guard against excessive use of proteids as much of these foods lead to rheumatism, gout, and Bright's disease, as the heavy meat eaters silently testify.

If such a condition existed before the war, how has the problem become intensified since the shortage of food stuffs has brought famine to many lands and made even improvident America take notice. From everywhere we hear of a shortage of milk, eggs, meat and butter, the last a fat, of course, and everywhere the plea goes up to save proteids. Scientists have for some years claimed that life could be maintained perfectly on a much smaller allowance of proteids than was generally accepted as the standard. Indeed, some investigators claimed we were much better for eating smaller amount of proteids. And the war has proven to many of us that we could get along and feel better on less of

these foods than we had been taking, though it is more than probable that our daily allowance was much in excess of the standard amount deemed necessary.

According to the American standard a man at moderately active work requires approximately four and a half ounces of proteids daily, four and a half ounces of fats, and about one pound of carbohydrates, or starches and sugars. Bear in mind this means the actual weight of the food principle required, not the weight of the food necessary to furnish these elements. In every food there is more or less waste, portions which are not digestible, so it is necessary to eat much more than the pound and nine ounces



NOW IS THE TIME

This open winter makes it possible to do a lot of work around the farm. Now is the time to seriously consider installing a

Leader WATER SYSTEM

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in actual weight in order to get the amount of food we need. For example, milk is only 3.3 per cent proteid, and in order to get four and a half ounces of proteid from milk we would need to drink eight and a half pounds ally, or four and a quarter quarts.

According to experiments performed at Yale University, however, it was found that health and vigor could be maintained on a diet considerably smaller. In fact, the accepted American standard is nearly twenty per cent higher than the one worked out at Yale.

A woman at moderately active work—this includes the housework done by the average farm woman, home laundry, cleaning, cooking, etc., requires about four-fifths as much food as the man at moderately active work. Boys at thirteen and fourteen years, and girls of fifteen and sixteen, need the same amount as the woman. Children from six to nine years need half the amount required by the man, while those younger need correspondingly smaller amounts.

How to decide if the family is getting these amounts, and what foods can best give them will be discussed in further articles. It is well nigh impossible to figure for oneself without tables giving the composition of standard foods and the various percentages of proteid, fats and carbohydrates contained in them. If you are interested, write the Department of Agriculture, Washington, D. C., for bulletins giving the compositions of various foods. (Article No. 3, "Further Consideration of Food Problems," will appear in a future issue).

CONTRIBUTED RECIPES.

Creole Eggs.

Boil six eggs hard. Slice and pour over them a tomato sauce made of two tablespoons of flour, two tablespoons of melted butter or drippings, and a pint of strained tomato. Season with salt and pepper and a little finely minced onion if liked. A plain cream sauce may be substituted for the tomato sauce.—M. F.

Pork Fruit Cake.

Pork cake is a very good substitute for the ordinary fruit cake. It is moist, keeps well, and requires no butter. No definite amount of flour is given, but the batter should be as thick as one can stir. It is well to try a sample cake, as one seldom uses enough flour the first time.

- 1 pound fat salt pork,
- 1 pint boiling water,
- 2 cups sugar,
- 1 cup molasses,
- 1 teaspoon soda,
- 2 teaspoons cinnamon,
- 1 teaspoon cloves,
- 1 pound currants,
- 1 pound raisins,
- ¼ pound citron.

First prepare the fruit; wash and dry the currants, wash, seed and chop the raisins, and shred the citron. Have the pork free from lean and rind. Chop very fine or put through the food chopper, using the finest cutter. Pour the boiling water over the chopped pork, add the sugar, mix the soda with the molasses and add to the mixture. Mix spices with part of the flour and stir into the batter. Add the fruit and then the rest of the flour. Bake in a moderate oven for from three to four hours, depending on the size of pans used, or steam three hours and bake one hour.—Charlotte Carpenter, Colo.

Cheese Omelet.

Beat white and yolks of six or more eggs separately. Add salt, small lump of butter and a cup of milk to which three-fourths of a cup of grated cheese has been added. Pour the mixture into a hot greased frying pan. With a knife, keep the omelet from sticking to the sides, and as soon as it appears firm, set in a hot oven for a moment or two. Take out, roll and serve on a warmed platter.—M. F.

The heart of the home.

The heart of the home is the kitchen, and the enjoyment of the home life largely depends on the good things to eat that come out of the kitchen.

To own a Majestic is the ambition of every housewife who realizes what this supreme quality range would mean to her in better baking and lighter work.

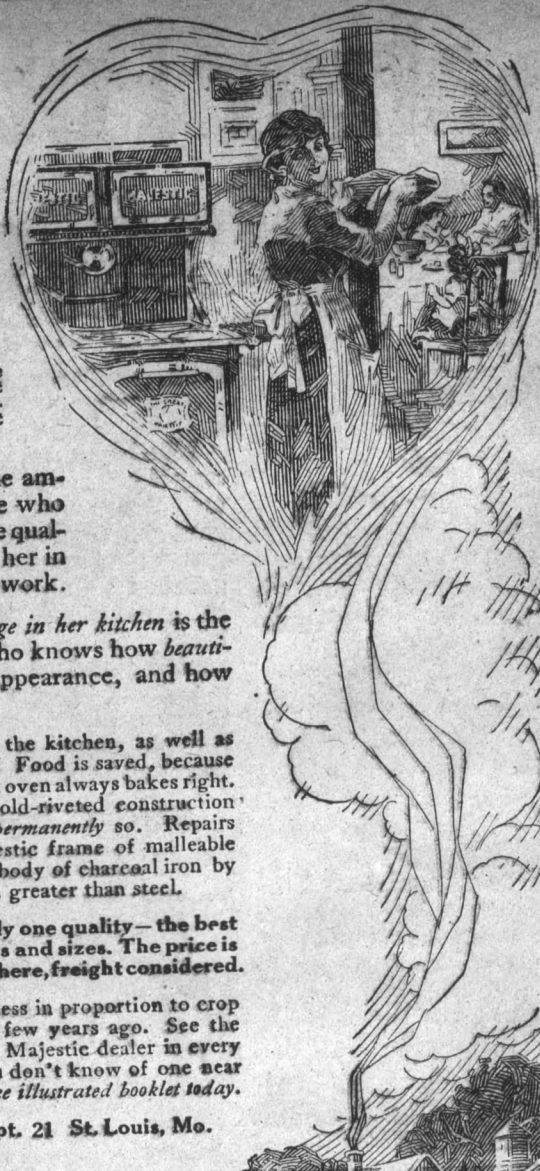
To have a Majestic Range in her kitchen is the hope of every woman who knows how beautiful it is in design and appearance, and how sanitary it is in finish.

Majestic means economy in the kitchen, as well as better baking and less work. Food is saved, because the Majestic's perfectly built oven always bakes right. Fuel is saved, because the cold-riveted construction is absolutely heat-tight—permanently so. Repairs are saved, because the Majestic frame of malleable iron is unbreakable, and its body of charcoal iron by actual test resists rust 300% greater than steel.

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Preserved and sold only in
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A mulcher, smoothing harrow, cultivator, weeder and seeder—all in one. Forms dust mulch—a blanket of loose soil—preventing soil hardening and moisture escaping. Increases yield of corn, potatoes, oats, wheat, etc. Kills weeds. Flat teeth, especially adapted to form mulch. Lever and pressure spring control depth of teeth. Sold with or without seeding boxes for grass seed, alfalfa, oats, etc. Teeth cover the seed to depth desired. Adapted for a large variety of work. In stock near you. Send for catalog.

EUREKA MOWER CO., Box 836, Utica, N. Y.

Four sizes, 5, 8, 10 and 12 ft.



Our Boys' and Girls' Page

My 1918 Garden Venture

By Frederick Kibbe

I REGRET that I shall have to submit such a poor report for this season's work. The dry weather has surely cut down my profit. While my total production has exceeded that of the previous year, I do not feel that I have attained the degree of success I have tried for. Possibly, though, a few disappointments mixed in with the successes, make us better able to cope with the problems which we shall meet when we launch out into later life.

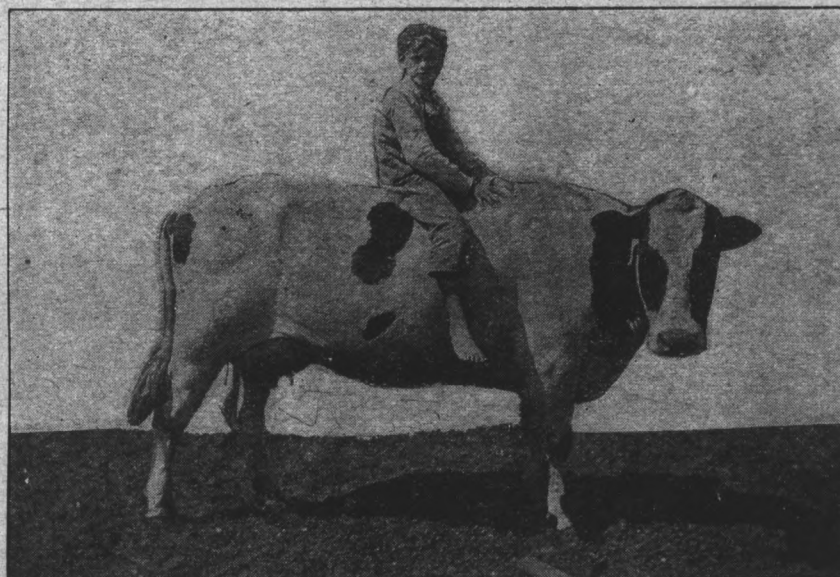
A good agriculturist is one who realizes this fact, and is always able to meet a loss with a smile. He may realize a good profit on a crop, and then lose on another. And so it is to a great extent, a game of chance.

When I mentioned that I have a poor report, it is due to the failure of my crop of tomatoes. The venture cost me in actual money \$27.25, not including my own labor which would be at least \$15. In other words, it cost me close to \$45 to raise about \$35 worth of tomatoes. I had made a conservative estimate, and still adhere to it.

I allowed to lie untrained and found that these were most susceptible to black-rot. I purchased a force pump sprayer, and sprayed the plants with Bordeaux mixture for blight at several stages of growth. The plants were kept pruned to a central leader and were tied about six times altogether. But all my efforts seemed to avail nothing, for at the bearing season the weather was very dry.

I don't know why I have said so much about my tomatoes, when they were a losing proposition, and placed my best crop—peas—of second importance. My, how those peas did grow. Altogether, I had thirty-three rows, fourteen and a half rods long, which produced in all forty-five bushels of peas of good quality. I had some of the first peas in town—the first lot on the fifth of June. This crop was certainly a successful venture.

If cost me, in round figures \$55, everything included, (labor, too). I received close to \$105 for the entire crop of tomatoes. I had made a conservative estimate, and still adhere to it. After all, it is the net profit that we



A Coming Dairyman.

that with a fair season I could have raised at least \$150 worth of the fruit from that patch.

This venture is what lowered the percentage of profit on the garden as a whole. I received valuable experience in the matter of raising tomatoes, from the seedlings up to the harvest time. In a way, when I think of what I lost, I don't regret the venture, because I have gained something of infinitely more value than mere dollars and cents—experience.

When spring came I decided that I would be better off if I raised my own plants than if I bought them outright. I figured that if I failed, I would know that I had made a mistake, and that when I tried again, I should have one less thing to learn. So I built a hot-bed (a rather crude affair at that), on the south side of the house. I bought seedlings of Stone, Earlianna and John Beard plants. I tried several ways of raising them; in flats, pots and in the soil of the hot-bed, but obtained the best results from those raised in pots.

