

MICHIGAN FARMER

AND LIVE STOCK JOURNAL
PUBLISHED WEEKLY.
ESTABLISHED 1843.

VOL. CLVI. No. 15
Whole Number 4143

DETROIT, MICH., SATURDAY, APRIL 9, 1921

ONE YEAR \$1.00
FIVE YEARS \$5.00

Little Stories By The Camera Man



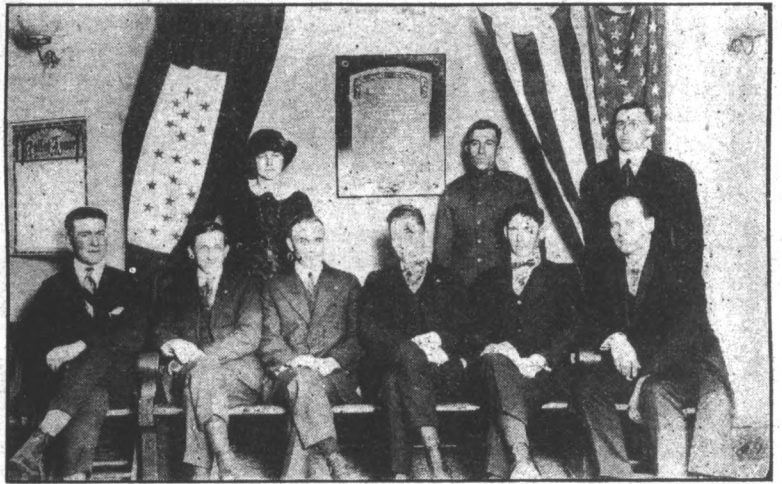
This Dangerous Crossing Near Marshall will Soon be Obliterated by New Right of Way.



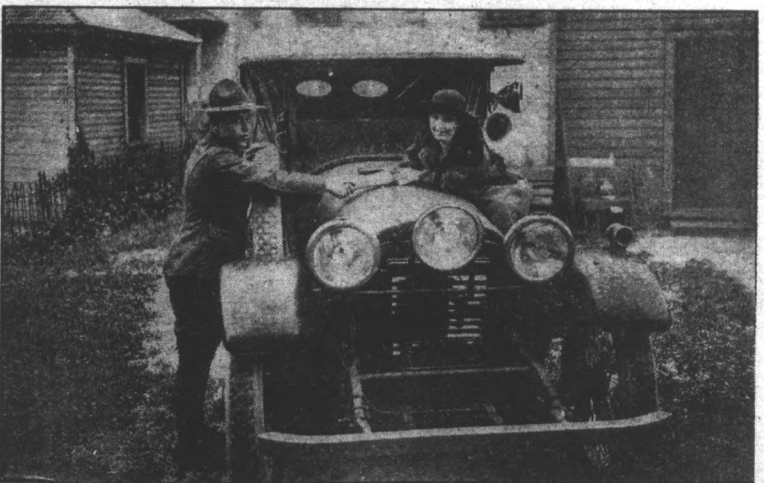
Members of the South Gaines Farmers' Club Enjoy a Lively Session on a Farm Near Grand Rapids.



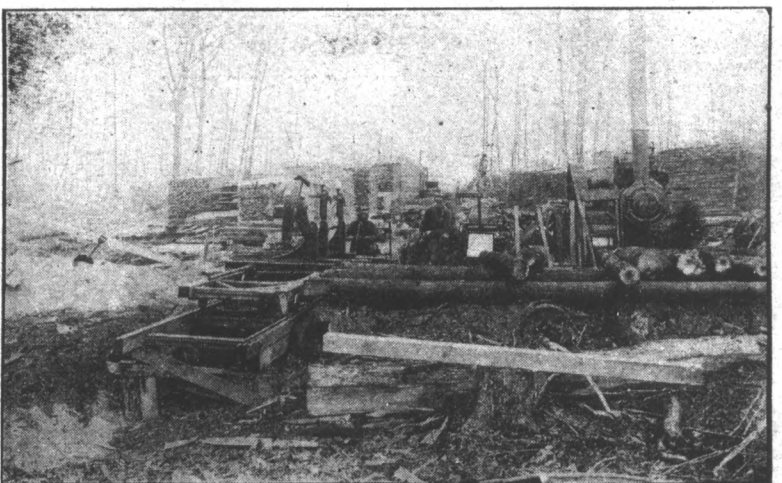
This Community Church Has Been Instrumental in Developing a Fine Spirit in the Rural District it Serves.



Unveiling of Memorial Bronze Tablet in Honor of Farm Boys who Served from Bellevue.



Welcoming Home Her Big Brother Who Has Returned from a "Vacation" in France.



A Farm Woodlot in Barry County Being Transformed Into Lumber by a Portable Sawing Outfit.



Published Weekly Established 1843 Copyright 1921

The Lawrence Publishing Co. Editors and Proprietors

1632 LaFayette Boulevard Detroit, Michigan
TELEPHONE CHERRY 8394NEW YORK OFFICE-95 Madison Ave.
CHICAGO OFFICE-111 W. Washington St.
CLEVELAND OFFICE-1011-1013 Oregon Ave., N.E.
PHILADELPHIA OFFICE-261-263 South Third St.M. J. LAWRENCE President
PAUL LAWRENCE Vice-President
J. F. CUNNINGHAM Treasurer
F. H. NANCE SecretaryI. R. WATERBURY Associate Editors
BURT WERMUTH
ALTA LAWSON LITTLE
W. MILTON KELLY
I. R. WATERBURY Business Manager

TERMS OF SUBSCRIPTION

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

Canadian subscription 50¢ a year extra for postage

RATES OF ADVERTISING

55 cents per line agate type measurement, or \$7.70 per inch (14 agate lines per inch) per insertion. No advertisement inserted for less than \$1.65 each insertion. No objectionable advertisements inserted at any time.

Member Standard Farm Papers Association and Audit Bureau of Circulation.

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

VOLUME CLVI. NUMBER FIFTEEN

DETROIT, APRIL 9, 1921

CURRENT COMMENT

Growing Cattle Feeds

IN making plans for providing an adequate supply of feed-stuffs for his herd during the coming year the prudent dairy farmer will not lose sight of the fact that the profits from his business depend just as much upon his skill in coaxing abundant crops from a reluctant soil as upon an ability to select good cows and make up properly balanced rations. The greatest factor in economical milk production, other than the ability of the cow to make milk from her feeding materials, is the quality of the roughage and home-grown grain feeds produced on the farm.

The roughage feeds are of great importance, for the richer, more palatable and succulent they are the less the grain feed will be needed to produce the maximum milk flow from the cows. The home-grown grain feeds are also of importance, for they can usually be grown more cheaply than they can be purchased in the open market, and the more grain grown on the farm the smaller the sum of money needed to purchase the various "feeds of commerce."

In growing forage and grain crops for feeding to dairy cattle the farmer will find it safer to stick to standard crops that are adapted to his soil and crop rotations. For a small grain crop oats can hardly be excelled, and they are one of the best grains for milch cows and young stock. Another grain crop that possesses considerable merit and also fits well in combination with oats and corn is barley. When it is not desired to keep the different grain crops separate, a very good yielding mixture is found in oats, barley and Canadian field peas. When these crops are grown in combination special attention should be given to selecting varieties that ripen as near the same time as possible.

The farmer who has an abundance of palatable and nutritious roughage, and a silo full of corn, can produce milk with a small amount of grain feed. And if he has home-grown corn, barley and oats, the only kinds of grain he will need are those carrying a high percentage of protein. He will be in a position to feed his cows both liberally and economically. Some of the standard protein feeds seem extremely high, but when we consider the real purpose for which they are purchased (to supply protein to balance up the deficiency of that element in the home-grown roughages and grain feeds) we

find that they are the most economical and efficient.

Another factor in feeding for economical milk production is the proportion of cheap home-grown feeds that may be included in the ration. A much larger proportion of these cheap and bulky feeds could be used without materially cutting down the milk flow if more attention could be given to their quality. If good alfalfa and clover hay are fed with well-matured corn silage the grain ration may be reduced and the desired nutritive ratio maintained. Cows that are fed larger quantities of good roughage produce somewhat less milk, but they produce it cheaper than those fed too much grain feed. On the other hand, if good roughages are not available, and timothy hay and straw are fed as substitutes, then more grain feeds, especially those rich in protein, will be needed to maintain a proper balance, which in too many cases means that the milk is produced at an actual loss. With a proper roughage ration it is seldom profitable to feed good producing dairy cows more than one pound of suitable grain mixture for every four pounds of milk produced. If the roughage ration consists of such feeds as timothy, straw and corn stover one pound of the grain mixture will be needed for every three pounds of milk produced by a cow. Thus, a direct saving of, at least, one-third may be made in the cost of grain feeds through feeding roughage rations.

Summer Reading Important

THERE is a rather general idea that farmers as a class do most of their reading during the winter season; that they do not have time in the busy summer season to keep posted on current matters of interest to them. This idea has been repeatedly proven to be erroneous by investigations made among the up-to-date farmers of many communities. As one such farmer well said: "Things are happening mighty fast these days, and if we want to keep up with them we must read, and read all the time."

True, things are happening fast, and particularly things which are of interest and importance to farmers. The development of organization among farmers; legislation, both state and national; changing economic conditions; and many other things which have an important bearing on agricultural prosperity are general subjects of great interest to every farmer. None of us can be too well informed or know too much about these general economic subjects, or about our own business. And we must read the year around to keep well informed.

"Time and tide wait for no man." Nor will the history of the reconstruction period which is now being made. But the well informed man will have a part in making it and will profit thereby. Consistent reading in summer as well as in winter is always important, but is even more important now than ever before.

Dairy Outlook Improves

MARKET news appearing in this issue indicates an encouraging outlook for dairy products which have been difficult to move during recent months. With an increasing demand for condensed and powdered milk and a material reduction in stocks of these goods held in manufacturers' warehouses, there is likely to be a further marked increase in the number of plants operated, as was the case last month. Prices have changed very little with the increased movement of these goods, and marked advances are not to be expected with the flush of the pasture season just a few weeks ahead. But production costs will go down with the cows on grass, which will help toward bringing the

balance on the right side of the production ledger.

While it is probable that prices for dairy products will not settle on a basis which will return the average dairyman a reasonable profit before the business depression has entirely passed, it will be a matter for congratulation to very many dairymen if their regular market can be restored before the hot summer months begin, when it is most difficult to care for the milk at home.

But the progressive dairyman who keeps only economical producers, who feeds them intelligently, and who works with his organization for better marketing conditions is bound to win in the end. Under present conditions every Michigan dairyman should put himself in this class by culling out the star boarders in his herd, adopting up-to-date feeding methods and promoting dairy organization work in his own community.