So I have learned something about a hot-bed. When I set the plants out, I had to contend with the cutworm. This pest ruined over fifty plants, and my troubles ceased only when I placed collars around the stalks, near the surface. I staked five hundred plants and now believe that training produces a better fruit. The balance of the plants

should look for in anything. I had very little trouble in disposing of the peas, I would deliver them while I had some women busy on the patch. A little advertising also brought splendid results. When the price here dropped, I took a load of ten bushels over to Battle Creek in a car. I received \$28 for the load of ten bushels, and after I had paid for the gasoline was \$25 to the good.

After my peas ceased bearing, I had the vines plowed under, and I planted string beans and late cabbage in this space. When harvested these crops were mature.

I believe that next year I shall specialize in peas—raise an acre of them. I am sure that with fair success I could net at least \$150 from such a project.

I raised other crops, too, such as string beans, lettuce, corn, beets and carrots. My string beans brought in over \$25 and were very little trouble raising.

Last year, that is during the 1917 season I feel as though I really did accomplish something. With a part of the proceeds I invested in a \$50 Liberty Bond, which served this year as security for a loan from my bank, with which to start my garden operation.

There is no reason why a boy interested in gardening, and with a reason

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Your tie slides easily because of the exclusive patented features found in all

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Your Tie does not catch on your back collar button because of the *Tie-protecting Shield*. And you can easily adjust your scarf because of the *Graduated Tie-space*.
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15% More Milk

Milk is 87% water, and cows cannot give their greatest yield unless they have plenty of water constantly within reach. Farmers who use Libbey Bowls report an increase of 15% to 20%, which soon pays for the bowls.

Libbey Automatic Water Bowls are the most sanitary and successful ever invented. Each bowl controls its own water supply, operated entirely by cow, and may be put at different heights, or in any stall or pen. No float tank required. Cannot overflow; cannot get out of order. Almost no water left in bowl to become stagnant. They save labor and feed and increase milk. Prevent spread of contagious diseases, as each cow has her own bowl and no water can pass from one to another, as with old-style bowls. Very simple and easy to install. Write for circular and prices, also FREE DAILY MILK AND FEED RECORD.

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able amount of head work, cannot make it a profitable as well as interesting work. I believe any fellow will agree with me that it is a great satisfaction to add to his savings account or purchase something he has longed for, with money that he knows he has earned.

When I take stock of my gardening of the past season, I find I have benefited in at least two ways. For one, in dollars and cents earned, and again in the experience which I have gained, and which I hold by no means the least important.

Club Work for 1919

THAT a vast number of Michigan boys and girls have joined the ranks of the producers and are learning lessons of business and thrift is indicated in the annual report just issued by the office of junior extension at M. A. C. on the results of the efforts of Michigan youngsters in 1918. The report sets forth that 46,989 boys and girls, mostly in rural communities, became members of clubs during the year—and incidentally became acquainted with cooperation, helped to raise live stock and crops, and to can fruits and vegetables.

Other items in the report disclosed that during the year a total of 2,700 clubs were organized and supervised. Of these nineteen were corn clubs, eighty-six potato clubs, 1,448 garden clubs, 648 canning clubs, sixty-five were poultry clubs, twenty-three were calf clubs, twenty-two pig clubs, 215 garment-making clubs, sixty-six handicraft clubs, forty bean clubs, fourteen sheep clubs, one baking club, sixteen hot school lunch clubs, and thirteen rabbit clubs. The total cost of supervising the work, which was undertaken as an educational rather than a money-making project was \$54,980, a part of which was paid by the federal government, a part by the state, and a part by county and local governments. The total net profit reported by the youngsters was \$188,290.56—making the total net profit to the state after all costs were deducted, \$132,670.65.

The state leaders who directed this work were Ray M. Turner, state leader of all junior clubs, and Miss Anna Cowles, state leader of girls' clubs.

MACOMB FARMERS' CORN SHOW.

(Continued from page 254).

the most difficult projects which the average farmer has to face, and a glance at the average corn crib bears ample testimony to the fact that the men have not regarded blood lines very closely.

One of the big drawbacks to constructive work is the fact of open fertilization, and also that neighbors have different varieties, which the wind does its best to unite, and which Dame Nature combines in every conceivable combination of color, quality and yield, until the whole thing rests upon the most unstable foundation. Here, then, rests the success or failure of our work: (1) to create an interest on the part of men within the immediate vicinity to want a constructive program worked out; (2) to show by comparison the real true value of a standard variety; (3) to stabilize the variety by constructive breeding, and (4) to instill into every man a desire to become an efficient factor in the program of his county.

We believe firmly in every county standing for something, the idea of a hit-or-miss program, mostly the latter, does not appeal to a constructive, thinking man. Therefore we have set our shoulder, as a county, to the wheel of constructive corn breeding, and we believe that from our campaign results will be accomplished which will have far-reaching effects on our county as a whole.

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---are always cheapest in the end

AND thousands of Michigan Farmers know from experience that Apex Brand Field Seeds are best for Michigan soil and climate. Just ask your neighbor what he knows about Apex Brand Field Seeds.

For over 25 years we have distributed the finest quality northern grown field seeds to Michigan farmers, and the result has always been—the maximum bushel yield per acre.

Get the right start this year—sow Apex Brand Field Seeds because they are

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- carefully re-cleaned.
- tested for purity and germination by a former Asst. State Seed Analyst.
- of uniform quality.
- backed by the largest exclusive field seed house in Michigan—with a reputation of over 25 years square dealing.
- and because they have proved to be the seeds that grow best in Michigan soil.

Make a start today toward more bushels per acre in 1919 by filling in and returning the coupon below.

Caughey-Jossman Company
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APEX BRAND RE-CLEANED and TESTED FIELD SEEDS

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CAUGHEY-JOSSMAN COMPANY,
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Give me the name of the dealer nearest me who sells Apex Brand Field Seeds. Also send me samples of the following field seeds.....

Signed.....

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RED SEAL DRY BATTERY

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140-Chick Belle City Brooder



Light in Poultry Houses

I WAS interested in the article in the January 4 issue, "Long Days for Hens," giving report of experiments at Purdue University with electric lights mornings and evenings in the hen houses for the purpose of lengthening the days for the hens. There has been a good deal written this winter in the poultry journals regarding this business of lengthening the hen day with a view to securing more of the much sought after "winter egg," and with few exceptions the writers have been very much in favor of the stunt. It has been used successfully in some sections along the Pacific Coast for a number of years. George A. Newell, of Chicago, has issued a book giving results of his experiments with a small flock of Leghorns in Chicago, under electric lights. The result obtained by Mr. Newell as set forth in his book, encouraged me to go to the expense this fall of wiring our hen houses and the results in the two months that I have been running the lights have far more than justified the expense.

I have been using the lights over four flocks of pullets, about ninety birds each, April and late May hatched, about half of each; and a flock of one and two-year-old hens. Lights were started November 10, being turned on at six in the morning, run until daylight, turned on again at dusk and run until eighty-three to nine in the evening, which I note are the same hours which they are using at Purdue. I believe these hours will work out to be most convenient on the average plant. Some use them in the morning only, starting them at three or four o'clock. When they leave the roosts at that hour it seems to me they would be apt to do more or less standing around before daylight and that we know is the coldest part of the day as a usual thing in winter. By getting them off at six I am there soon after with a pail of feed and they will be busy working in litter until after daylight. One advantage in running lights in the morning only is the saving in the installation, as it does away with the necessity of having a dim light line all through. We have three wires all through, with two sixty-watt lamps in each twenty by twenty-foot pen on one line and two candle-power lamps to each pen on other line to use as dimmers to enable the birds to get to roost after turning out the bright lights. Both switches are in the house, making it unnecessary to go outside after the last night feeding.

The day lights were started on November 10. I gathered thirty-five eggs. Two weeks later I gathered one hundred and forty-two, and they increased steadily until laying about twenty dozen per day. The expense of installing the lights, outside of labor, was about \$45, practically all work being done by the writer, with a little expert advice and assistance in making connections, etc. At prevailing egg prices this winter it will be seen that a very few days eggs after they had had the lights for a couple of weeks, paid the bill. The whole flock laid in December 6,029 eggs, or 502 dozen, for which we received an average price of eighty cents per dozen, or over \$400 for the month's eggs. These birds no doubt would

have laid very profitably without the lighting, but I firmly believe at least half of this income directly due to the lights.

One noticeable advantage was in the rapid maturing of the late pullets after they were given the lengthened day. Within a very few days the combs commenced to redden, the bodies to plump out, and egg production jumped from nil to thirty per cent in a few weeks. Also the pen of old hens have shown striking results. I do not expect much as a rule from old hens in early winter. These birds were in full molt when lights were started, and laying not at all. They got their new feathers as if by magic, and egg production jumped to as high as fifty per cent some days within a month.

We are fortunate here in having the Edison current available for such uses. However, where it is not available there are several makes of high-power lanterns, which should give the same results, although not quite as convenient to use.

There are a number of owners of small flocks in this community who have followed suit this winter, with nothing but good results so far as egg production goes. It seems to be a matter of getting a feed into the birds late enough at night to hold them through the night and give them a surplus for the making of eggs. Under ordinary conditions it is well nigh impossible for a hen to eat enough before going to roost to keep her through the fifteen hours she sits on the roost, and have enough left over to make an egg.

Oakland Co. A. N. DEAN.

Poultry Notes

THE one-fourth-inch mesh wire cloth makes a strong protection for open-front houses. The mesh is small enough to keep sparrows from entering the house and roosting or stealing food from the hoppers. When properly fastened from the inside it is rather difficult to remove from the outside and this is a safeguard against thieves.

It pays to padlock the poultry house every night and know how many birds are supposed to roost there. Then an occasional inventory will tell if thieves have been making visits to the house. Some poultrymen construct electrical alarms which will ring in the house if there is any tampering in the poultry yard at night. Strict measures should be taken with poultry thieves at all times and now there is nothing that will discourage poultry production in a district more than the feeling that thieves will carry off more or less of the birds which have been eating high-priced feed since last spring.

Mend the broken windows if there are any, and also putty down any panes that are loose enough to permit draughts where they are not wanted. There are very few farm poultry houses that have too much open-front and in some cases a part of the glass windows in front should be removed and curtains substituted. Satisfactory curtains can be made for poultry houses out of old cloth sacks. By mending a few sacks or cutting them up and piecing together, a very suitable material is obtained for poultry house curtains.

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Have chicks of Utility and Exhibition quality.
S. C. White and Brown Leghorns, \$12.00 and \$14.00 a 100; Barred Rocks, \$15.00 and \$17.00 a 100; Rose and Single Comb Reds, \$15.00 and \$18.00 a 100; White Wyandottes, \$15.00 and \$18.00 a 100; S. C. Anconas, \$14.00 and \$17.00 a 100; S. C. Buff Orpingtons, \$18.00 and \$21.00 a 100; S. C. Black Minorcas, \$18.00 a 100; Odds and Ends, \$12.00 a 100. Eggs for hatching \$7.00 to \$8.00 a 100. Combination orders on chicks, hoppers and brooder stoves. Give us your order and we will make you a satisfied customer the same as hundreds of others. Order direct from this ad. But before ordering elsewhere get our free illustrated catalog. Get your order in early. Ready to ship in March.

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

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Assorted, for Broilers

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Strong Day-Old Chicks

March 16c each; April 15c each. Parcel postpaid. Lots of 25 or over, guaranteed delivery alive and lively. Hatch every week after March 17th. No circular. Please book order direct from adv. and send orders early.

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Cockerels of great size and superior breeding. Barred right, bred right, built right. Even better than last year. \$4.00 and \$5.00.
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Baby Chicks S. C. White and Brown Leghorns and Barred P. Rocks, by parcel post or express, safe delivery guaranteed. Knoll's Hatchery, R. 3, Holland, Mich.

a nest for every four hens in the house as this gives plenty of room and there will be little overcrowding. When there are only a few nests in the house the hens are tempted to hide their nests and this may result in many lost eggs. Nests should be movable so that they will not form breeding places for mites and lice. We have found that twisted hay makes a better nesting material than straw as the straw is soon broken up or scratched out on the floor. Clean nesting material means clean eggs. If the litter works out of the nest it should be immediately replaced to prevent broken eggs. Broken eggs are a dead loss and worse. They may teach some of the best hens to eat eggs and it is a difficult habit to break.

Some large poultry houses have been profitably equipped with ventilators which come down nearly to the floor and help to draw away the dust and keep a fresh stream of air constantly circulating through the house. When a large number of birds are spending the winter in a limited area it is not difficult to realize the necessity of an abundance of oxygen. The birds are busy all day long. They are eating heavy rations to stimulate egg production and the conditions under which they are living are artificial. It means that fresh air is almost as essential as food if the birds are to be kept in top-notch laying condition.

In making the doors of a poultry house have them wide enough to permit the wheelbarrow and the barrel sprayer to enter. This saves much time as the wheelbarrow often comes in handy in carting nesting material, cleaning dropping boards or in wheeling out crates of poultry that have been taken from the roosts at night. A large feed cart that will go through the doors is handy in distributing the green feed, such as mangels and cut clover in the winter.

When building a poultry house there will often be enough scrap lumber remaining to build one or two feed bins in the house. These can be filled with scratch grain on a pleasant winter day and it will save carrying the grain from the feed room to the houses when the weather is stormy. It is quite a saving in time to have this grain supply stored right in the laying house where it is available for instant use.

The glass windows in the poultry house should be movable so that they can be opened to the fullest extent when the weather is good. Even in the winter there will be fine days after severe storms when both the birds and the house will be benefited by the greatest possible amount of fresh air and sunshine.

Some poultrymen with large flocks have the rain water from the roof piped into a tank where it can be used in watering the flock. This saves quite a little pumping and it is surprising how much water a flock of several hundred birds will consume in a day.

In most large poultry houses some of the hens will lay in the litter at the rear of the house beneath the dropping boards. It is a nuisance to have to crawl under after these eggs and it pays to have a light-handled rake in the poultry house to assist in gathering them. They can be slowly raked out of the litter with little danger of breakage.

Ingham Co.

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The officers for the following year are as follows: Miss Addie Sly, Birmingham, owner of the Sly Fruit Farms, and who, as secretary of the Oakland County Association has succeeded in building up one of the best organizations in the state, was elected president; Leonard Griggs, Flint, one of Michigan's best honey producers, was elected vice-president; B. E. Kindig, former secretary and treasurer, was re-elected.

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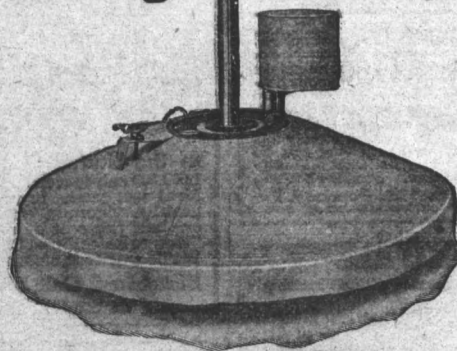
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Made in Two Sizes. 50-Inch Canopy, capacity 100 to 600 Chicks, and 33-inch Canopy, capacity 50 to 200 Chicks.

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BABY Chicks and Eggs. Barron English White Leghorns, "The Big Kind," 248 to 308, egg stock, White Mrs. E. L. GARLOCK, R. 7, Howell, Mich.

Barred Rocks—EGGS FROM STRAIN with records to 250 eggs a year. \$2 per 15. Delivered by parcel post, prepaid. Circular free.
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Barred Plymouth Rock Cockerels. Fullblood \$5 each; prize winners for 17 years.
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25 Barred P. Rock Ckls. \$3.50 to \$5, each, 10 good working P. R. Hens \$2.
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Additional Poultry Ads. on Page 279



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DAIRY ASSOCIATION CO.
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Herds and Flocks of Europe

(Continued from page 243).

how far the United States will be called on for assistance in this regard.

In view of the rather strong indications of the development of a demand for considerable numbers of dairy cattle from the United States, I took the liberty while in Paris, with the approval of the chairman of the Commission, to exchange notes with the head of the French Live Stock Sanitary Service, suggesting an informal understanding with the Bureau of Animal Industry on the subject of cattle importations. This correspondence is being forwarded direct to the Chief of the Bureau. The attitude of the French official is encouraging and the correspondence can be made the basis of more formal negotiations if desired.

With horses and mules it is to be expected that one of the first sources of supply will be those now in the French and American armies. Naturally the British horses first relieved will go to British farmers. The American armies can do French farmers a service if they are allowed to buy horses and mules, especially the heavier ones, as rapidly as demobilization will permit. There will be no object whatever in bringing all the American army animals home. If the American army does not need them in France, the French and Belgian farmers should be allowed to have them. Arrangements should and no doubt can be made to insure equitable prices for such animals. They should not be "condemned" and sold at auction.

I am unable to see that the United States can offer French farmers any assistance in rebuilding the sheep industry. Possibly Argentina would be a more promising source of supply.

General Considerations.

In the agricultural reconstruction work at the close of the war the farmer of Continental Europe should neither be given charity nor should he be made the victim of exploitation. Neither should the farmers of any other countries be allowed to suffer from the consequences of unbalanced production, from inadequate distribution, or from unwise financial organization.

This general statement leads to the suggestion that agricultural matters in the future will receive much larger consideration in international councils than has heretofore been the rule. American business men on war duty in London and Paris, almost without exception, recognize the importance of agricultural matters in world affairs and at the same time admit their inability to handle them on account of their lack of technical knowledge.

After the first need is met, after starving, shivering peoples are fed and clothed, crop growing is restored, and live stock herds are replenished, the great problem to be considered is the development of the world's agriculture in order to prevent unbalanced production. No one will predict at this time how the American farmer should prepare for the 1920 wheat harvest, because no one knows what the consuming nations of the world are likely to need or what other producing nations are likely to do. Neither can anyone offer any predictions as to the Ameri-

can program for meat or wool production in 1925. Why should farmers everywhere rush into the production of such a staple as wheat if on investigation a conservative planting program will satisfy all reasonable demands and provide for unforeseen contingencies? The United States suffered from unbalanced production for thirty years after the Civil War. The rapid development of farming in the upper Mississippi Valley and westward is a splendid theme for a platform orator to use to thrill his audience. Practically, however, it wrecked for a generation the agriculture of the North Atlantic states; it stopped the growing of wheat in England and in the very land where this development took place "a farmer" in the nineties was a by-word for an unwise, short-sighted individual. In Iowa at this time the bright boys in the farm family were the favored ones and, if the father could afford it, received an education to fit them for a profession or for business. The dullards, who were not worth an education in the father's opinion, were left to manage the farm. In those days corn was burned for fuel in Nebraska, and Iowa farmers welcomed an epidemic of hog cholera because the ravages of the disease sent the market up. The land was not to blame, nor the weather, nor the government. This calamitous condition was the result of unbalanced agricultural production; more grain and meat were produced than the world's markets could absorb.

For the protection of the American farmer and in justice to the farmers of other countries, nothing should be left undone which humanly can be done to prevent such an unwise development as a sequel to the present war. Fortunately, in the Agricultural Extension Act, and the various services organized under it, American farmers have functions at their command which may fairly be expected to protect them in any probable developments of world-wide agricultural conditions, provided full and accurate information is at the command of the United States Department of Agriculture. This information cannot be forthcoming unless the United States government can answer two questions: (1) What are the prospective food, feed and fiber demands of the world? (2) What are the prospective production possibilities of the agricultural countries. If the Department of Agriculture can forecast the answer to these questions with reasonable accuracy sufficiently in advance of the production of a given crop, the county agents can furnish our farmers with information which will enable them to expand or contract their operations to conform to world requirements. The success of the production campaigns of the Department undertaken during the war in the light of fairly accurate knowledge of world conditions is suggestive of what may be done under peace conditions with the more accurate information which peace will make available. I therefore venture the opinion that production programs will be necessary for the protection of the American farmer and they will have to be based on information which can only be obtained

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FLINT MAPLECREST BOY

His sire is Maplecrest Korndyke Hengerveld. His three nearest dams each over 30 lbs. of butter in 7 days. His dam and granddam both made over 123 lbs. of butter in one year. It is the yearly cow we are looking for to deliver the goods. Flint Maplecrest Boy's Dam is Gluck Vassar Bell, 30.57 lbs. of butter in 7 days and 123 lbs. in 30 days. Her butter fat test is 5.2. This looks about right to the man who goes to the creamery. We have bull calves from 2 weeks to 12 months old. From A. R. O. dams and sired by Flint Maplecrest Boy, which we will sell at a dairy farmers price breeding considered. Just think 40 more cows to freshen which means more bull calves. Let us know your wants. We will make terms on approved notes.

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Holstein-Friesian calves weigh 100 to 135 lbs. at birth. Reasonably fed on skim milk and a little oil-meal, they grow like weeds.

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Start a herd with dam, daughter & granddaughter.
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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.

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

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

THE HOLSTEINS

At Maple Avenue Stock Farm are under Government supervision. The entire herd have just been tuberculin tested and not one reactor. A good place to buy that bull you are looking for, and I have two very fine, richly bred, and splendid individuals ready for any amount of service. I want to answer any question you may ask about them.

L. E. CONNELL, Fayette, Ohio.

FOR Sale \$125 buys a registered Holstein heifer calf, born Jan. 25, 1918 9½ white; well bred, a beauty, and a grandson of Maple Crest Korndyke Hengerveld, 90% white, a good one born Feb. 1, 1919. Not related. Write W. C. HENDEE & SON, Pinckney, Mich.

The Jersey

Dollars in profit go with Jerseys. They actually "milk money." They feed less, they look real value. Jerseys are a gilt-edge investment for the one who home or the hundred-cow dairy farm. There are a thousand proofs of superiority. Write to breeders for prices and pedigrees. Let us send you "Jersey Facts", free.

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"Claims" don't mean much to such farmers. They've had lots of separator experience. "Performance" means a thousand times more to them than claims.

They've watched the De Laval "perform" for several decades. They know that it is reliable and they stick to it, just as does the creameryman who is also "separator wise."

Why not be guided by the experience of these men and buy your De Laval "Sooner" instead of "Later?"

Order your De Laval now and let it begin saving cream for you right away. See the local De Laval agent, or, if you don't know him, write to the nearest De Laval office as below.

The De Laval Separator Co.

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OVER 2,325,000 DE LAVALS IN DAILY USE



Shorthorn Dispersion Sale

An extraordinary opportunity for Breeders and beginners. Every animal in the herd will be sold to highest bidder. At my farm near Chelsea, Mich., one-half mile south of Hoppe Road on Jackson & Detroit Electric Line.