Developing Northern Michigan

A COMPARISON of census figures showing the number of farms by counties reveals the fact that agricultural development has been marked in the upper peninsula of Michigan during the past ten years. And the farmers who are developing farms in these northern counties are of the progressive sort, who are availing themselves of the aids which the state offers them through the agricultural college, the experiment station and the extension service. They are also identifying themselves with the strong farm organizations of the state, and are building up substantial and progressive farm communities.

With this pioneer work done, and with the war-time labor handicap removed, this development is bound to be much more rapid in the next decade than it has been in the past ten years. And the same development will be noted in many of the northern counties of the lower peninsula. But just how rapid this development will be will depend not a little on the facilities which are available for the financing of the development project, as emphasized at the recent Cloverland Round-up by Dean Russel, of Wisconsin.

Land owners must recognize that the settler must get the money out of his land to pay the development cost, and in many cases the major portion of the purchase price. Bankers must come to an appreciation of the fact that the collection of usurious interest from new settlers will not build up a prosperous community. Public spirit must be shown by the business men of the towns in their dealings with the new settlers, for the best results in the rapid development of agriculture in all the less well-developed sections of the state.

Observation seems to indicate that the steady development of agriculture in these "Cloverland" counties has been not a little due to the prevalence of such public spirit and cooperation. A still greater development of this spirit will hasten the agricultural development in all our partially developed sections. Such development will add to the prosperity of every resident of those sections. A greater degree of cooperation between old and new settlers will be of economic benefit to both.

Developing the Home Market

THE farmers of Michigan have been placed in a more advantageous position during the past decade by reason of the improvement of their home market through the rapid increase in the size and number of her cities. Besides the great urban centers lying just outside the borders of the state whose populations have been and are dependent up-

on the farmers of Michigan for certain classes of farm products, there has been a most remarkable growth in the number of resident consumers. The census of 1910 showed an urban population in the state of 1,327,044 as compared with 2,241,560 for the census of 1920. From this it would appear that the home market for farm products has practically doubled in the past decade. If in connection with this rapid urban growth, account is taken of the high transportation rates which but recently went into effect, it will be seen by thoughtful farmers that a study of local market demands may reveal farming opportunities which could easily be taken advantage of. Advanced transportation rates will change, to a considerable extent, the farming practices of the country by shifting production nearer to the point of consumption, consequently with an increased consuming capacity and a more restricted area for supplying the agricultural products needed by city people of Michigan it would seem that profit may result in giving attention to the production of perishable products such as milk, poultry products, fruit, and truck crops and of those of a bulky nature which ordinarily cannot be shipped far. With these conditions augmented by improved roads and motor truck transportation, the outlook for a substantial expansion of home marketing in the state is most promising.

News of the Week

Wednesday, March 30.

AMERICAN troops down red uprising in occupied territory on the Rhine.—The German government has also broken up insurgent uprisings in industrial areas in mid-Germany.—One of the rarest operations known in medical science was accomplished by the removal of a bullet from an insane man's brain at the Sing Sing prison hospital.—Secretary of State Hughes confirms open door policy for China.—Two marine corps planes which left Washington naval air station have disappeared.—As a result of the Greek offensive against the Turkish nationalists, relations between Italy and Greece are strained to the breaking point.—The closing of the copper mines April 1 in the northern peninsula makes 4,500 idle; these mines have a year's supply of metal on hand.—Immigrants from Great Britain will greatly help to relieve the farm labor shortage in Canada.

Thursday, March 31.

THE Hart capital punishment measure was defeated in the house of representatives at Lansing by two votes.—Holstein breeders from all parts of southwestern Michigan meet at Niles to discuss problems.—Three American citizens have been killed in Mexico; the state department has made protest through the American embassy at Mexico City.—The Michigan Department of Animal Industry will use movies to portray the need of tuberculosis eradication.—The seventh federal reserve district, of which Detroit and lower Michigan are a part, reports better trade outlook.—The 800,000 yearly increase in population of Japan is a national problem, in view of the immense difficulties in the way of Japanese emigration.

Friday, April 1.

FORMER Emperor Charles' endeavors to regain the throne of Hungary have failed, mainly because of the protests of adjoining countries.—A coal miners' strike in Great Britain causes 3,000,000 men to quit work. The British government intends to use navy men to man pumps and keep the mines in operation.—Ten United States submarines will sail, unattended, to the Pacific Coast; this is one of the longest voyages ever undertaken by submarines not attended by a fleet.—Secretary of Commerce Hoover will make investigation to determine if American capital is financing German trade in South America.—Ten thousand dollars is reported stolen from the safe of the shipping board at Hog Island; an "inside job" is suspected.

Saturday, April 2.

PRESIDENT HARDING and the cabinet have agreed that there should be no cancellation of either principal or interest on European debts.—Purchase of \$2,000,000 worth of new aero-

(Continued on page 492).

Necessary to Pool Commodities

By Bruce Lampson, of the Washington-Idaho Wheat Growers' Association

THE three preceding articles have shown that the wider the speculative system can make the spread between the producer and consumer the more money they make; that the narrower the producers' co-operative associations can make that margin the more the producer receives, the more reasonable the price to the consumer, and the more is consumed; and that adverse interests must be eliminated between producer and consumer. Some of the absolute essentials in eliminating the adverse interests within the distributing system were discussed.

This article will show the necessity of pooling the commodity and of every member receiving the average price and the method of financing the crop; getting the advance; distributing the money, and financing the warehouse.

Pooling—Receiving Average Price.

A producers' selling agency that operates upon a capital stock basis and buys the members' product and pays one member one price and another member another price, is not purely co-operative and can only function on a speculative basis.

The commodity of the members of a co-operative selling agency is pooled. As soon as the product is delivered to the association it goes into the pool with other produce of like grade and variety and is the property of the association. The directors should have complete control, so that they may meet adequately and quickly either adverse or favorable conditions. Individual control of the product would not be cooperation.

The product, as far as the individual is concerned, loses its identity upon delivery, and all sales are made by and in the name of the association. All money, less actual expense of operating is returned to the grower. When these pools are closed out, every grower gets the same price from like grades and varieties. This will be explained under "Getting Advance," and "Distributing the Money" when the crop is sold.

When an efficient selling organization is built up it will have reliable information as to the production and consumption, and also as to where and when to sell. With such information, there is no reason why a staple product like wheat should be cheaper when the bulk of it comes on the market than at any other time of the year, except the cost of storing and holding until the market can properly consume it. What has the law of supply and demand to do with the daily fluctuation of wheat prices?

Every co-operative marketing organization in California has one of its fundamental features, the plan of pooling the crop that it handles. The wheat growers of the northwestern states have it written in their marketing agreement that their wheat may be pooled by grades, varieties and districts, in the discretion of its directors, and return to the grower all the proceeds, less the cost of all operations, equipment, etc. With an orderly distribution of a pool by a central selling agency, prices are stabilized, market fluctuations are minimized. Pooling and the paying to the producer an average price for like grades has proven to be an absolute fundamental in co-operation.

Special privileges and variation in individual benefits is not cooperation. Pooling of interests and benefits is co-operation.

Financing Selling of the Crop.

There are two methods by which a

selling organization can be financed. One is by capital stock. The other is by having a commodity to sell. In case of a large number of members, the commodity is under contract to be delivered and pooled, and sold from that pool.

Looking at the pure co-operative association from the point of view of securing credit, it should be borne in mind that the contracted product gives the association a guaranteed volume of business. An institution with a guaranteed volume of business is far more sound than one with a capital stock. Business supporting capital stock can be lost. A guaranteed volume of business guarantees all expenses and indebtedness.

How a purely co-operative association, organized upon a delivery contract basis, is financed, can best be illustrated by relating how the wheat growers of the northwest are now financing the distribution of their wheat.

Getting the Advance.

The member delivers his wheat to a warehouse and secures a warehouse receipt. He then attaches his warehouse receipt to a draft which he draws upon the association. This draft with the warehouse receipt attached is sent, either direct or through the local bank, to the association. The association accepts this draft. It is then a two-signature paper and is known as

a trade acceptance. A record is then made by the association of this draft and the attached warehouse receipts. It is then returned to the grower's local bank. The local bank advances the loan value of the wheat to the grower.

These trade acceptances are eligible for rediscount by the federal reserve system in case the local bank wishes to rediscount them.

A new method just coming into use for the purpose of securing advance while the wheat is in process of distribution, is the issuing of bonds. The warehouse receipts are placed in the hands of a reliable trustee. The association then issues bonds against those receipts. These bonds are commercial paper and are sold to the investing public.

Distributing the Money.

When the wheat is delivered, it is classed in a pool with other wheat of like grades and varieties. The association sells portions of the pool from time to time as the marketing conditions may warrant. Seventy-five per cent of the money received from these is distributed at the time of the sale to the growers in proportion to the amount of wheat they delivered to that pool. The twenty-five per cent is retained by the association until the pool is all sold. The average price can then be determined and final settlement of the pool made.

This method of financing the crop

getting the advance and distributing the money after the sales are made is not only in use by the pure co-operative association, but is one of the essentials that makes for the great success they are having.

Financing the Warehouse.

How these pure co-operative, non-capital stock organizations can secure finance for buying or building warehouses, is well illustrated by the method used by the Northwest Wheat Growers' Association.

The directors of the marketing association, who must be actual wheat growers, establish a warehouse corporation, which is subsidiary to the marketing association.

This warehouse corporation issues both common stock and preferred stock. The common stock has all the voting power and is held in a block by the association. The association directors then have full power by virtue of their vote, over the warehouse corporation. The preferred stock which has no voting power is sold to the investing public and draws eight per cent interest dividends. This preferred stock is divided into classes to conform to the number of years of the association's contract. For instance, if the contract between the member and the association is for six years, the preferred stock is divided into six classes. Class one is to be paid off the first year, class two the second year, etc., so at the end of the sixth year all the preferred stock will have been retired. Then there remains only the common stock, which is held in a block by the association. The association has a cross contract with the warehouse corporation, in which the association agrees to take from the price of the wheat, a sufficient amount to retire one class of the preferred stock each year.

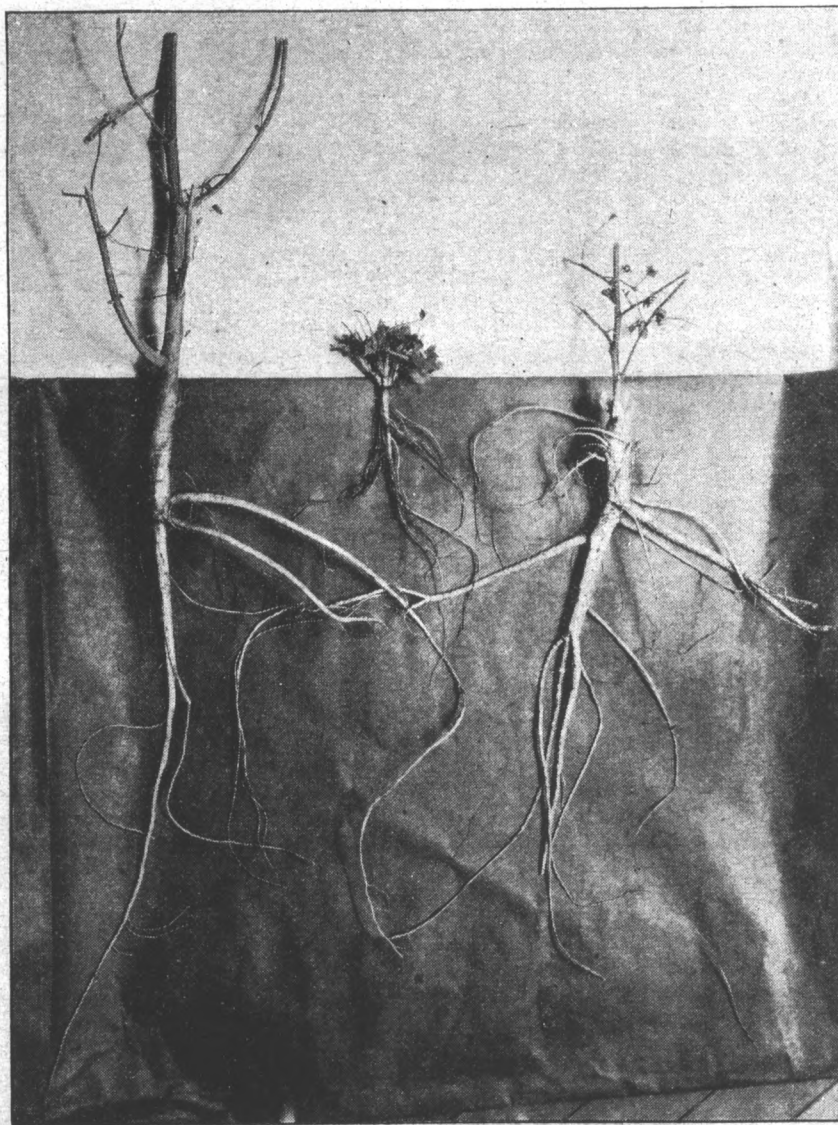
The money for retiring this preferred stock is taken out of the association wheat and is pro-rated over the entire amount of wheat handled. Each member then has an equity in the warehouse corporation in proportion to the amount of wheat he delivered. If at any time a membership ceases, the association pays the retiring member the amount of his equity in the corporation. The amount of this payment would be pro-rated and taken from the returns of the old and new members alike. The important fact is that money is taken out of the growers' wheat, under this co-operative plan for the purpose of building or buying the warehouses. The growers own these buildings—no one else owns them.

Besides providing physical facilities for handling the wheat, it is necessary to have this subsidiary warehousing corporation for the purpose of issuing warehouse receipts. No organization can issue itself a warehouse receipt that is valid as security. We should note here that it would not be good business for the directors of the warehouse corporation, who are also directors of the association, to build warehouses in any place where good storage service is available at reasonable rates.

A purely co-operative selling agency of this nature could assist the members of the present local warehouse companies in the selling of their product and the local company could co-operate with the association by doing the physical handling.

(The last article of this series will discuss the necessity of eliminating capital stock; the limiting factors in price-fixing, and the protection offered the consuming public by a pure co-operative association).

The Growth of Clover Roots



THE above picture shows the growth of annual sweet clover, medium red clover and biennial white sweet clover three and a half months after seeding. It will be observed that the large and succulent root of the white sweet clover shown at the right has a crown about one and a half inches below the surface of the ground. The crown is much larger than the stem. The annual white sweet clover at the left has no crown. Observe the size of the sweet clover plants as compared to the red clover in the center.

LATE AGRICULTURAL NEWS

DISCUSS RURAL RECREATIONAL WORK.

DURING the week ending April 2, a meeting of the national council of agencies engaged in social work included in the American Country Life Association, was held at Washington. Dr. Kenyon L. Butterfield, president of the Massachusetts Agricultural College, presided. More than thirty uplift societies were represented. Methods and policies relating to education and recreation in the open country were discussed by Dr. A. R. Mann, of the New York State College of Agriculture and other eminent speakers. The Ohio method of coordinating the activities of the farm bureau, grange and other organizations in rural betterment work was discussed at length. This method adopted in Ohio leaves to the grange the recreational, to the state college the educational, and to the farm bureaus the economic phases of the work of improving rural conditions. Asked as to his opinion of the Ohio system the Washington representative of the American Farm Bureau Federation, said the farm bureaus desired to aid wherever possible in the betterment of country life, and he approved of any plan which avoids friction between the various groups of farmers. A meeting of the Country Life Association will be held some time this year, at which will be discussed the relations existing between the twelve million people residing in country villages and their farmer neighbors, with a view to developing a better understanding between the farmers and the villagers.

WAREHOUSING AIDS WOOL POOLS.

THE Bureau of Markets is meeting with success in its movement to promote the licensed warehouse system under the United States Warehouse Act. There are now three hundred and five warehouses licensed and bonded under the act, and the number is rapidly increasing. The government warehouse plan having developed to save the southern cotton growers during the disastrous season at the beginning of the war period, it is quite natural that licensed cotton warehouses lead in numbers, two hundred and fifty federal bonded warehouses being used for cotton storage, fifty for grain and five for wool. Thirteen of the grain warehouses are in Ohio, one each in New York and Pennsylvania, and the others in the west.

It is in wool that a widespread development in licensed warehouses is promised in the near future. It is believed that the wool financing in the future will be done by means of the state wool pools with the wool stored in licensed warehouses. The bureau of markets points out that warehouse receipts issued by federally licensed warehouses offer fundamental security for loans on wool. These warehouses are managed by competent persons. The receipts are acceptable to federal reserve banks. The wool specialists in the bureau are of the opinion that the licensing of wool warehouses by the government will do much to stabilize the industry. It enables the growers to distribute their wool in accordance with the demand as against the present system of glutting the market.

Officials of the National Wool Warehousing & Storage Company, whose warehouses at Chicago are owned by eight hundred wool grower stockholders say that the licensing feature has greatly increased their business. They feel that the growers have more confidence in their establishment because

of the fact that it is licensed under the federal law.

The farm organizations and wool growers' associations are finding the government warehouse licensing and bonding plan an effective aid to cooperative wool pooling. The Texas State Farm Bureau Federation is establishing a licensed warehouse at Houston, to handle all the wool produced by its members in the state. The Ohio Sheep & Wool Growers' Association has applied for a license for its warehouse in Columbus. Owners of two West Virginia wool warehouses have also applied for government licenses. The Farm Bureau Federations in several states are making preparations to establish licensed wool warehouses or to take out licenses for those already in operation.

There is said to be room for a vast development of licensed wool warehouses throughout the country, and the bureau of markets is ready to assist the wool growers in establishing them. This work is in charge of C. Nagel of the bureau.

The market specialists in the bureau of markets hesitate to make any predictions in regard to market prospects for the coming wool clip. All the wool producing countries are reported to be carrying large stocks of surplus wool, and imports increase when the home market shows any signs of improvement. The wool tariff will help if it is effective in holding back the immense foreign stocks until our own supply is reduced to the normal demand. The Payne-Aldrich tariff of eleven cents a pound on grease wool, has been agreed upon by the house committee, making a rate of twenty-two cents a pound on washed, and thirty-three cents on scoured wool. It is argued by the tariff advocates that the sheep-raising industry prospered under the old Payne-Aldrich tariff, and the same tariff duties on wool should restore the industry to a profitable basis. One market specialist says the time has come when the farmers will have to take their losses as something that is gone forever, and base their sheep values on present markets and conditions. If they are discouraged and want to sell their flocks he advises them to sell the sheep to themselves and hold them until the effects of the wool tariff are apparent in increased prices and a more attractive demand.

MR. ESTABROOK TAKES CHARGE OF BUREAU OF MARKETS.

PREPARATIONS are being made in the department of agriculture for the consolidation of the Bureau of Crop Estimates and Bureau of Markets. L. M. Estabrook has been transferred to the bureau of markets, by the approval of Secretary of Agriculture Wallace, and will act as associate chief with George Livingston. Mr. Estabrook has been with the department of agriculture for seventeen years. In 1913 he was appointed chief of the bureau of statistics, which he reorganized as the bureau of crop estimates. When congress appropriated \$2,000,000 to be loaned to farmers in the drought-stricken regions of the northwest, a few weeks ago, Mr. Estabrook was appointed to take charge of the distribution of the funds.

EASTERN DAIRYMEN TO CARE FOR SURPLUS.

THE cooperating milk producers of Maryland and Virginia who ship their products to Washington are planning to set a good example in efficient milk handling for the rest of the country. They are preparing to eliminate

the ever-vexing surplus during the flush season, and thereby they expect to effect a saving of between \$150,000 and \$200,000 yearly. This is to be accomplished by equipping a plant in Washington where the surplus milk and cream can be manufactured into butter and other milk products. At a recent meeting of the Maryland-Virginia Dairymen's Cooperative Association \$50,000 was subscribed for this purpose.

Dr. Harvey W. Wiley, the well-known chemist, owns a dairy farm in Virginia, and is a member of the board of stockholders of the dairymen's company, is deeply interested in this project and believes it will result in the consumer getting milk at a reduction in cost and the producer getting money instead of having to stand a loss.

OUR RURAL POPULATION.

STATISTICS just made public by the census bureau show that of the 105,710,620 inhabitants in the United States when the 1920 census was taken, 54,314,476 live in cities of 2,500 inhabitants or more, and 51,386,144 live on the farms and in the smaller villages. While it is said that the census figures do not show any great drift to the cities, they indicate that the cities have passed the country in relative importance, based on number of inhabitants.

URGES COOPERATION BETWEEN CITY AND COUNTRY.

THE bureau of information under the direction of Harlan Smith, is putting on the screen some very interesting pictures illustrating and demonstrating the activities of the department of agriculture. By means of these films workers in the department are able to interest city residents in the precarious food situation and give them a more enlightening view of the actual conditions of agriculture. At a meeting held in Washington on March 30, attended by upwards of two thousand, Secretary of Agriculture Wallace made an address in which he said the present situation was even more critical than that which followed the Civil War. There is a greater disparity today between the prices farmers receive for products, and the prices they have to pay for other commodities than there was in 1865. He urged the necessity of cooperation by city and rural communities in meeting the problem.