BONDS ACCEPTED

On February 25, 1919, at 2:00 P. M.

30---Head---30

22 Females

8 Bulls

Most of the foundation Matrons of my herd were sired by Imp. Rubicon. These two bred to Grandsons of Imp. Bapton Diamond and Lovat Champion to get my present herd of shapely dual purpose Shorthorns. All calves under 8 months sold with dam.

Will sell all my horses, registered Black Top sheep and farm implements in forenoon on above date.

Cattle sale will be held under cover regardless of weather conditions.

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Chelsea, Mich.

E. KALMBACH, Auctioneer

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The Michigan Live Stock Insurance Company

A Michigan organization to afford protection to Michigan live stock owners. We have paid over \$17,000 in death losses since we began business July 5th, 1917.

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Your animals are well and sound today but tomorrow some of them are dead. Insure them before it is too late.

We indemnify owners of live stock—horses, cattle, sheep and hogs, for loss by accident and disease.

See our agent in your vicinity.

Colon C. Lillie, Pres.
319 Widdicombe Bldg., Grand Rapids, Mich.

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through agents of the Department in European capitals such as London and Paris.

Will this be all? Already the American papers are running accounts of the food distress among the people of Austria-Hungary and Bulgaria, and the statement is made that the food shipment program may have to be increased five million tons over the first arrangement in order to meet the unexpected food developments caused by the Austrian collapse. Hints are even thrown out that Americans may even be called upon to meet one of the supreme tests of a true Christian—to share their food with those who have heretofore been enemies.

One of the young Americans just out of Russia says that Bolshevism is spreading throughout the Austrian territories and Turkey and that the best cure for it is food. A leather expert in touch with Russian conditions says that next to food the Russian people will need shoes next winter more than anything else. What an appeal these facts will make to the generosity of the American farmer! How they could be used to fire him to sturdy efforts to grow more than America needs! But what of the wheat and wool in Australia, the production possibilities of Russia herself, of Roumania and France? Suppose the Australian wheat were a surplus. What could such a surplus not do to the price of American wheat if suddenly thrown on the market? Let us answer these questions by saying that the American farmer should not be permitted to let generous motives get the better of his sound business judgment. However, Russia may have to be the world's ward for some time to come. If so, the rest of the world has to supply her with food for a year or two, and to supply Austria and possibly Germany even, common sense and foresight seem to urge that as soon as possible the associated nations draw plans accordingly to meet the world emergency.

Let us pass over the question of the distribution of food, feed, and fibers with the assumption that both on sea and land means will be found to move these products from the producer to the consumer.

There is another aspect of this subject which compels attention to agricultural production as an international world-wide problem. The financial problems after the war will be enormous. True, we Americans do not have to fear the consequences of a bad banking system which caused such havoc in the United States after the Civil War. The United States has a safeguard in a banking system which has stood the strain of war splendidly. The war as a whole may not have been scientifically financed, but, in the light of the information available, the work has been wonderfully well done. When peace comes and the ledger is cast up, the world will learn where it stands. It will know what interest charges must be met, what sinking funds must be created, what retrenchments made—in fact, the world will then find out that it is financially poor but sound in mind and heart. The job then will be to get to work, meet the interest, create the sinking funds, make the retrenchments, and strive with might and main to create wealth to replace as far as possible that which has been destroyed. It is inconceivable in the first place that such a stupendous financial task can be performed without cooperation among the leaders of the nations now associated as belligerents, and in the second place it is equally inconceivable that the possibilities of agriculture as a source for the rapid creation of wealth could by any chance be overlooked.

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What is Pratt's Animal Regulator?

Not a food. A general conditioner and tonic for horses, cattle, sheep and swine of all ages. A health builder and preserver.

What does it contain?

Medicinal herbs, roots, etc. Natural tonics, appetizers, digestives, blood-purifiers, worm-expellers. A scientific, perfectly-balanced combination needed by working, producing and growing animals.

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Pratt's Animal Regulator improves and preserves health and, in a natural way, increases strength, growth and production. Prevents most diseases. Saves feed by aiding digestion. Makes rich, red blood and improves circulation. Regulates the bowels. Expels irritating worms. Makes livestock more profitable.

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Satisfaction guaranteed or money refunded. The user to be the judge. America's original stock tonic and conditioner, widely used for nearly fifty years.

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Daily, in small quantities, mixed with the feed. Full directions with each package.

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The price is low—large packages most economical. Pratt's Animal Regulator actually costs nothing, since increased production returns the investment with big profits.

Where can I get it?

From 60,000 Pratt dealers. There is one near you. Direct from manufacturers if your dealer can't supply you.

Can I learn more about it?

Yes! Write the Pratt Food Co., Philadelphia, for valuable FREE BOOK on profitable management of live stock. Mail your request today.

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Registered and high grade Holsteins. Eight cows from three to eight yr. old some fresh others to freshen in Feb. and Mar. from 30 lb. sires, others bred to a 30 lb. sire good dairy cows. Will sell one or the eight.

HENRY S. ROHLFS, R. 1, Akron, Mich.

Young bull ready for service from a 21.27 lb. (record just made) 3 yr. old daughter of Sire Korndyke Veeman Hengerveld No. 10088. Sired by a 32 lb. son of the \$50,000 bull. Other bulls for sale by the same sire. Write for pedigrees and prices.

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For Sale at a bargain. A few young bull calves from high producing stock. Buy one of these fine calves and raise a bull for next fall.

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

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

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\$22.46 above cost of feed for Jan. fresh July 3 record of dam's dam of bull calf adv. M. F. Feb. 1 \$9.52 for Jan. fresh April 20 test 4.1% 2 yr. old sister to dam.

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\$50.00 Buys a Reg. Holstein Bull Calf. Born Oct. 30 1918, delivered at any express station in state. Also have a yearling.

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Maple Lane R. of M. Jersey herd. Bulls, bull calves and heifer calves sired by a nephew of the new World's Champion, Sophie's Agnes. Also R.I.R. Cockerels, both combs. Irwin Fox, Allegan, Mich.

Hillside Farm Jerseys, offer 3 yearling bulls, backed by tested dams, and sired by a double grandson of Royal Majesty, first prize & junior champion at Mich. State Fair, good individuals. O. & O. Deake, Ypsilanti, Mich.

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LILLIE Farmstead Jerseys. Young bulls ready for service from R. of M. cows. A few bred heifers and cows. COLON C. LILLIE, Coopersville, Mich.

The Wildwood Jersey Farm.

Bulls for sale by Majesty's Oxford Fox 134214 and Eminent Lady's Majesty 150934, and out of R. of M. Majesty dams.

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For Sale Registered Jersey bulls ready for service and bull calves.

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5 Bulls 9 to 14 months old Prince Donald, Farmer and Perfection Fairfax breeding.

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REPEATERS AND PERFECTIONS Young stock for sale at all times.

80 head in herd, all ages. Farm 5 miles south of Ionia. Visitors welcome. JAY HARWOOD, Ionia, Mich.

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4 head, registered, 4 years old, and bred. Will contract calves at one-half price of cows, if taken at once. Also two bull calves 8 months old for sale.

COLE & GARDNER, Hudson, Mich.

Lakewood Herefords Strong in the blood of Anxiety 4th strain that breeds true to type and predominates the leading show and sale rings of the country. A few high class young bulls for sale. Come see and compare. Farm adjoins town. City Phone 21.

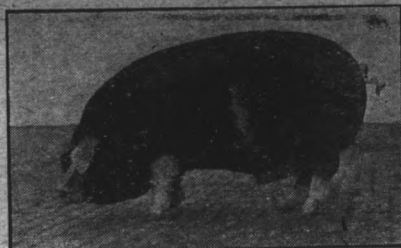
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Herefords Bob Fairfax 494027 at head of herd. Stock for sale, either sex, polled or horned, any age. Priced right. EARL O. McCARTY, Sec'y. H. B. Ass'n. Bad Axe, Mich.

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

Shorthorn Seven Scotch and Scotch Topped bulls for sale. Price reasonable.

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



Queries Answered

RATION FOR PIGS.

I would like your opinion on the following ration for growing pigs: Two parts corn, two parts oats, and one part barley, cooked. Also how would the same mixture do for hens? I also have some skim-milk.

Eaton Co. C. P.

Your grain ration of two parts corn, two parts oats and one part barley, if fed along with skim-milk would make an excellent ration for growing pigs. The same grains, supplemented with a dry mash would make an excellent ration for hens. For feeding hens better results would come from feeding the grains whole in a deep litter and furnishing a dry mash made up of bran, middlings and ground grains. While many feeding authorities do not favor cooking food for hogs, yet it is a fact that many good feeders report excellent results from the practice. During cold weather pigs certainly do relish a warm feed in the morning.

W. M. K.

FATTENING HORSES.

Will you please furnish me with information on fattening horses? I have several three and four-year-old horses that I wish to increase the weight of as rapidly as possible until the tenth of March, when I will have an auction. What is the best method and ration for doing this? Is there anything that I can do to cause them to shed their winter coat by March 10? I am now feeding corn and oats and mixed hay. I also have barley, rye, and a small quantity of flaxseed, ground.

Lenawee Co. I. W. B.

Corn and oats, equal parts in bulk, ground, and supplemented with one-half pound per day per head of old process linseed oil meal would make an excellent grain ration to feed with your mixed hay. Feed carefully until your horses gradually become accustomed to a full ration.

W. M. K.

SILLO FOR TWO COWS.

Would it pay to build a silo on twenty acres of land to keep four cows and two horses? If it would what size would be best to build, or would it pay better to raise beets to feed in the winter? I have about ten acres of marsh ground that I can use for pasture after about the first of June till the middle of October. The balance of the year I have to keep them on the twenty acres of high ground.

Gratiot Co. C. F. J.

As a general proposition it would not pay to build a silo for less than six or eight cows. One cannot feed off sufficient silage from the surface to prevent too much loss from decay. You would probably find it more profitable to grow root crops for feeding than to build a silo, unless you can make plans to keep more cows.

W. M. K.

BEETS WITH CORN SILAGE.

Will you kindly tell me your experience in feeding beets to milch-cows, in a ration with ensilage and alfalfa hay? I will have to buy grain anyway, so presume it would be cottonseed meal or corn gluten feed to go with it. I should think it would be all right unless the two feeds would prove too loosening.

Lenawee Co. H. E. B.

Beets are always a splendid food to feed dairy cows whether you have corn silage or not. Of course, they are more valuable if you haven't got the silage than they are with it because we want to furnish succulency in the ration and either silage or beets will furnish it. At the same time, beets are

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Easiest-running and easiest-cleaned Cream Separator made. Skims right down to last particle. Save all your Cream. Make more profits from your herd. Write for special circular.

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

BIDWELL STOCK FARM,
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Shorthorns

Home of the Mich. Champions. We have just purchased the entire herd of Scotch cattle belonging to the Estate of the late A. D. Flinton, Kansas City, Mo. About Feb. 1st, we will offer a choice lot of young bulls for sale.

C. H. PRESCOTT & SONS,

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

For Sale Shorthorns of Quality Scotch and Scotch Topped descendants of Archers Hope, Avondale, Maxwain Sulton and White Hall Sulton by the Ocala Co. Shorthorn Breeders Ass. JOHN SCHMIDT, Sec. Reed City, Mich.

CLARADALE Milking Shorthorns and Large type Berkshire hogs, young bulls ready for service at reasonable prices, white and roans the ideal farm cow for butterfat, beef and milk. We have them, write F. W. Johnson & Sons, Custer, Mich., Drawer 26.

Shorthorn Bulls ready for service of the choicest breeding. Write me you want.

A. A. PATTULLO, R. 4, Deckerville, Mich.

The Kent Co. Shorthorn Breeders have both males and females for sale. Ask about them.

L. H. LEONARD Sec., Caledonia, Mich.

Oakwood Shorthorns. Three bulls sired by Gloster Boy 489661, 9 to 12 months old.

COLLAR BROS., R. 4, Conklin, Mich.

Milking Shorthorns of most noted families either sex, all ages, write OSCAR SKINNER, Pres. Central Mich. Shorthorn Ass'n., Gowen, Mich.

Scotch Shorthorn. A fine lot of young bulls for sale. Phone Pontiac 71573 or Orion Exchange. John Lessiter & Sons, R. 1, Clarkston, Mich.

For Sale 2 yr. old Scotch herd bull sired by Valtant 33720, a Lespedeza Farm product.

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SHORTHORNS for milk and beef are raised in the BUTLER HERD. Young bulls for sale.

ROSEMARY FARMS, Williamston, Mich.

Five Shorthorn Bulls ready for service. One herd bull 4 years old.

W. F. BARE, Aloha, Mich.

Stockers & Feeders For Sale 180 Shorthorn Steers - ave. 1065 lbs. 170 Hereford Steers - ave. 980 lbs. 2 cars of yearling Herefords - ave. 750 lbs. 2 cars of Shorthorn yearlings - reds and roans. These steers are dehorned and in good flesh. Wapello Co. Ia. is noted for its good cattle. Write JOHN CARROW, R. 3, Ottumwa, Ia.

For Sale 2 red Shorthorn bulls, 7 and 10 months, good milking strain.

CHAS. WARNER, Jr., Imlay City, Mich.

Milking Shorthorns Clay bred young bulls 3 to 10 months old.

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Three Young Shorthorn bulls, Avondale Breeding. For Sale.

BEDELL & WHEATLAKE, R. 5, Big Rapids, Mich.

HOGS

For Sale Reg. Berkshire Sows & Boars all ages. Priced to sell.

RUSSELL BROS., R. 3, Merrill, Mich.

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Michigan Breeders and Farmers prefer to buy Duroc Jerseys at private rather than public sale. For the first time in five years we are able to offer as many as 40 bred sows and gilts privately. Same blood lines and bred to some prize winning boars as our sale stock. Prices are in keeping with the individuality and breeding of the offering, send for sale list. If you need a boar we have them.

BROOKWATER FARM,

Ann Arbor, Michigan
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J. BRUCE HENDERSON, Manager.

greatly relished by cows and they are a splendid food. If you do not feed them in large quantities I do not believe you will find them loosening.

You are right in believing that you should have cottonseed meal or oil meal or gluten feed to balance up this ration and you need these foods whether you feed beets or not. If you have no home-grown grain and would have to buy everything, I would feed two pounds of oil meal or two pounds of cottonseed meal per day to the cows. I did this one winter and got good results. But at the present price of oats it would be fully as cheap to feed part of the ration of oats, say feed two pounds of cottonseed meal or two pounds of oil meal per day and then a sufficient amount of ground oats to make a pound of grain for every four pounds of milk produced in a day if the milk tests less than four per cent, and a pound of grain per day for every three pounds of milk produced if the milk tests more than four per cent.

C. C. L.

MANGELS IN RATION FOR DAIRY COWS.

What do I need to balance up my ration for dairy cows of the Jersey type, and how much will I feed? My feed consists of roughage, cornstalks, bean straw and clover hay, grain, oats and corn with mangels.

Cass Co.

A. B. C.

As long as you have no corn silage to furnish succulency, mangels are a very valuable part of the ration, not because of their food value particularly, but on account of their succulency. They help to keep the digestive organs in good healthy condition.

Your grain ration of oats, barley and corn do not furnish a sufficient amount of portein to balance the ration of cornstalks, bean straw and clover hay. To get the best results you should add cottonseed meal, oil meal or gluten feed to this grain ration. My advice would be to feed each cow two pounds of oil meal or two pounds of cottonseed meal per day, then ground corn and oats, equal parts by weight, or oats and barley equal parts by weight, or you can mix all three of them in addition to the two pounds of concentrated protein food. Feed a sufficient amount of corn and oats to give each cow one pound of grain for every three pounds of milk produced in a day.

C. C. L.

SOME GOOD STEERS.

WOLF GALINSKY, a Pellston cattle buyer, recently purchased from the Thomas Quinlan & Sons Co. farm near Pellston, thirteen head of grade Angus steers which he shipped to Chicago with one hundred and seven other cattle, four carloads in all. For the thirteen grade Angus steers he paid the highest price ever paid in northern Michigan for cattle; double the price paid for the one hundred and seven head. The thirteen head made him more money than the remaining one hundred and seven. In fact, without the thirteen steers he would have lost money on the four carloads.

The sale of the good cattle at the stock yards was quick and the price good, while the sale of the inferior cattle dragged, and price was one-half as much per pound.

These cattle were the result of one cross between distinctly scrub mothers and a pure-bred sire. The cost of raising them to two years old was less than the cost of raising the scrubs.

When the above is the actual experience, seen on the live stock markets every day, why not help good old Emmet county to become a first-class cattle country, which nature intended it to be, by helping to eliminate the scrub sire. For every carload shipped out of here, Emmet county could just as easily have received twice the amount actually received, by just using good sires.

The Good Sense Work Suit

JUST look at this picture—you can see comfort and ease in every line of these Lee Union-A-alls. So practical! So convenient! So economical! Don't wait. You need Lee Union-A-alls now. Ask your dealer. Write for descriptive booklet. Address Department 2232

THE H. D. LEE
MERCANTILE CO.

Kansas City, - Mo.
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One Piece Like Your
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is embossed on
the buttons. Look
for it. Remember
there is only one
UNION-ALL—the
LEE.

DUROC

Bred sows and last fall boars, State Fair Champions and winners. Down to date breeding and correct type. Orion's Fancy King heads herd.

NEWTON BARNHART, St. Johns, Mich.

DUROC--JERSEYS

E. D. HEYDENBERG, Wayland, Mich.

WE HAVE A FEW

choice young sows bred to a Defender Boar. We think this is some of the best Duroc stock in the country. Write for information.

THE JENNINGS FARMS, Bailey, Mich.

OAKWOOD FARM

A few choice Duroc fall pigs left. Also a fine yearling sow bred for Mar. litter. Write for prices.

BUSH BROS., Romeo, Mich.

Duroc bred gilts for March and April farrow with quality and size. Fall pigs both sexes not akin.

W. C. TAYLOR, Milan, Mich.

Duroc Jerseys Large heavy-boned gilts, bred to Junior Champion boar for March and April farrow; prices reasonable. Come and see them. Free livery expenses paid if not as represented.

F. J. DRODT, R. 1, Monroe, Mich.

Duroc Jersey Sows, Large type, heavy boned, 1000 lb. herd.

JOS. SCHUELLER, Weidman, Mich.

Duroc Jerseys. A few choice gilts bred to Brookwater King Special 111467. (A full brother to Brookwater Lass D, the grand champion sow at the 1918 International). Carey U. Edmonds, Hastings, Mich.

Breed The Best THE WORLD NEEDS LARGE FAT HOGS

Why lose money breeding and feeding scrub hogs? Two of our O. I. C. Hogs Weighed 2806 Pounds.

We are the most extensive breeders and shippers of pure bred hogs in the world. Write today for the true story of the real O. I. C. Hogs. All foreign shipments

U. S. Government Inspected We have bred the O. I. C. Hogs since 1893 and have never lost a hog with cholera or any other contagious disease.

Originators of
the Famous
O. I. C.
Hogs

WRITE
-TODAY-
FOR FREE BOOK
"The Hog from Birth to Sale"
THE L. B. SILVER CO.
195 Heights Temple Bldg.
CLEVELAND, OHIO

Raise Chester Whites

Like This
the original big producers

I HAVE started thousands of breeders on the road to success. I can help you. I want to place one hog from my great herd in every community where I am not already represented by these fine early developers—ready for market at six months old. Write for my plan—More Money from Hogs.

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

THE WORLD'S CHAMPION

big type O. I. C. S. Stock of all ages for sale. Herd headed by Calloway Edd, the World's Champion O. I. C. boar assisted by C. C. Schockmaster, Grand Champion boar of Michigan, New York and Tennessee state fairs. Also, O. C. Giant Buster, undefeated Senior boar pig wherever shown and Grand Champion of Oklahoma state fair. Get our catalogue of Orandell's prize hogs, Cass City, Michigan.

Shadowland Farm

O. I. C.'s

Bred Gilts 200 to 300 lbs. from prize winning stock. A few fall yearlings and 2 yr. old sows, big type, growthy boars of all ages, guaranteed as breeders. Everything shipped C. O. D. Express paid and registered in buyers name. J. CARL JEWETT, Mason, Mich.

Chesters Gilts bred for March, April and May farrow from mature stock of the large prolific kind. Satisfaction guaranteed.

F. W. ALEXANDER, Vassar, Mich.

O. I. C. and Chester White Swine

Strictly Big Type with QUALITY. I am sold out of everything but fall pigs. These pigs are as good—and I think better than any I ever bred. I am one of the oldest breeders of Big Type in the U. S.

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

O. I. C. BRED GILTS

all sold. Have some good last fall boars.

OTTO B. SCHULZE, Nashville, Mich.

O. I. C.'s big type serviceable boars. Yearling sows and gilts bred for spring farrow.

G. P. ANDREWS, Danville, Mich.

O. I. C. Boar 14 months old. Large fall pigs of either sex.

O. J. THOMPSON, Rockford, Mich.

O. I. C. Large type. Some choice boars and sow gilts eligible to registry. WEBER BROS., Royal Oak, Ten Mile Road, one half mile west of Woodward. Tel. 408.

O. I. C. Gilts bred for Mar. and April farrow a few good fall boar pigs about 300 lbs. I ship C. O. D., pay express, guarantee to please. F. C. Burgess, R. 3, Mason, Mich.

O. I. C. Gilts to farrow in March and April. Also fall pigs, either sex.

CLOVER LEAF STOCK FARM, Monroe, Mich.

O. I. C. Bred Gilts All Sold.

H. W. MANN, Danville, Mich.

FOR 25 YEARS

This establishment has been head quarters for Big Type Poland Chinas. We have a nice lot of boars and sows of strictly big type breeding at very low price. Let me know what you want. Bell phone.

JNO. C. BUTLER, Portland, Mich.

Large type P. C. Largest in Mich. Boars all sold. 20 LBred gilts sired by and bred to the best boars the breed can produce, with dams of equal merit, extreme size with quality, come and see them, free livery, expenses paid if not as represented. W. E. Livingston, Parma, Mich.

Big type Poland Chinas. Spring gilts of the best of breeding. With quality from 1000 lb. sire's and 800 lb. dam's. Will be bred to a great son of the noted \$6600 Gertsdale Jones. Also fall pigs.

W. BREWBAKER & SONS, R. 5, Elsie, Mich.

Big Poland Chinas with quality. For sale, summer and fall gilts, and a big boned good spring boar.

G. A. BAUMGARDNER, R. 2, Middleville, Mich.

Large Type P. C. boars all sold. Spring gilts and young litters sows, bred for March and April farrow. Free livery from Augusta. W. J. Hagelshaw, Augusta, Mich.