SPREADING FAME OF NORTH-EASTERN MICHIGAN.

THE executive committee of the Northeastern Michigan Development Bureau met at Bay City, Thursday, March 24, and discussed general plans for carrying on the work of the bureau for the coming year. Secretary Marston, in a report to the committee, said that greater interest in the work of the bureau was more manifest than ever before, and the increased cooperation of the people of the district was a most valuable aid.

Publicity of the district's great variety attractions for the summer vacationist is to be secured through the use of advertising space in some of the national magazines, and through some other plans outlined by the secretary.

The bureau will again conduct one or more farmers' automobile tours through the district, similar to the one which proved so successful last year; and it was also planned to have a summer meeting of the bureau at which the subjects of development and con-

servation will be discussed by speakers who are authorities on those topics.

During the past year the bureau has had numerous inquiries regarding the feasibility of holding conventions at points in the district where the delegates could make a summer outing of their trip, with camping out features as a substitute for the usual convention held in some city. These inquiries indicate that such gatherings are going to be popular, especially with the smaller organizations, and plans will be made for supplying accommodations in the way of tents, etc., for such use. The bureau has listed a large number of suitable places for camp sites easily reached by good roads in summer and fall.—M.

FRUIT DAMAGED BY FREEZING.

THE freezing temperature of the last few days in March caused great damage throughout a wide extent of territory, according to Professor J. W. Smith, of the weather bureau. Early fruit has been injured in a section of country about three hundred miles wide, extending from New Mexico eastward to the Atlantic ocean, where the strip narrowed to one hundred and fifty miles. The greatest damage to fruit appears to have occurred in the Ohio valley, western Maryland, New Jersey and Delaware. The department of agriculture officials are of the opinion that the fruit crop of the country as a whole has not been materially affected by the freezing weather. The principal apple sections affected are those of the Ozark Mountains, the Cumberland and Shenandoah valleys.

GRATIOT COUNTY FARMERS HOLD COMMUNITY MEETINGS.

THE North Shade Farmers' Club held an instructive meeting on Friday, March 25, at the home of Mr. and Mrs. Frank Salisbury. The program was opened with a song by the club, followed by invocation.

"Immigration to America" was the topic handled by W. Ray Salisbury, and the "Income Tax" by Clayton Cook, of Ithaca, manager of the Gratiot County Farm Bureau. Discussion was led by C. E. Bond. A brief business session was held at which arrangements were made for holding the annual fair.

The New Haven Community Betterment Club held a well attended meeting Tuesday, March 29, at the home of Mr. and Mrs. Lee Townsend. Dinner was served at noon and a business session thereafter was followed by a program opened by singing and invocation. Response to roll call was made by quotations. Clayton Cook, manager of the county organization, gave an address on the subject, "Is the Sugar Beet a Profitable Crop for the Farmer?"

The fifth annual Robinson community dinner was held at the Robinson school, Brady township, Saginaw county, on Friday, March 25. This event started five years ago as a surprise birthday party, and has developed into an important community gathering. Invitations were extended to county school and farm bureau officials, who were very willing to take part in the program following the dinner. The dinner meeting was the occasion of the presentation of a silver loving cup to Lester Weaver, state club bean grower champion, the trophy being awarded by the Michigan Bean Growers' Association.—M.

Greater Acre Efficiency in Potatoes

A Review of Numerous Experiments Conducted by the Michigan Experiment Station, Professor Waid, and J. W. Weston Cooperating and by Farmers.—By Ove F. Jensen

IT is self-evident that at present prices and costs the potato grower producing only one hundred bushels an acre loses money. What, then, is the solution of the problem of the potato grower who depends on this as his principal cash crop? He must either reduce his costs, which he is able to do on some items and not on others, or increase his acre efficiency, if possible, by making two potatoes roll out at harvest time where but one rolled out before. Perhaps the solution of his problem will be found in adopting both of these methods. There is a very definite limit, however, in the reduction of costs. It will require the same quantity of labor in preparing the seed-bed, in cultivation, spraying and in harvesting, as last year. The land rental will be the same. The only marked reduction will be in the cost of seed.

There is a danger of going too far in cutting the cost of production if this involves omitting some of the good practices, such as treating the seed, spraying, or thorough cultivation. Moreover, the greatest profits are not always obtained at the lowest cost per acre. On sixty typical wheat farms in Kansas, it was found that those which averaged fifteen bushels or less to the

acre had an acre cost of \$25.62, or \$1.90 per bushel. Those which produced twenty bushels or more to the acre spent \$27.82, or \$2.20 more an acre, but reduced the cost per bushel to \$1.21.

In a study made on thirty-six farms in one Ohio county in 1919, thirty-six farmers raised on an average of \$2,855 worth of crops from sixty-five acres, and spent on an average \$130 for manure and fertilizer. The most profitable five of these farms expended \$226 for manure and fertilizer, but averaged \$3,445 worth of crops from sixty-two acres.

In an Iowa survey on the cost of producing corn, the expense an acre where the cost per bushel amounted to eighty-eight cents was \$52. On another group of farms where the bushel cost was nearly a dollar, the cost per acre was \$46. The higher acre-cost resulted in a lower bushel cost. The six-dollars-an-acre additional cost may have represented better cultivation, lime, manure or fertilizer; but it paid.

These instances show that there is a lower limit below which it is inadvisable to go in reducing the expense of crop production, and that the expenditure of a few dollars an acre may be well justified in subsequent greater

yields and profits to the farmer. This brings us to the matter of acre efficiency. What are the most economical ways of increasing yields?

One way to make nearly two potatoes grow where but one grew before, is to have just twice as many plants on an acre. This is actually possible on a large number of farms where potatoes are planted in hills, three feet apart each way. Numerous experiments have shown that where moisture and plant food are not limiting factors, a much greater yield can be obtained by closer planting. Some interesting data on this point were accumulated by the Michigan Experiment Station in two tests, one at Grand Rapids and the other at Manton, Michigan. The potatoes on one-half of each plot were planted thirty-six inches apart each way, and on the other half they were planted eighteen inches apart in the row, and rows thirty-six inches apart. The results follow:

	18-in. Hills.	36-in. Hills.	Treatment.	Acre Yields.	Per Cent Culls.	Over Check.
Gd. Rapids (unfertilized).....	189	126	No fertilizer.....	323	18.8	...
Gr. Rapids (fertilized).....	212	154	500 lbs., 3-10-4.....	399	17	76
Manton (unfertilized).....	176	100	800 lbs., 3-10-4.....	395	19	72
Manton (fertilized).....	200	110	1200 lbs., 3-10-4.....	398	16	75
			1500 lbs., 3-10-4.....	425	17	102
Average.....	194	123	Fifteen farmers over the state re-			

The average of these tests showed

Fertilizer Test on Potatoes—Chatham, Michigan.

(Continued on page 488).

Michigan Farmers' Automobile Tour

By J. H. Brown

MANY inquiries come in regarding the "Michigan Farmers' Automobile Tour" next August. The writer has had to refuse to register over ninety cars already, the owners being city business and professional men and women who are not particularly interested in farm life and practice.

Because so many applications have been sent in, with the \$2.00 fee for registration, the one hundred and fifty car limit has been reached and we have decided to admit one hundred and seventy-five cars. To do this we have enlarged the camp formation double triangle, as shown herewith. This will give plenty of room for one hundred and seventy-five cars and allow twenty feet space along the line for each car and tent equipment.

The trucks that accompany the tour will carry some of the extra baggage of the tourists and will be located convenient for each car owner to handle his baggage. The electric farm lighting plants will be located to give uniform and plenty of light all night. A fire department truck will be centrally located in the camp and will be organized for any emergency.

A motorcycle squad will patrol the roads ahead of the caravan and flag cars for railroad crossings. The speed will be held down to a moderate rate of not over twenty miles an hour, no car to pass the official and pilot cars without permission. Cars will keep at least ten rods apart along the road and thus avoid the dust. Many of the roads in Ohio, Pennsylvania and West Virginia will be of brick, asphalt, and thus practically dustless.

Over a hundred letters have come in regarding the "Michigan Farmers' Automobile Tour Association" reunion at M. A. C. All the members of the association who went to Mackinac last August are planning to drive their cars to the college with their camp equipment and camp on the campus

June 22-23. They should endeavor to get in early enough to take part in the afternoon program of the first day. There will be a fine program Wednesday afternoon and evening, and Thursday forenoon and afternoon, and all are invited to visit the college those two days and take part in the doings.

Mrs. Dora H. Stockman, lecturer of the State Grange, will be chairman of the program committee of the tour reunion at M. A. C. She is vice-president of the association. E. E. Ball,

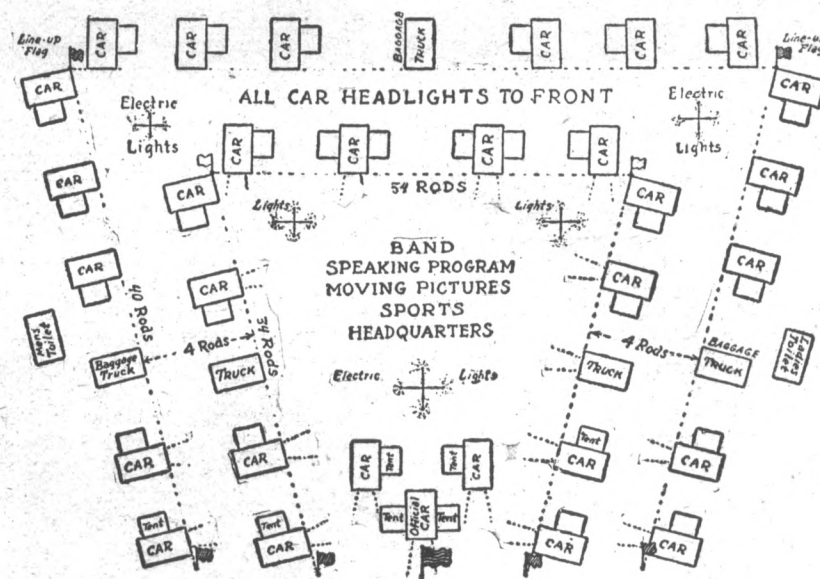
including their wives, have registered for the tour next August to Pittsburg and Wheeling. These well-known people and several hundred others of the progressive farmers and their families from nearly every county in southern Michigan, who are going to prepare their camping equipment for the next tour, will also attend the reunion at the college. They will drive their cars with tents, cots and bedding to the campus as early as possible on Wednesday, June 22, and get settled down

it has the added word, "Association," thereon. The same record will be sent to the tourists who drive for the first time in the tour next August. It was voted at the meeting at the Straits of Mackinac last August to make all 1921 tourists members of the "Michigan Farmers' Automobile Tour Association." Naturally all those who have registered for the first time this year will become members of the association when they meet with us on the college grounds, so we will send them the same windshield record.