L. T. P. C. Gilts bred for April farrow. Fall pigs of either sex; inspection invited.

A. A. FELDKAMP, Manchester, Mich.

B. T. P. C. Bred Gilts, the best lot ever on the farm pay. H. O. SWARTZ, R. 37, Schoolcraft, Mich.

Big Type P. C. boar and bred gilts. Choice Aug. pigs at a bargain.

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

Big Type P. C. Choice bred sows from Iowa's greatest herds, the big bone prolific kind with size and quality.

E. J. MATHEWSON, Barr Oak, Mich.

Big Type Poland Chinas. Spring boars all sold. Bred gilts ready for shipment. Inspection invited.

L. L. CHAMBERLAIN, Marcellus, Mich.

P. C. Bred Sows Large style best we ever owned. Satisfaction or no sale.

R. W. MILLS, Saline, Mich.

Mammoth Poland Chinas. Choice lot early fall pigs now ready to ship. Double Immune. Inquire

Clyde Weaver, Ceresco, Mich.

Additional Stock Ads. on Page 279

LATEST MARKET REPORTS

SECOND EDITION.

The markets in this edition were revised and corrected on Thursday afternoon, February 13.

WHEAT.

Continued dry weather is causing some uneasiness in the minds of the bears because of the likelihood of a lack of moisture for wheat and for the starting of spring grains under normal conditions. There is, however, little activity in wheat circles and the flour trade is exceedingly dull. The visible supply of this grain shows a decrease of 1,311,000 bushels for the past week. The price for No. 2 red wheat on the Detroit market one year ago was \$2.17. Present Detroit prices are:

| | |
|-------------|-------------|
| No. 2 red |\$2.30 |
| No. 2 mixed |2.28 |
| No. 2 white |2.28 |

CORN.

Farmers are feeding their corn instead of marketing it. This fact is causing trouble to commission men who are short on the cash grain. There is very little corn in country elevators. The United States visible supply decreased 595,000 bushels during the week. One year ago the trade was paying \$1.80 for No. 3 corn on the Detroit market. Present values on the local market are:

| | |
|--------------|-------------|
| No. 3 corn |\$1.30 |
| No. 3 yellow |1.35 |
| No. 4 yellow |1.30 |
| No. 5 yellow |1.25 |
| No. 6 yellow |1.20 |
| No. 3 white |1.33 |

Chicago prices are slightly lower than a week ago as follows: No. 3 yellow \$1.20@1.22; No. 4 yellow \$1.16@1.19; May corn \$1.12½; July \$1.09½.

OATS.

A revival of interest in the shipping demand would aid materially in bringing this market to life. As it is there is very little demand from domestic sources and with foreign calls eliminated offerings are not quickly sold. Fortunately farmers are not selling and prices are a fraction higher than those for last week. Standard oats sold here a year ago at 89½c. Present prices are:

| | |
|-------------|----------|
| Standard |60½ |
| No. 3 white |60 |
| No. 4 white |59 |

RYE.

Further declines have taken place the past week and holders of the grain seem sorry that they did not sell earlier. Detroit's quotation for cash No. 2 is now \$1.42 per bushel.

BEANS.

Sharp declines in bean quotations have failed to revive the demand to any large degree. Rumors of middlemen manipulation are being taken up with the department at Washington. Michigan pea beans are moving slowly on the New York market at \$8.25 for pea beans of choice quality and for choice mediums. The present Detroit quotation is \$7 at country loading points and at Chicago where the buyers are loath to take hold the quotation for choice Michigan pea beans is \$7@7.50 and for red kidneys \$11.50@12 per cwt.

HAY.

An active demand gives the hay trade a steady tone with prices unchanged as follows: No. 1 timothy \$26.50@27; standard timothy \$25.50@26; No. 2 do \$24.50@25; No. 1 mixed \$24.50@25; No. 1 clover \$23.50@24. At Pittsburgh receipts are running lighter but remain equal to the demand, with quotations as follows: No. 1 timothy \$28@28.50; No. 1 light mixed \$25.50@26; No. 1 clover mixed \$25.50@26; No. 1 clover \$25@25.50.

FEEDS.

Corn feeds are lower at the following quotations in 100-lb. sacks to jobbers: Bran \$52@53; standard middlings \$50@51; fine middlings \$52@53; coarse corn meal \$55; cracked corn \$55; corn and oat chop at \$48.50 per ton.

SEEDS.

Slight changes are made in seed prices, with present quotations as follows: Prime red clover \$23.50; March \$23.25; alsike \$17.40; timothy \$4.90.

POTATOES.

Values are held rather easily with the market slow and draggy. Markets generally report liberal supplies. Michigan growers are generally receiving from \$1@1.25 with the bulk at \$1@1.10 for U. S. grade No. 1 at warehouses. This same grade is bringing \$1.90 at Cleveland; \$1.75@1.90 at Buffalo; \$1.80@1.83 at Pittsburgh; \$1.95 at Cincinnati; \$1.90 at Indianapolis; \$1.50@1.60 at Chicago; \$2.50@2.60 per 150-lb. sack at Detroit.

EGGS.

Heavy production is forcing lower prices and increasing consumption. Detroit prices are down to 40c for extra firsts in new cases and 39c for ordinary firsts. Present Chicago prices are 38c per dozen for firsts and 36½@37c for ordinary firsts. Nearby western stock is bringing from 45@58c in

New York and the Philadelphia jobbing trade is paying \$13.05@13.35 per case for western goods.

BUTTER.

The downward course of butter prices was checked last week and values have reacted a little from the bottom. At Detroit the advance amounts to over a cent, with this week's quotation at 43@44c for creamery firsts. Chicago markets are firm at 38@47c, and New York trading is on a 45@50c basis. Western creamery brings 49c in Philadelphia.

DETROIT CITY MARKET.

Prices for the bulk of the produce offered on the Eastern market are off. For eggs this is due to the increased production and the good stock is now bringing 45@47c a dozen. Potatoes are plentiful and down to 95c@1 in bulk. Fancy apples \$3@3.50; No. 1 do at \$2.50; No. 2, \$1.50; white cabbage 75c

@1.25; red \$1.25@1.75; onions \$1@1.10; turnips \$1@1.25; live poultry 28@30c; pork 21@22c; dry beans 7½@8½c per pound.

GRAND RAPIDS.

Farmers in this section of the state are becoming greatly worried regarding their fall-sown wheat. The past week the temperature has averaged 20 degrees above with no snow. Owing to unstable prices, retailers of farm products are buying only for daily trade, consequently movement of potatoes, beans, cabbage and root crops is somewhat light. Potatoes are \$1@1.10 at most points. Pitted stock is moving out and is of excellent quality. Local government report for the past week shows shipment of cars half of amount moved a year ago, and of the 1918 crop 2,363 cars out of Michigan, against 4,438 of the 1917 crop.

Live Stock Market Service

Reports for Thursday, February 13th

DETROIT

Cattle.

Receipts 3,159. Best steers and bulls 25@50c lower; other grades dull. Best heavy steers \$14.00@14.50. Best handy wt bu str. 10.50@11.50. Mixed steers and heifers 9.25@10.00. Handy light butchers 8.25@9.00. Light butchers 7.50@8.00. Pest cows 9.00@10.00. Butcher cows 8.00@8.50. Cutters 6.00@6.50. Canners 5.50@6.00. Best heavy bulls 9.50@10.00. Stock bulls 7.00@7.50. Milkers and springers \$60@125.

Veal Calves.

Receipts 1,682. Good grades strong; common and heavy dull. Best \$17.00@18.00. Others 8.00@15.00.

Sheep and Lambs.

Receipts 4,867. Market steady. Best lambs \$16.75. Fair lambs 14.50@15.50. Light to common lambs 12.00@13.00. Fair to good sheep 9.00@9.50. Cull to common 6.00@7.00.

Hogs.

Receipts 6,274. Market steady. Pigs \$17.50. Mixed hogs 17.75.

BUFFALO.

The cattle market here today is steady with Wednesday. Hog prices have advanced to \$18.75@19, while pigs are slow at \$18. Lambs bring \$17.75@17.85, while the best calves are steady at \$20.

CHICAGO.

Cattle.

Receipts 10,000. Beef steers slow and steady; cows and heifers strong to 15c higher.

Good to prime choice steers \$16.25@20; common to medium butchers at \$10.40@16.25; heifers \$7.35@14.25; cows \$6.85@14; bologna bulls \$7.85@12.50; canners and cutters \$5.65@6.85; stockers and feeders, good \$10.50@14.50; do. medium \$7.85@10.50.

Hogs.

Receipts 55,000; held over 5,585; market steady to 10c lower and fairly active. Tops \$18.10; bulk of sales at \$17.75@18; heavy \$17.95@18.10; mixed and light \$17.85@18; packers' hogs at \$16.85@17.35; medium and heavy at \$17.45@17.75; light bacon hogs \$17.60@17.95; pigs good to choice \$15.50@17.50; roughs \$16.25@16.75.

Sheep and Lambs.

Receipts 14,000. Market is steady. Choice native lambs \$15.50@17.25; culls \$13@14.50; medium good and choice feeders \$14.50@15.75; choice yearlings \$15.25@15.50; medium and good yearlings \$12.25@15.25; wethers medium and good \$11@12.40.

Reports for Wednesday, February 14th

BUFFALO.

Cattle.

Receipts 40 cars; slow, prospects lower; prime heavy str \$17@18; best shipping steers \$14.50@15; medium do \$13.50@14.50; yearlings 950 to 1,000 lbs \$15@16; light yearlings, good quality \$14@15; best handy steers \$13@14; fair to good kinds \$11@12; handy steers and heifers, mixed \$11@12; western heifers \$12@14; best fat cows \$8.50@9.50; butcher cows \$7@8; cutters \$6.50@7; canners \$5.50@6; fancy bulls \$10@11; butcher bulls \$8@9; common bulls \$6@7; best feeding str \$10.50@11.50; medium feeders \$9@10; stockers \$6@8; milkers and springers \$75@150.

Hogs.

Receipts 10 cars; market is strong; heavy and yorkers \$18.85@18.95; pigs \$18@18.25.

Sheep and Lambs.

Receipts 5 cars; strong; top lambs \$17.75@17.85; yearlings \$14@16; wethers \$12@13; ewes \$11@11.50.

CHICAGO.

Cattle.

The bulk of the steers offered this week have brought \$14@17.50, with only a small percentage going as high as \$18, and sales down to \$10@13 for the commoner lots and small scattering sales of little canning steers at \$8@9.50. The quality of the week's receipts is nothing to boast about, with few good fat steers, while the butcher stock has glutted the market and sold much lower than a week ago, cows and heifers bringing \$7.25@16, and prime

cows \$15@15.50. Canning cows are selling at \$5.25@6.20, cutters at \$6.25@7, bulls at \$7@13.25 and calves at \$7@16.75. Stockers and feeders are in fair demand on a basis of \$7.50@13 for inferior to choice lots, with a few prime lots salable at \$13.25 and upward, some sales being made as high \$14@14.50.

Hogs.

Estimating today's receipts at 29,000 head, about 119,100 have arrived here this week, comparing with 110,427 for the same time last week and 143,000 a year ago. Materially increased shipments of hogs from here to eastern packing points account for much of the increased strength in prices, shipments reaching 10,725 head on Monday and 10,018 on Tuesday. Last night 14,871 hogs were left unsold, but today's supply was not heavy, judged by the standard of most of the time this year, and there was a further early advance of about 10c, the top being \$18.15. Heavy butcher hogs brought \$18 and upward and rough heavy packers \$16.90@17.15, while light weights averaging 150 and over sold at \$17.50@18 and pigs at \$14@17.60.