These records will have the name of the tour association thereon, the name and address of the car owner and driver, also the car number for the tour to Pittsburgh and Wheeling. Paste these records on the right and lower portion of the windshield, with printed side to glass and back of windshield, before you leave home for the reunion. That will be your pass, badge, sign of recognition, and so forth, and will let others know who you are, and your destination. We will have another fresh record to give each tourist at the reunion, to take home and save for the August tour. We will put the car owner's name and address on each record, also the car number, before we mail them out.

The accompanying diagram shows how the tour camp formation will be made at each camp along the way, commencing at the George B. Horton Farm at Fruit Ridge. Lack of space on the M. A. C. picnic grounds will prevent forming the complete double triangle at the reunion. However, we will line up a single triangle there and group the other tourists' cars around among the trees as most convenient. The single triangle will show the tourists how the cars will be camped on the 1921 tour.

Later on we will write a story regarding the tour details and schedule, and especially the program at the Horton farm.



Arrangement of Automobiles in Camp.

secretary of the Calhoun County Farm Bureau, is president, and the writer is secretary and treasurer. The tour association officers, Dr. F. S. Kedzie, and Burt Wermuth, of the Michigan Farmer, compose the committee and will meet at the college soon to prepare the two-day program.

Practically all the officers of Michigan State Grange, and their wives, also the officers of the State Association of Farmers' Clubs, and some of the officers of the State Farm Bureau,

on the picnic grounds west of the electric car entrance. Cars should be driven in at the west entrance to the grounds, over the electric tracks direct from Lansing. Guides will be on hand to direct the tourists as they come in.

We will mail to each member of the tour association, who drove his car in the tour last year, a new windshield record. This will be sent out in time to paste on the windshield before starting for the reunion at M. A. C. It will be similar to last year's record, except

ACTIVITIES OF FARM BUREAUS

Latest News From Local, State and National Organizations

OTHER STATES ALSO BUSY.

ONE of the most impressive and inspiring funerals ever held in Wau-paca county, Wisconsin, took place when the Bear Creek Cow-testing Association commemorated the passing of the Scrub Bull in that vicinity. The "dear departed" in the form of a likeness of such a bull, attended by twenty-two auto loads of association members, was consigned to eternal oblivion in a grave lined with bull thistles.

The Ohio Farm Bureau Federation in conjunction with the State Bureau of Markets has been conducting two-day schools in cooperative live stock shipping for the benefit of local cooperative managers.

Farmers of Illinois have swung into line on the gift-corn project and have already shipped forty-five cars of corn to the starving peoples of the far east, says the Illinois Agricultural Association.

The Nebraska Farm Bureau Wool Marketing Committee recently met to discuss methods of handling this year's wool clip. They decided to follow Michigan's plan in pooling the wool in warehouses, grading it and then shipping it direct to the mills when sold. They are also investigating the plan of having farm bureau wool made into blankets and suitings, which has worked successfully in this state.

One hundred thousand pounds of the 1,500,000-pound Illinois wool pool has been scoured and is on its way to the woolen mills to be made into blankets and auto robes for the farm bureau members.

J. R. Howard, of the American Farm Bureau Federation, is proudly wearing a new suit. It only cost him \$36 and the little label on the inside of the pocket reads, "Guaranteed All American Virgin Wool—No Shoddy—National Wool Growers' Association." He is not only pleased with his exceptional bargain but because the seven and one-half pounds of wool which went to make the suit brought the producer \$3.00—about twice as much as he could have gotten through ordinary channels of trade.

BEET GROWERS' CAMPAIGN NEARS END.

ON April 16 the Michigan Sugar Beet Growers' Association will close its campaign to get the signatures of 13,000 Michigan sugar beet growers to a growers' contract, drawn up by the association on behalf of its membership and other planters in the state, according to a statement to the State Farm Bureau by C. E. Ackerman, of Durand, manager of the association.

Sugar beet locals are signing the association contract for totals of two hundred to one thousand acres, according to reports made to date, says Mr. Ackerman, who adds that many farmers do not plan to grow beets this year and that others are planting a very conservative acreage. The normal beet acreage of the state is 175,000 acres, from which come 1,000,000 tons of beets for the seventeen sugar beet factories of the state. The sugar beet crop of Michigan had a value of \$11,000,000 last year.

The contract presented the growers by the association is an arrangement for the cooperative marketing of the Michigan sugar beet crop, says Mr. Ackerman, and makes the beet association the sole representative of the grower before the manufacturer. It

provides for \$6.45 a ton for beets when the wholesale price of sugar is five cents, and adds \$1.29 a ton for every cent increase in the wholesale price of sugar. It is based on the Utah-Idaho farm bureau sugar beet growers' agreement with their manufacturers, which is said to have added \$2,000,000 to the crop return of beet growers in those states.

FARMER ON INTERSTATE COMMERCE COMMISSION.

GRAY SILVER and O. M. Kile, of the American Farm Bureau Federation, called on President Harding and brought to his attention the idea of appointing farmers on the Federal Reserve Board, Interstate Commerce Commission, and other administrative boards and commissions. The President encouraged them in the belief that he would appoint a farmer on the Interstate Commerce Commission. Regarding the Federal Reserve Board he intimated that while he had no objection to a farmer on the board, the appointment would go to the man best trained, fitted and equipped for the position.

THE 1921 WOOL POOL.

NOW is the opportune time to pool wool, says the wool department of the Michigan State Farm Bureau, in outlining its plans for the 1921 pool, which opens April 1, and forecasting benefits that will accrue to the Michigan grower who cooperates with his fellows this year in marketing wool on a quality basis.

The wool market is now at the bottom, says the wool department, pointing out that the grower has everything to gain and nothing to lose in pooling his wool. The wool department now has established connections with manufacturers who are large consumers of wool, an important asset. In addition, the farm bureau has an outlet for wool through the manufacture of blankets and suitings which we expect will bring in half to a million dollars this year. Such sales are expected to give the grower a splendid return on his wool and will probably cover a large portion of the handling costs.

According to its announcement, the wool department will make a substantial cash advance without interest this year at the time of pooling. At present farm bureau wool is selling at sixteen and a half cents for the very poorest grades, up to thirty-three and a half cents for the best grades, a tribute to the farm bureau grading system, says Mr. Hankins. Local buyers are said to be offering ten to twenty cents for the 1921 clip.

The farm bureau states that it is still selling one hundred blankets a day and that it plans to continue their manufacture all summer in anticipation of a big virgin wool blanket campaign next fall. The manufacture of blankets and suitings will increase the value of the farmer's wool by one-third, is the belief of the department. Horse blankets are the latest manufacturing venture of the wool pool. Pooling, grading and weighing of wool will be done in one hundred sections of the state, where farm bureau wool grading warehouses are now being located by field men. It is planned to have these wool grading warehouses within easy hauling distance of the growers of each locality.

Wool will be graded and weighed on certain dates by experts from the farm

bureau. Growers will witness the work and hear its details explained. Three teams of graders and their assistants will make the rounds of the various houses. Their work will cut wool pool handling expenses to a minimum. Wool will probably be sold from the place in which it is graded. College extension men will put on demonstrations at the time of the wool grading.

SEED PRICES TUMBLE ON OATS AND BARLEY.

LOWER prices on seed oats and barley are announced by A. L. Bibbins, secretary of the Michigan Crop Improvement Association, which, the seed department of the State Farm Bureau, cooperating, has just agreed upon a scale of prices for certified seed which is said to be the lowest in the history of the association.

Low market conditions on barley and oats and the large supply of fine seed of these grains on hand in the association warehouses, led to the reductions, which leave registered oats seed selling at an average price of \$1 per bushel, and barley at an average of \$1.40 per bushel.

"This is adapted seed, bred to Michigan conditions, and guaranteed pure, of high quality and true to name," says Mr. Bibbins. Orders may be placed with the seed department of the State Farm Bureau, Lansing, or with A. L. Bibbins, secretary of the M. C. I. Association, Michigan Agricultural College, East Lansing, Michigan.—J. C. M.

FRUIT FARMERS PLAN COOPERATIVE ACTION.

FRUIT farmers from all sections of the United States are in Chicago this week attending the National Fruit Marketing Conference. The important fruit-growing sections and fruit-marketing organizations have representatives there to present their problems and to seek economic aid for their growers. C. H. Gustafson, Director of the Cooperative Marketing Department of the American Farm Bureau Federation, who is in charge of the meeting, announces that the discussions deal chiefly with transportation as it affects the fruit industry, organization for cooperative fruit marketing, tariff problems of distribution, and methods of increasing consumption of fruit.

WILL SELL GOVERNMENT HARNESSES.

SURPLUS government harnesses are now available to Michigan State Farm Bureau members through a connection made by the farm bureau with an agency handling the war department's surplus stock of artillery harnesses, according to a recent announcement by the farm bureau. The organization was able to secure about fifteen hundred sets of double harness, complete, in two styles, for distribution at prices said to be less than half their actual value.

The harness is reported to be all government inspected and made from the strongest and highest quality of leather. Built to withstand the extraordinary demands of actual warfare, farm bureau officials believe the harness will serve many years of peacetime duty on Michigan farms.

The action taken by the State Farm Bureau on government harness is similar to that taken by the State Farm Bureaus of Missouri, Texas, Kansas,

Nebraska, Indiana and Illinois in behalf of their membership.

THE FARM BUREAU EMBLEM.

AN official emblem to be worn by members of the American Farm Bureau Federation has been accepted. The general design to be used by all the states will be the same. The emblem conveys in a striking manner the idea of the intense Americanism and national strength of the federation. It consists of an outline map of the United States, surmounted by the American eagle volant. On the map of the United States is superimposed a shield of the American Farm Bureau Federation displaying the letters A. F. B. F. The panel carrying the name of the state in embossed letters surmounts this. The emblems may be obtained by farm bureau members upon application to the secretaries of their state federations.

ACTIVITIES OF THE STATE LEGISLATURE.

FARMER members of the Michigan legislature are manifesting signs of uneasiness. Warm weather is at hand and a disposition to terminate their law-making and to assume again the active management of their farms during the spring season is manifested by the agricultural scions. Ten of the thirty-two senators and forty-two of the one hundred representatives are farmers or fruit-growers. Many important legislative questions remain yet to be decided and the farmer members are loath to forsake the legislative halls, thus leaving the solution of these important issues to the urban legislators.

Appropriation bills are being slashed lustily. Committees of both houses are holding long evening sessions and present indications are that this year's appropriations will be kept down to those of last year. The administration's policy of refusing practically all requests for new buildings is being followed closely. An appropriation of \$1,200,000 for 1921 and \$1,500,000 for each year thereafter to pay the principal and interest on the highway bonds passed the house.

The first gun in the big fight which Wayne is preparing to make for greater representation in the legislature was fired when Representative Liddy of Detroit introduced a constitutional amendment to remove the constitutional provision which provides that every county having more than half the number of voters which would naturally be entitled to one representative in the house, should have a representative of its own. The proposed constitutional amendment would allow for the grouping of two or more small counties into one representative district, thus allowing Wayne to secure greater representation. According to the present population of Michigan there should be one member in the lower house for each 36,666 people. This would allow Wayne thirty-one or thirty-two representatives instead of fourteen as present.

The proposal for the collection of agricultural statistics by the township supervisors at the time of making their annual assessments in the spring, was reported favorably by the house committee on agriculture, while the bill to repeal the law requiring threshermen to send in figures regarding grain threshed by them has passed the house and is being favorably considered by the senate.

Our Sheep Industry

Author Believes Michigan Might Keep Five Million Sheep and Get Sixty Cents per Pound for Wool

By J. N. McBride

MICHIGAN as reported by the United States Bureau of Estimates, had 2,224,000 sheep in 1920, or second only to Ohio's production in bright fleece wools. The facts are that Michigan is up to some of the large range sheep states in total number of sheep, and further, could safely reach five millions in number and then consume largely waste, roughage, and pasture which at the present time is an unavailable asset.

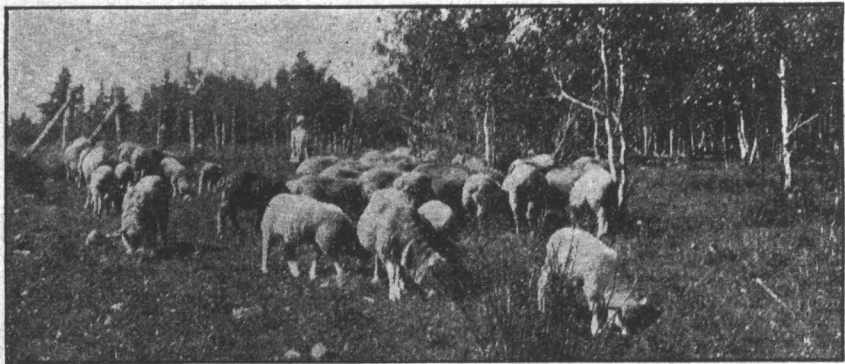
The federal tariff commission has found that it costs approximately fifty-two cents per pound to grow wool in the middle west area and around \$8.00, including losses and depreciation, for the annual maintenance of a sheep.

The average fleece of wool will make the average man one suit of clothes, or three and one-half yards of about twelve to fourteen-ounce goods to the yard. Under a modern system of direct marketing of wool through the farm bureau, the raw materials for a

any profit can be considered. Local tailors discourage the purchase of fabrics by charging practically the same price for making that they do when they furnish the cloth.

The possibility of direct manufacture and sale of fabrics depends on a considerable outlay and volume of business, impossible for the individual or small wool pools. Mills should have at least a run of one thousand yards to a pattern. The over three million population of Michigan should use the wool from five million sheep. And in addition have the most palatable and nutritious of meats. Further, by direct use of Michigan wool made in Michigan mills side-step shoddy clothes, blankets, etc., at a reduction of fifty per cent over present costs when based on honest first use wool in textiles.

The first campaign in education is to insist on a pure grade of fabrics and start on the basis of wool cost, decent surroundings and a fair wage for gar-



The Sheep Consume Largely Vegetation that would be Wasted.

suit of clothes would go from the bureau to the mill in the grades required and the fabric to the tailor and then direct to the user. The price for the fabric would be based on cost of wool grown and not suffer the exaction of at least six intermediaries with two long hauls at advanced freight charges. As it stands now, the freight is \$160 or more on a car of wool to the seaboard from Michigan points.

Sixty cents a pound is a fair price for wool and is the basis for the present calculations. There then would be of wool about \$4.20 to the grower in a suit of clothes. The cost of scouring wool and all other items culminating in the fabric for a suit would be a trifle in excess of \$6.00. One of the unfortunate things of the present system is that the cost of material entering into a substantial suit of clothes which adds appearance and a real joy to the wearer as well as to the national welfare, does not exceed in first cost of material over one dollar as compared to clothes made of shoddy and having a decreased service in wear. This tainted dollar in fabrics is fought for as profit by the manufacturer and when high charges for labor and transportation and fixed charges of selling are piled on top of that fraudulent entry, it cheats the wearer and is the wolf in sheep's clothing that scatters the shepherd's flocks.

In the analysis of the items of a suit of clothes we now reach the tailor's charges, including linings, buttons, etc. An individual pattern cut to the measure of the wearer, including cost of parcel post to the wearer's home, should be around twenty dollars with a fair to large margin of profit. If volume of work follows, this price may be reduced. Ready-made suits cut in large quantities are made at one-half the cost of tailored-to-measure suits. The overhead cost of the average retail store selling clothes is rarely under twenty-five per cent and this is before

ment makers. Sweatshop labor is no more to be tolerated by wool growers than the low wage paid to labor in the production of wool in the Antipodes or in South America. The excess toll exacted beyond the essential costs of goods and for inferior quality is estimated to be in excess of one hundred million dollars and at the same time depleting the flocks by making sheep raising unprofitable. The wool growers of Michigan, through the State Farm Bureau, have undertaken to make every sheep grower a member: first, to improve the grade and quality of wool; second, correctly grade wool; third, to sell directly to the mills; fourth, to manufacture blankets and fabrics and provide tailor-made clothing from virgin wool direct to consumers at cost; sixth, cost means the cost of growing wool, not prices made by ruinous competition which destroys the home industry only to overcharge at a later period; seventh, that this program will increase the price of wool to the grower and decrease the cost of fabrics to the user.

We make this appeal to Michigan people to stand for the elimination of unnecessary services and to support a program of direct marketing at a great saving and to wear virgin wool fabrics, honestly made. If we don't get protective legislation, let us do for ourselves what is entirely possible for the sheep industry to make its own conditions. The American spirit is to take adversity and convert it into prosperity. The Michigan wool grower has had adversity in a large measure. His flocks, valued in 1919 at \$16 to \$20 per head, have decreased over one hundred per cent, while wool is much below pre-war prices and the lamb feeder has lost from \$2.00 to \$4.00 per head. His aim is now by direct marketing of wool to restore prosperity and he invites all people to the task of replenishing and increasing depleted flocks of sheep up to five million head.

The Trail to Prosperity

SMALL business is essential to our national prosperity and has won for itself an important and an enduring place. But small business, however multiplied, cannot undertake to serve the public in a big way where unity of service is necessary.

This must be accomplished by great, highly specialized organizations, managed honestly and efficiently, and functioning to the benefit of all the people.

Such an organization is the Standard Oil Company (Indiana).

Its business is to refine crude petroleum into the many products needed by the people — to provide a system of distribution which will make them available everywhere, and to sell at a price which is fair to all.

To accomplish this, 25,000 men and women devote all their time, energy, and intelligence to the task, while the stockholders have invested more than \$200,000,000 of capital.

In preparing to meet the demands of industry, agriculture, and motorists throughout the 11 Middle Western states served, the Company is now refining petroleum to the limit of its vast refinery capacity.

It is distributing gasoline, kerosene, and lubricating oils to its bulk stations throughout the territory in order that it may be in position to give immediate service when the Spring and Summer rush comes.

Standard Oil Company
(Indiana)

910 S. Michigan Avenue, Chicago, Ill.

2402

The Cloverland Farmers' Institute

Upper Michigan's Agriculturalists Meet At Menominee to Talk It Over

THE function of the Michigan State Farm Bureau, cooperative marketing, organization of the dairying industry throughout upper Michigan and advice to the women, by the women, were the high lights of the first day's sessions of the Cloverland Farmers' Institute, opening at the Menominee Agricultural College, Menominee, Michigan, March 29.

J. Wade Weston, assistant state leader of county agents, presided over the first morning's program. J. A. Waldron, Michigan Agricultural College Dairy Specialist, opened the morning meeting with a discussion on "Marketing Dairy Products," outlining a systematic plan for the profitable sale of dairy goods. During his talk Mr. Waldron emphasized the value of high-grade, pedigreed stock, as a distinct influence upon the dairy market, declaring that where registered stock is catered to, there is a tendency towards a permanent, dependable market, and one which yields a maximum of returns to the farmer, or dairyman.

To Market Dairy Products.

The organization of dairy markets, to handle the collection of whole milk and the re-distribution of the finished dairy products, was emphasized by W. C. Cribbs, United States Extension Agent in Marketing, and a member of the Extension Department of the Michigan Agricultural College. Mr. Cribbs described a meeting held at Escanaba during the past week, during which the owners of herds totaling twelve hundred cows agreed to enter a cooperative marketing plan, with headquarters at Escanaba. It is understood that those who are prominent in the movement have already selected a site for the central market, and that the plan is well under way. Mr. Cribbs declared that the Escanaba association will control two thousand five hundred head of dairy cows in the very near future, and that when this figure is reached, the organization will be perfected and put into operation.

Frank Erickson, president of the Stephenson creamery, Menominee county, then presented a concise review of marketing conditions as applied to dairy products. He voiced the sentiment of the average dairy products producer advocating that cooperation should be the first aim of all creameries in the distribution of the product. If the creameries in each county would act in unison, he declared, they would be in a far better position to sell either butter or cheese to a better advantage, for, he said, such cooperative operation would enable them to sell in carload lots.

Objects and Aims of Farm Bureau.

The function, problems and aim of the Michigan State Farm Bureau were outlined at the opening of the afternoon session by A. T. Depue, member of the executive board. Mr. Depue compared the scope of the bureau's activities today with a year ago, declaring that the work had so increased that it required almost the constant service of the eight board members. Outlining the work of the various departments of the farm bureau, Mr. Depue emphasized the work being done towards encouraging the use of pedigreed seed among the farmers, and the protection of that pedigree from adulteration by commercial misuse.

Mr. Depue described the action of the executive board members as in almost perfect accord on all matters which have thus far come before it. This, he declared, has tended towards rapid progress in the decidedly varied program now before the bureau.

The selection of a particularly high grade of alfalfa seed, and one espe-

cially adapted to the soils of Michigan, Mr. Depue declared to be a decidedly vital feature as far as Michigan's agricultural progress is concerned. The bureau is now at work, he declared, on a plan which should give to every farmer immediate access to the original Grimm alfalfa seed—which he declared to be the best adapted to the Michigan region.