Sheep and Lambs.

About 8,000 head arrived today, making 47,390 for three days, comparing with 48,322 a week ago. The market is in a strong position, with lambs salable at \$11@17.50, and prime western shearing and feeding lambs wanted at \$15.75@15.90. Yearlings are salable at \$12@15.50, wethers at \$11@12.25, ewes at \$5.50@11.40 and bucks at \$8@9.50.

Profitable Sawmilling

A Farquhar Sawmill equip with our new Double Belt Feed driven by a Farquhar Tractor or Locomotive or Cornish Portable makes a most dependable and economical Sawmill outfit.

The Farquhar Double Belt Feed combines minute accuracy with easy handling and long life. Four size Standard Mills with the Pony for light sawing and 1-A for heavy stationary work.

New Sawmill and Power Catalogues giving full particulars sent free on request.

A. B. FARQUHAR CO., Ltd.
Box 612, YORK, PA.



Also Threshers, Hydraulic Cider Presses, Grain Drills, Cultivators, Gas Tractors and Portables. Ask for descriptions.

\$19.95 ON TRIAL American FULLY GUARANTEED CREAM SEPARATOR

A Solid Proposition to send new, well made, easy running, perfect skimming separator for \$19.95. Skims warm or cold milk; heavy or light cream. Different from picture, which shows larger capacity machines. See our plan of MONTHLY PAYMENTS. Bowl as sanitary as a new one. Whether dairy is large or small, write for free catalog and monthly payment plan. Western orders filled from western points. AMERICAN SEPARATOR CO. Box 4061, Bainbridge, N. Y.

CULOTTA & JULL

Eastern Market, Detroit, Mich.

We need your shipments of Poultry, Veal, Dressed Hogs, Live Roasting Pigs, Eggs, Live Rabbits and Game. Highest prices possible obtained on arrival. We can handle your Potatoes, Onions, Apples, Cabbage and root crops, carlots or less. Your shipments will be appreciated and have our best care and attention, and you don't have to wait for your money. Reference Peninsula State Bank.

Mr. POULTRY FARMER:

We make a specialty of White Henner Eggs and have created a profitable market for your eggs the year around. We pay the highest premium for your Henner Whites—We remit same day shipments arrive. Ship Often—Ship by Express.

GEO. R. ELDRIDGE CO.

494-18th Street, Detroit, Mich.

Remember! We guarantee you satisfaction with every shipment.

Holmes, Stuve Co., 445 Riopelle St.

Commission Merchants. Dressed Beef, Hogs, calves, Poultry, Live & Dressed, Provisions, etc. Correspondence Solicited. Ref. Wayne County & Home Savings Bank, Bradstreet. Detroit, Mich. Cnd. 2878.

HAY Ship To The Old Reliable House Daniel McCaffrey's Sons, 623-625 Wabash Bldg., Pittsburgh Pa.

Wanted: Michigan 90 to 125 pound healthy pigs in car lots. We buy them all year. Write Danville Stock Hog Co. Danville, Illinois.

Seed Barley & Beans

Choice Northern Grown Oderbrucker Barley, Heavy yielding, thoroughly re-cleaned. Michigan Early Wonder seed beans. Early white bean, free from disease. R. B. EMENS, Holton, Mich.

SEED CORN. Old reliable Mich. Yellow Dent. Home grown, fire-dried and tested. Also regenerated Swedish Select and Scotch Chief Oats. Circular and samples on request. F. A. BYWATER, Memphis, Mich.

THE NEW YORK PRODUCE MARKET.

Last week as a whole was fairly active and large quantities of accumulated stocks moved. Jobbers and retailers were replenishing stocks. On Monday there was a decline of $\frac{1}{4}$ c, but because of the increased demand there were gains of $\frac{1}{4}$ c on Tuesday, 1 c on Wednesday, and $\frac{1}{2}$ c on Thursday. While the market appeared weak on Friday there was no change of quotation. Following are the established quotations.

Butter.—Extras (92 score), 49@49 $\frac{1}{2}$ c; higher scoring than extras (93 score or higher), 50@50 $\frac{1}{2}$ c; firsts (88 to 91 score), 45 $\frac{1}{2}$ @48 c; and seconds (83 to 87 score), 41@44 $\frac{1}{2}$ c. The market continues weak and present indications are that quotations will generally decline $\frac{1}{4}$ c.

Cheese.—Receipts of cheese are increasing rapidly and as a consequence values are falling. The average price at which held cheese is selling ranges from 35 $\frac{1}{2}$ @36 c. Some lots of poorer quality are moving at about a cent less. The best quality cheese of current make is selling at 30 $\frac{1}{2}$ @31 $\frac{1}{2}$ c. Some medium grades have an asking price of 30 c.

Eggs.—The egg market is erratic and fluctuating, which is usual at this season of the year. Receipts at the beginning of the week were large which caused a sharp break in prices. Later in the week shipments were held up in the west because of colder weather which, with the demand, tended to strengthen the market. There has been brisk trading during the week and early accumulations were fairly well cleared out. There is a considerable accumulation of current receipts at the present time, however. The average price of western eggs is, at present, 45 $\frac{1}{2}$ @46 $\frac{1}{2}$ c. Some lots of extra good quality are bringing 47 $\frac{1}{2}$ @48 c.

Poultry.—The supply of light fowls has been somewhat limited this week. Heavy fowls have been in good supply. Fine quality heavy fowls are selling readily at 31@32 c, but the average western fowl brings only 30 c. Old roosters are quoted at 22 c. Turkeys are quoted at 30@35 c; ducks at 35@38 c; geese at 20@2 c. W. L.

MICHIGAN CROP REPORT.

Wheat.—In reply to the question, "has wheat during January suffered injury from any cause," 91 correspondents in the southern counties answer "yes" and 92 "no;" in the central counties 16 answer "yes" and 71 "no;" in the northern counties 23 answer "yes" and 49 "no" and in the upper peninsula three answer "yes" and 15 "no." Snow has protected wheat in the state nine days, in the southern counties four, in the central 11, in the northern 16 and in the upper peninsula 21 days.

On January 15 the average depth of snow in the state was 2.08 inches, in the southern counties 0.51 of an inch, in the central counties 2.45, in the northern counties 4.32 and in the upper peninsula 5.52 inches.

On January 29 the average depth of snow in the state was 0.53, in the southern counties 0.03, in the central counties 0.26, in the northern counties 0.95 of an inch and in the upper peninsula 4.94 inches.

The total number of bushels of wheat marketed by farmers in January at 78 flouring mills was 89,397 and at 44 elevators and to grain dealers 47,782, or a total of 137,179 bushels. Of this amount 103,019 bushels were marketed in the southern four tiers of counties, 24,750 in the central counties and 9,410 in the northern counties and upper peninsula. The estimated total number of bushels of wheat marketed in six months, August-January, is 4,000,000.

Fifty-five mills, elevators and grain dealers report no wheat marketed in January. The average conditions of live stock in the state is reported as follows: comparison being with live stock in good healthy and thrifty condition: Horses and swine 95; cattle 94, and sheep 96.

Grain and seed threshed in Michigan up to and including January 25, 1919, per returns of threshermen is as follows:

| | | | |
|--------------|-----------|------------|-------|
| Winter wh't. | 652,968 | 9,168,692 | 14.04 |
| Spring wh't. | 43,191 | 777,630 | 18.00 |
| Rye | 475,392 | 6,810,612 | 14.33 |
| Oats | 1,580,709 | 62,236,452 | 39.37 |
| Speltz | 9,411 | 257,785 | 27.29 |
| Barley | 279,667 | 8,358,611 | 29.29 |
| Buckwheat | 41,506 | 375,439 | 9.05 |
| Peas | 20,834 | 300,475 | 14.42 |
| Tim. seed | 711 | 1,789 | 2.52 |
| Clov'r seed | 70,144 | 70,251 | 1.00 |
| Beans | 350,768 | 3,264,187 | 9.31 |

L. L. COGGSHALL
Maple Glen Farm
LOCKE, N. Y.
Successor to CORYDON PECK, Deceased

Chapin & Co., Chicago, Ill.

Gentlemen:—
I have tried all kinds of grain rations for my Guernsey herd, including those suggested by Cornell and the best known breeders in the country. Every time I come back to Unicorn better satisfied than ever. I am now through experimenting with feed mixtures of others who think they can beat it either for economy, yield or condition of herd, because I know that they don't know what they are talking about. If they would all stop fussing around with half baked theories and give Unicorn a good honest and unprejudiced feeding test for 90 days, I know that they would agree with my statements and that it would show them how to save money and time, and their herds would do better in yield and condition, with less cost for grain than ever before. I speak from eight years experience with Unicorn. I have also tried all the other rations said to be just as good, and Unicorn for me every time.

Yours truly,
L. L. Coggs Hall

Every feeder of Unicorn says as much as Mr. Coggs Hall writes. They all like Unicorn.

Send a 3c stamp for our new Dairyman's Manual which tells you how to make bigger profits.

CHAPIN & CO.
Dept. M Chicago

A. M. FREEMAN & SONS
SHORTHORN SALE
AT CLOVER LEAF STOCK FARM FLUSHING, MICH.
1 P. M. Wednesday, Feb. 19, 1919
19 Females 8 Bulls
CATALOG READY
FREE CONVEYANCE TO AND FROM TRAINS
A. J. ADAMS - Auctioneers - N. A. MORRISH
Address A. M. FREEMAN & SONS, Flushing, Mich.

FIELD SEEDS LOWEST PRICES QUICK SERVICE

You will be astonished at our low prices and quick service on our extra high quality tested seeds. Sold on approval. Satisfaction or money back. If we can't save you money we don't want your orders. Don't pay two prices for Grass Seeds. We have re-cleaned Timothy \$4.75 per bu., Alfalfa \$5.90. Alsike Clover and Timothy, Sweet Clover and all other Field Seeds at proportionately reduced prices. We are Grass and Field Seed Specialists and sell on a Profit-Sharing Plan, at seed-rock prices. Write for Seed Guide, the most complete, practical planter's guide ever printed. Write for our free samples of Seeds you want to buy. Our Guide explains how you can save money on Seeds, get better quality, share in profit. It's free. CHICAGO FLEXIBLE SHAFT COMPANY, Dept. 127, 12th St. and Central Ave., Chicago, Ill.

Don't Waste Wool

Old methods of shearing leave too much wool on the sheep. Shear the modern way with a good machine. The Stewart No. 9 Ball Bearing Shearing Machine works wonders with flocks up to 300 head. Saves time and money—shears 15% more wool. Does away with second cuts. Soon pays for itself. You can get it by sending \$2.00—balance on arrival. Or write for catalog.

CHICAGO FLEXIBLE SHAFT COMPANY
Dept. 127, 12th St. and Central Ave., Chicago, Ill.

Holstein Auction Sale
Feb. 19, 1919

8 miles north of Zeeland, Mich. 11 guaranteed registered, 16 high grades easy terms. PETER ELENBAAR.

HOGS.

Big Type Poland China tried sow to farrow Mar. 24th. Two gilts to farrow May O. L. WRIGHT, Jonesville, Mich.

MICH. Champion herd of Big Type P.C. Nothing for sale but fall pigs; orders booked for spring pigs. E. B. LEONARD, St. Louis, Mich.