Centralized Marketing Service.

Mr. Cribbs was again called upon to submit his views on cooperative marketing. He presented facts and figures from the experience of the farmers throughout the southern peninsula. Mr. Cribbs described in detail the plan now being carried out in lower Michigan, where fifty-seven grain elevators have been consolidated into one marketing or selling association, with a central sales department which controls the sales from each elevator. This, he declared, enabled the producer, or the farmer, to realize top price for his grain, and that production, urged on by greater demand, was on the increase, as a result of the cooperative arrangement. Mr. Cribbs pointed out examples of the same plan as applied to potatoes, beans, grapes, fruits and various other commodities, where production is centralized. The grape market, particularly, he declared, had been given a decided impetus through the cooperative selling plan.

The Women's Program.

Mrs. E. Wagar, the only woman member of the executive board of the State Farm Bureau, was the principal speaker for the women's program during the day. Mrs. Wagar outlined the possibilities open to the women for service in an organization such as the State Farm Bureau. The speaker emphasized the organization of boys' and girls' clubs, and the cooperation of the housewife with the various departmental demonstration agents.

Miss Aurelia Potts, assistant home demonstration leader for the state, presided over the day's program.

The senior girls of the Menominee Agricultural College gave a short demonstration in costume work, emphasizing economy in garment making.

Miss Sylvia Richardson, home demonstration agent, Gogebic county, gave a decidedly informative talk on shoes and their relation to the health of both children and grown-ups. She described the varying effect on the feet of young and old of different makes and styles of shoes, tracing the effect of the mis-fitting shoe from the foot to the vital organs of the body. "God made our feet," she said, "and man made shoes for them—but, for the most part, man did a mighty poor job." She discredited the assumption that low-heeled shoes are beneficial for all ages and conditions. Proper fitting stockings, she added, are as essential to foot health and comfort as proper fitting shoes.

Miss L. Larabee, head of the department of home economics, at the Menominee Agricultural College, cooperated with demonstrations and exhibitions of girls' club work during the day.

The Exhibits.

Exhibits arranged for the institute cover grains, seeds, fertilizers, canning, paints, electrical equipment for the home, potatoes, Michigan wool products, and girls' and boys' club work. Practically all available space was utilized for this purpose, and all of the exhibits were interesting.

Awards.

First and second awards for potato exhibits went to Charles Salewsky, of Menominee. In corn Adam Freis, of Wallace, was awarded high honors. C. H. Bentzon, of L'Anse, was high man in the white oats class, and Joseph Hulicka, of Wallace, took first with his exhibit of Rosen rye, while Erick Stenton, of Covington, had the best display of barley, and Gus Theuerkauf, of Birch Creek, won first on a fine display of cloverseed.

G. W. Putman, crop experimenter of the Upper Peninsula Experiment Station at Chatham, emphasized the function of experimental station work and described the work of the Michigan experiment association in determining the best grades of seeds for various sections of the state. He also outlined the work of the Michigan Crop Im-

provement Association and Michigan Farm Bureau Seed Department, showing how both were cooperating to distribute high-grade seed and establishing variety crops over a large agricultural area.

Dean Russell Speaks.

Dean H. L. Russell, of the College of Agriculture of the University of Wisconsin, emphasized rain fall as the chief requisite for successful farming in any section. Rainfall throughout northern Michigan is adequate and perpetual he said. He pointed to the region as particularly adapted to dairying and urged that farmers go into this phase more extensively. Figures were presented showing Wisconsin's activity in dairying. He emphasized that most of the work there is carried out in the northern counties where conditions are similar to those of northern Michigan. Twenty-eight per cent of Wisconsin's dairy cattle are located in northern sections.

The past twenty years have seen an increase of 373,000 dairy cattle in Wisconsin. One-fourth of the silos and one-sixth of all the corn raised in the state are found in this northern section. He urged more silos and silage crops, declaring that the region is particularly adapted to such crops. He warned against the one-crop idea which he said had ruined many sections of the country in the earlier days—Wisconsin included. He traced Wisconsin's decline during the days when wheat was the standard crop and compared with the rapid improvement through dairying. The ranch idea was discouraged, declaring that small farm flocks of sheep were best for net returns. Ranching is only successful where preparations are made for winter feeding.

L. F. Livingston, land clearing engineer of Marinette county, Wisconsin, described the clearing of eighteen thousand acres of land in his county last year. It was first of the northern counties to take up a systematic land-clearing campaign. He instructed farmers in the proper use of dynamite fuses, caps, etc., for destroying stumps, removing rocks and digging ditches. He favored the electric charge for the most rapid and thorough work by creating simultaneous explosions, all of equal force.

How to Aid Settlers.

During the evening program Dean H. L. Russell explained his theory of how colonization companies may aid new settlers. He described the temperament of the average new settler in a new region as one who usually needs help and cooperation. Mr. Russell urged honesty and fair play in dealing with new settlers and appealed to land companies to do their share to make the load of the settler light during the early development of his farm. The building of roads to all farm tracts was recommended, and also the building of small houses and cooperation in the purchase of seed and farm machinery. He suggested that land companies pay settlers for clearing land as part of agreement for original purchase, suggesting this as a likely solution to the credit problem.

The children's program was attended by about eight hundred. Boys' and girls' club work was outlined by local speakers. Talks touched on rural school club work. Miss Moore, of the state department of public health, talked to the clubs on diet and exercise. A sewing machine was awarded as first prize, and a silver cup as second for the best girls' garment clubs in the county, by the Menominee Agricultural School.—L. D. T.

More Labor For Farms

By James C. Mills

THE "Back to the Farm" movement which has been under way for some months in central Michigan, is getting a new impetus through the action of former soldiers who sought employment in cities after the war, because they feared country life would be too tame, but who now yearn for the scenes of their childhood. Young farmers who went to the cities after the war, lured by the high pay in automobile factories, have been out of work for some time because of closed factories or a decrease in the number of men employed. A good many high school boys, too, from the rural districts, will take to the farm in preference to city life, about one-half of these expressing that intention.

This will result in farm labor throughout the middle of the state, at least, being much more plentiful the coming season than for several years past, but farm wages will be considerably lower. This forecast, made by Arthur G. Bovay, agricultural agent for Saginaw county, is a result of investigations carried on throughout the county. "With plenty of labor offered farmers have decided to hire more help, when they can afford to, but to pay less and exact a full day's work."

"Wages on the farm will range from

\$35 to \$40 a month with board, next summer," says Mr. Bovay. "But many farmers who would like to take on competent help and increase their acreage of crops, will be unable to do so because of lack of ready cash and inability to borrow. The independent farmers, and there are a goodly number in central Michigan, will take advantage of this situation, and there will be a consequent increase in production of food, even though the market for farm products during the past six months has not been good."

EUROPE COMING BACK.

THAT the nations of Europe are slowly getting back to normal conditions is pointed out by the department of agriculture in a statement showing that the United Kingdom is importing as much wheat as in pre-war times. Germany's population has been considerably decreased through loss of territory and war, nevertheless it is now taking wheat at seventy-five per cent of the pre-war importations. Holland and Belgium are taking fifty per cent of their former net requirements, and Poland which formerly raised 25,000,000 bushels of wheat, is now importing flour.

Why Raise Sweet Clover?

By E. J. Leenhouts

THE story of the conversion of Saul the Persecutor to Paul the Apostle is hardly more remarkable than that of the transformation of sweet clover from one of our most obnoxious weeds to one of our most useful plants. No other plant has enjoyed such a complete and sudden reversal of position in the esteem of those who are engaged in agricultural pursuits. The student of general science asks, "How do you account for such a sudden change of heart?" while the practical farmer asks, "Why shall I raise sweet clover?" Both questions can be answered at the same time.

Ordinarily, a farmer must choose between a crop that brings him immediate returns but depletes the soil, and one that builds up his soil but yields no financial returns. Again, there are a few crops, such as alfalfa, that may do both, but they either are not adapted to his soil or do not fit into his rotation. Consequently, they are of little value to him. Sweet clover is one of the most nutritious and profitable crops that can be grown, and, at the same time, it has no equal as a soil improver. Moreover, it fits into a short rotation and will grow on such soils as will hardly support our most persistent weeds. Is it any wonder, then, that the discovery of the possibilities of this plant are being proclaimed from the house-tops and thousands of acres are being sown?

As a Pasture and Hay Crop.

By actual experience and trials on scores of farms it has been ascertained that no other leguminous crop can produce as much nutritious pasture throughout the growing season as does sweet clover. In many portions of the middle west, where the climate is too dry or the land is too depleted to raise any other pasture crop, sweet clover has come to the rescue and produced the very best grazing land. The land is becoming more fertile, the cattle are growing, and the farmers are becoming more prosperous.

On the best farms of the north central states we find large acreages of this erstwhile "weed," usually pastured the first year and harvested for hay or seed the second year. The prosperous farmers of Iowa consider sweet clover as the most important part of their seed mixture for permanent pasture in spite of the richness of their soil and the high valuation of their land. Other farmers in that same state pasture the crop for the first year and the spring of the second, after which they keep it for seed and then pasture it once more in the fall. Pasturing the seedlings in the spring has the added advantage of causing the plants to send out numerous little shoots, each one of which will later carry a flower. A good stand will give an abundance of pasture for two steers per acre from early spring to the middle of June. Fat stock, dairy cattle, hogs, sheep—all relish and thrive on pastures of sweet clover. The Iowa Experiment Station conducted an experiment in pasturing pigs which demonstrated the superiority of such a pasture over rape or red clover in producing pork.

Not only is it a superior pasture crop but it also makes excellent hay when properly cured. In feeding value it ranks very close to alfalfa. It is also very palatable after the cattle once learn to eat it, although it is inclined to become somewhat woody during the second year. On rich soils it yields a trifle less than alfalfa but on poor soils it surpasses the latter as well as all other clovers and grasses. Two to three cuttings are usually obtained. When it is sown with oats in

the spring it frequently yields over a ton of hay after the grain-harvest. Owing to its succulence, however, great care must be exercised in curing the hay.

In regard to its value, therefore, as a pasture crop and as a dry feed, we are safe in saying that it is unexcelled by any other forage crop except alfalfa. If there were no other arguments in favor of its culture this one would be sufficient to warrant its further use, but there are many more reasons for advocating it.

As a Soil Builder.

As a soil builder sweet clover is in a class by itself. By its vigorous growth and the decay of its large roots it restores humus to the soil in large quantities. If it is allowed to remain and decay where it has grown, large quantities of plant food are made available. Moreover, it is a legume and can, therefore, take its nitrogen from the air, thus adding an element to the soil that is very beneficial. Its long fleshy roots penetrate the sub-soil and bring food to the surface for other plants to use, and, at the same time, improve the soil texture.