Gilts sold have one yearling P. C. sow bred for May farrow, half calf 4 months old. Pure bred Short-horn. Price \$100. John D. Wiley, Schoolcraft, Mich.

Hampshire Hogs The International Grand Champion Hog of 1918, both sexes for sale. Spring deliveries booked now. ELI SPRUNGER & SON, Saginaw, W. S., Mich.

Hampshires Boars at a bargain bred gilts all sold. JOHN W. SNYDER, R. 4, St. Johns, Mich.

POULTRY

Chicks Barron Strain White Leghorns. Pay a little more and get a good start next season. Early hatched chicks are always the best. My cockerels come from hens with an egg record of over 250 eggs their pullet year, March 18-April 15, May 14 per 100. Polly Cove Farms, R. 1, Holland, Mich.

Barred Rock Cockerels \$5.00 each. Range eggs \$1.00 per 15. Pen \$3.00 per 15. Correspondence solicited. Ray G. Ruppel, Lawrence, Mich.

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

Buff Leghorns and White Leghorns. Cockerels, hens, pens, and eggs. 500 April chicks of each breed. Place your order now. Prices reasonable. Dr. William Smith, Petersburg, Mich.

Fowls Buff Rocks Cockerels, hens and pullets. White Holland Fowls. Each. B. B. FOWLER, Hartford, Mich.

FOR Sale five beautiful large pure-bred Speckled Sussex Cockerels direct from Carver's imported birds at \$5.00 each. A. L. CRAFT, Pontiac, Mich.

JOHN'S Big Beautiful Barred Rocks are hen hatched quick growers, good layers, sold on approval \$1 to \$3. Circulars photos. John Norton, Clare, Mich.

Pine Crest White Orpington greatest egg producers—hens and young stock, buy now for next winter. Mrs. WILLIS HUGH, Pine Crest, Royal Oak, Mich.

ROSE COMB BROWN LEGHORNS from winners at the largest shows in America. Mrs. CLAUDIA BETTS, Hillsdale, Mich.

R. C. RHODE ISLAND REDS cockerels, large, thrifty; pure bred, \$2.50 to \$5.00. BIDWELL STOCK FARM, Tecumseh, Mich.

S. C. Anconas W. Leghorns. Book orders now for Day Old Chicks and Hatching eggs. Circular free. Elmhurst Poultry Farm, Brighton, Mich.

Silver, Golden and White Wyandottes Plenty of good Golden and White cockerels \$4. \$5. For silver pullets \$3 each. C. W. Browning, Portland, Mich.

S. C. White Leghorn Cockerels, Ferris and Young's strains \$2.50 and \$3 each. Order at once. RUSSELL POULTRY RANCH, Petersburg, Mich.

White Wyandottes choice stock: cocks, hens, cockerels, and pullets. Send for 1918 circular. David Ray, 709 Norris St., Ypsilanti, Mich.

MAMMOTH Bronze Turkey Hens 9 lbs. weight, good plumage, \$6.00 each, Eggs \$4.00 per 10. Ralph Wise, Nurseries, Box 151, Plainwell, Mich.

TWO CHARTS

Study them both. They show how to protect your new engine from the start

LARGE production of automobiles is resumed. Tractor production expands. The farmer's growing needs will bring hundreds of thousands of new tractors and automobiles to the farms of America.

A warning is not out of order.

Many a tractor or automobile has gone too soon to the scrap heap because it got the wrong *start* in the first forty acres or the first one thousand miles.

When the engine is new, it is naturally "stiff." The bearings and all frictional surfaces must adjust themselves to each other by use.

If an *incorrect* oil is in the crank case at the start, the engine loses vital lubricating protection during the most trying period of its existence.

That is one reason why automobile and tractor manufacturers emphasize so strongly the importance of correct lubrication.

To be absolutely certain—that you are doing without question—that you are doing everything possible to give your new engine its proper protection, fill up with the correct grade of Gargoyle Mobiloils at the *start*. Consult Charts shown here.

For years these Charts have been recognized authorities on *correct* engine lubrication—the kind that makes engines use *less* fuel and oil, deliver greater power and go longer between overhauls.

Gargoyle Mobiloils are put up in 1- and 5-gallon sealed cans, in 15- 30- and 55-gallon steel drums, and in wood half-barrels and barrels.



Mobiloils

A grade for each type of motor

In buying Gargoyle Mobiloils from your dealer, it is safer to purchase in original packages. Look for the red Gargoyle on the container.

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

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

Domestic Branches:

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



Correct AUTOMOBILE Lubrication

How to read the Chart

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

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

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

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

| AUTOMOBILES | 1916 Models | | 1917 Models | | 1918 Models | | 1919 Models | | 1920 Models | |
|----------------------|-----------------|--------|-------------|--------|-------------|--------|-------------|--------|-------------|--------|
| | Summer | Winter | Summer | Winter | Summer | Winter | Summer | Winter | Summer | Winter |
| Abbott | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc |
| Abbott-Detroit | (8 cyl) | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc |
| Allen | A | A | A | A | A | A | A | A | A | A |
| Apperson | A | A | Arc | Arc | Arc | Arc | Arc | Arc | A | A |
| Auburn | (4 cyl) | Arc | Arc | Arc | A | Arc | A | Arc | A | Arc |
| • (6 cyl) | Arc | Arc | Arc | Arc | A | Arc | A | Arc | A | Arc |
| • (6-38 & 6-39) | Arc | A | Arc | A | A | Arc | A | Arc | A | Arc |
| • (6-39) (Teeter 15) | Arc | A | Arc | A | A | Arc | A | Arc | A | Arc |
| • (6-39) (Cont'L) | Arc | Arc | Arc | Arc | A | Arc | A | Arc | A | Arc |
| Autocat (2 cyl) | A | Arc | A | Arc | A | Arc | A | Arc | A | Arc |
| Briscoe | A | Arc | A | Arc | A | Arc | A | Arc | A | Arc |
| Bulk | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc |
| Cadillac | A | A | A | A | A | A | A | A | A | A |
| Casa | Arc | Arc | A | Arc | A | Arc | A | Arc | A | A |
| Chrysler | (6-40) | A | A | A | A | A | A | A | A | A |
| • (6-30) | A | A | A | A | A | A | A | A | A | A |
| Chandler Six | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc | A | Arc |
| Chandler Six | (8 cyl) | A | A | A | A | A | A | A | A | A |
| • (8 cyl S-X) | A | Arc | A | A | A | A | A | A | A | A |
| Cole | (8 cyl) | A | A | A | A | A | A | A | A | A |
| Cunningham | (8 cyl) | A | A | A | A | A | Arc | A | Arc | Arc |
| Dart | (2 & 3 1/2 ton) | A | A | A | A | A | A | A | A | A |
| Detroit | Arc | Arc | Arc | Arc | Arc | Arc | A | Arc | A | A |
| Dodge Brothers | A | Arc | A | Arc | A | Arc | A | A | A | A |
| Empire | (12 cyl) | A | Arc | A | Arc | A | Arc | A | Arc | Arc |
| Federal | (6 cyl) | Arc | A | Arc | Arc | Arc | Arc | Arc | Arc | Arc |
| • (Special) | A | A | Arc | A | Arc | Arc | Arc | Arc | Arc | Arc |
| Fiat | B | A | B | A | B | A | B | A | B | A |
| Ford | B | E | E | E | E | E | E | A | E | A |
| Grant | A | Arc | A | A | A | A | A | A | Arc | Arc |
| Hal-Twelve | Arc | A | A | A | A | A | A | A | A | A |
| Haynes | (12 cyl) | A | Arc | A | Arc | A | Arc | A | A | Arc |
| Hudson | (Super Six) | A | A | A | Arc | Arc | Arc | Arc | Arc | Arc |
| Hupmobile | A | Arc | A | Arc | A | Arc | A | Arc | A | Arc |
| Kearney | (8 cyl) | A | A | A | A | A | A | A | A | A |
| King | (Mod. 48) | Arc | Arc | A | Arc | Arc | Arc | Arc | A | Arc |
| Kiesel | (12 cyl) | A | A | A | A | A | A | A | A | A |
| Lexington | (Mod. M.W) | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc |
| Lippard | (Mod. M) | A | A | A | A | Arc | A | A | A | A |
| • (Mod. M.W) | A | A | A | A | A | A | A | A | A | A |
| Locomobile | A | E | E | E | E | E | E | A | E | A |
| McFarlan | (8 cyl) | A | A | A | A | A | A | Arc | A | A |
| Madison | (8 cyl) | A | Arc | A | Arc | A | Arc | A | Arc | Arc |
| Marmon | (22-70) | A | A | A | A | A | Arc | A | A | Arc |
| Mercur | (22-70) | A | A | A | A | A | A | A | A | Arc |
| Mitchell | (8 cyl) | A | Arc | A | A | Arc | A | A | A | A |
| Moline-Knight | (12 cyl) | B | A | A | A | A | A | A | A | A |
| National | (8 cyl) | Arc | Arc | Arc | A | Arc | A | A | A | A |
| Oakland | (8 cyl) | A | A | Arc | Arc | A | A | Arc | Arc | Arc |
| Oldsmobile | (8 cyl) | A | A | A | Arc | Arc | Arc | Arc | Arc | Arc |
| Overland | (12 cyl) | Arc | Arc | A | A | Arc | A | A | A | Arc |
| Packard | (12 cyl) | A | A | A | A | A | A | A | A | A |
| • (Com'l) | A | A | A | A | A | A | A | A | A | A |
| Paige | (4 cyl) | Arc | Arc | Arc | Arc | Arc | Arc | Arc | A | A |
| • (6-36) | A | Arc | A | A | A | Arc | A | Arc | A | A |
| • (6-38-39) | A | A | A | Arc | A | Arc | A | Arc | A | A |
| • (6-40) | Arc | Arc | A | A | A | A | A | A | A | A |
| Patersen | (12 cyl) | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc |
| Pathfinder | (12 cyl) | Arc | Arc | Arc | Arc | A | A | A | Arc | Arc |
| Peerless | (8 cyl) | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc |
| Pierce Arrow | (Com'l) | A | A | A | A | Arc | Arc | Arc | Arc | Arc |
| Premier | (8 cyl) | Arc | Arc | Arc | Arc | A | Arc | Arc | Arc | Arc |
| Renault (French) | (8 cyl) | A | A | A | A | Arc | A | A | A | A |
| Rep | (8 cyl) | A | Arc | A | E | A | A | A | A | Arc |
| Riley | (8 cyl) | E | E | E | E | E | E | E | E | E |
| Saxon | (8 cyl) | A | A | A | A | A | A | A | A | A |
| Selden | (8 cyl) | Arc | Arc | A | Arc | Arc | A | A | A | A |
| Simmons | (8 cyl) | B | A | A | B | A | B | A | B | A |
| Stearns-Knight | (8 cyl) | B | A | A | B | A | B | A | B | A |
| Studebaker | (8 cyl) | A | A | A | A | Arc | A | Arc | A | A |
| Vellie | (4 cyl) | Arc | Arc | Arc | Arc | Arc | A | A | Arc | Arc |
| • (6 cyl) | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc |
| • (2 & 3 1/2 ton) | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc |
| • (4 ton) | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc |
| Westcott | (16 valve) | A | A | A | A | A | A | A | A | A |
| White | (16 valve) | A | A | A | A | A | A | A | A | A |
| Willys-Knight | (16 valve) | B | A | A | B | A | B | A | B | A |
| Winton | (16 valve) | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc | Arc |