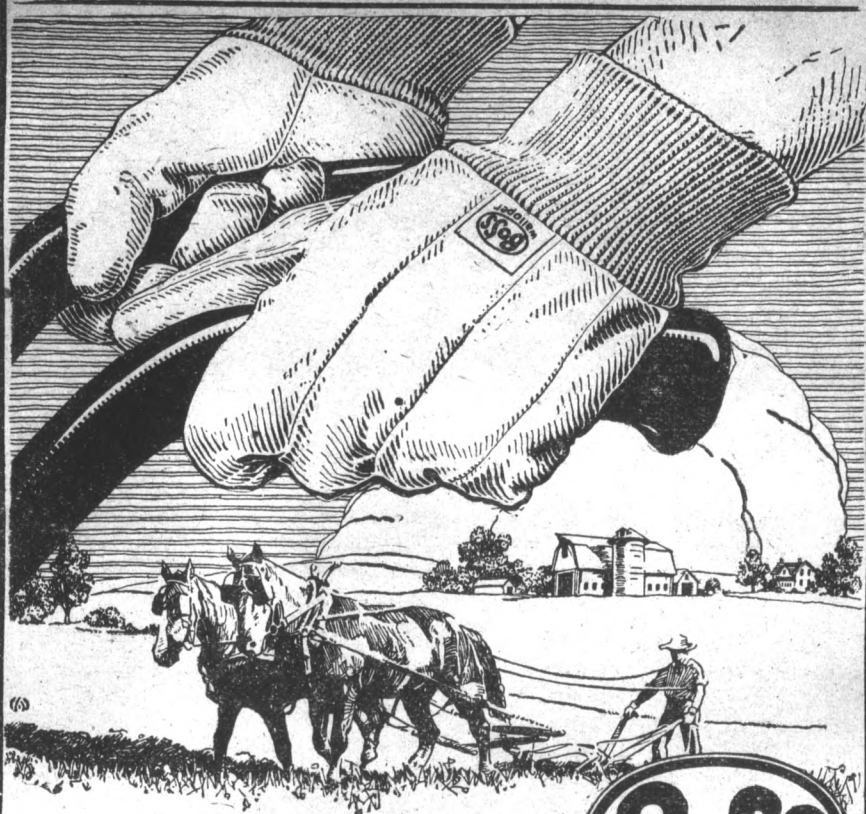
In Kentucky it has recovered the lands which had been cropped excessively with tobacco and has made the farmers prosperous and happy. In Colorado it has taken the alkali out of the irrigated lands to such an extent that alfalfa and other crops are growing where nothing would grow before. King Island, between Australia and Tasmania, has been transformed from a land of useless sand-dunes to one of the best grazing areas in the world by the use of sweet clover. In five years the light yellow beach sand was changed to a dark brown loam. It is, indeed, a wonderful soil builder.

Compared with Alfalfa.

Someone objects, "Alfalfa is a better feed and is also a legume. I will keep on raising it in preference to this new clover." Very well. He is fortunate if he can continue raising alfalfa but we do not all own such a farm. Alfalfa is rather particular as to where it grows. The seed-bed must be well prepared, and the soil must be well-drained and bountifully supplied with humus. If these requirements can not be met, a substitute for alfalfa must be found and that substitute is sweet clover. Those who find themselves compelled to be satisfied with the substitute may console themselves somewhat by considering its advantages over alfalfa.

For instance, it is a biennial instead of a perennial and therefore fits into the ordinary rotation, whereas the raising of alfalfa makes a separate rotation necessary. A spring seeding of sweet clover will produce good pasture or hay crop the same year but alfalfa will not. A seeding of the former is more likely to be a success than that of the latter. The fleshy roots of sweet clover decay more rapidly than the fibrous roots of alfalfa, thus eliminating a great deal of hard work in breaking up the old seed-bed. A final strong argument in favor of sweet clover is its superiority as a nectar-plant. No forage plant produces nectar so consistently, persistently, and profusely. The farmer who raises this forage crop and keeps a few colonies of bees will be bountifully supplied with honey.

In conclusion, sweet clover has been removed from the category of obnoxious weeds to that of our most useful plants because, (1) it is unexcelled as a pasture crop; (2) it is second to none as a dry roughage; (3) it is by far our best soil improver; (4) it has many points of superiority over its nearest rival—alfalfa.



For Hard-Working Hands



Trade Mark
This Trade-mark identifies
genuine Boss Work Gloves.
Be sure it is on
every pair you buy.

EVERY day, farmers' hands need protection from grease and oil, cuts, bruises, and many minor injuries. Boss Work Gloves offer this protection.

They are made to stand the hardest, most rugged kinds of work. Yet they are exceptionally flexible. You can adjust a carburetor or handle a screw driver with ease while wearing them.

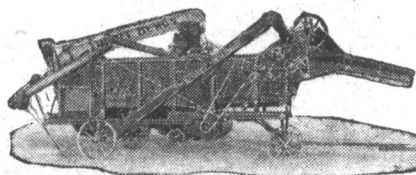
You will find them useful for a hundred different jobs such as repairing farm machinery, all barn work, plowing and harvesting, handling an axe, driving, painting, installing new equipment, digging post-holes and handling fencing.

Boss Work Gloves come in three styles of wrist—ribbed, band, and gauntlet. There are sizes for men and women, boys and girls. Ask your dealer for them by name.

THE BOSS MEEDY—best quality, medium weight canton flannel.
THE BOSS HEVY—very best quality, heavy weight canton flannel.
THE BOSS XTRA HEVY—finest grade of extra heavy canton flannel.
THE BOSS WALLOPER—highest quality, heaviest weight canton flannel.
THE BOSS LETHERPOM—heavy canton flannel with tough leather on palms, fingers and thumbs.
THE BOSS JERZY—highest quality cotton jersey cloth in many colors.
THE BOSS TIKMIT—Roomy mittens made of ticking that wears like iron.
THE BOSS ELASTO—strong canton flannel. Made by a patented process in one weight only.

THE BOSS MANUFACTURING CO.
Kewanee, Ill.

BOSS WORK GLOVES



PortHuron

The Universal Thresher
Threshes All Kinds of Grains and Seeds.
20x34 Tractor Special
Be Your Own Thresherman

THRESH when the grain is ready—when you are ready—when roads are good—when the market is most favorable to you.

Every farmer who has a tractor of 18 H. P. or over can insure himself against loss of much or all of his yearly harvest—from bad weather and inability to get a machine when his grain is ready—by owning one of these little threshers.

The saving on one crop may be enough to pay for the thresher, which, with proper care, will last nearly a lifetime.

Made and guaranteed by a Company that has built grain threshers for 70 consecutive years. For threshing, separating, cleaning and saving the grain it cannot be excelled.

Write for complete description and specifications—sent free upon request.

Port Huron Engine and Thresher Co.,

Port Huron, Mich.

Mention The Michigan Farmer When Writing to Advertisers

MIDWEST

Dependable Power -



Straddle row vegetable cultivation. The New Model is very flexible and easily guided.



The NEW Model is Ready!

The Utilitor is a success. There are more Utilitors operating today than all other makes of small tractors combined.

And NOW the NEW Utilitor model is ready for you. It contains all the features you have wanted.

The NEW Model has been tested—and tested again. Thousands of dollars have been spent in development work to give you the

greatest machine ever manufactured.

And all this has been done without advancing the price. Only a company as resourceful as the Midwest Engine Company can hope to offer such value for the money.

Ask our dealer to demonstrate the NEW Model. It will surprise you by the wonderful way it works. See him today while he can make prompt delivery.

Ask Him About Our Deferred Payment Plan
If You Can't Locate Our Dealer Write Us Direct

MIDWEST ENGINE COMPANY
881 Martindale Ave. Indianapolis, U.S.A.

MICHIGAN LIVE STOCK INSURANCE COMPANY

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

Battery Prices Slashed

Down go Battery Prices! We will save you \$10 to \$25 on a battery for any make of car and guarantee it to be equal to any battery you can buy elsewhere at any price. The famous **MOGUL BATTERIES** are made throughout of best materials, are fully guaranteed. Why pay more when you can

Buy Direct from Manufacturer and get a better battery for less money. You take absolutely no risk—We are reliable—Absolutely guarantee satisfaction or your money back.

Write for Free Folder and Price List today for folder and price list telling all about Mogul Batteries and giving our low "direct from factory" prices on all models for all cars. Don't buy a battery until you get our money-saving offer. Write today.

MOGUL STORAGE BATTERY CO. (Not Inc.)
140 So. Dearborn St., Chicago, Ill.

SAVE \$10 to \$25 ON ANY BATTERY

Cut Cost Ditch, Terrace

Grade roads, build dikes, levees with **Martin Farm Ditcher and Grader**

Works in any soil. Makes V-shaped ditch or cleans ditches up to four feet deep. Horse or tractor. Get my great labor and cost saving story.

Swanboro Ditcher & Grader Co., Inc.
Box 315 Owensboro, Ky.

10 Days' FREE Trial

FOR SALE New **SAMPSON TRACTOR**, model T, 1920, in fine mechanical condition. Run only 5 weeks, at less than half price. **H. B. Proctor**, Grand Haven, Michigan.

Frost proof Cabbage plants. Wakefield, Copenhagen Succession, 300-51; 500-51.50; 1000-52.50 p'tp'd. Express \$1.75 per 1000 Satisfaction guar. **T. J. Cox**, Franklin, Va.

A Sanitary Dairy At Low Cost



SANITARY, sweet-smelling, dairy machinery and utensils with little expense and trouble are yours if you pay

One Cent a Gallon For

STERILAC

Sterilizes — Deodorizes — Cleanses

Sterilac is 45 times as effective as carbolic acid—is non-poisonous and non-irritating—does not injure metal nor rubber—can be used to purify drinking water. Deodorizes and leaves no chemical smell. Disinfects milking machines, cream separators, cans, bottles, refrigerators, shelves, tables, floors, drains, etc. Delays souring of milk, reduces bacterial count and prevents spoilage.

Comes as a powder—dissolve in water as you need it. Withstands hot weather better than other disinfectants.

Bottle to make 75 gallons—\$1.00—to make 300 gallons—\$3.00. Literature and sample to make 10 gallons, free.

Ask your dealer or write us, TODAY.

Selling Agents Wanted
THE ABBOTT LABORATORIES
1791 Lawrence Ave. Chicago

LIGHTNING RODS

Exclusive agency and quick sales to Live Dealers selling "DIDDLE-BLYTHEN RODS". Our copper rods 39.95¢ PURE. Write for agency. Prices are right. **L. D. DIDDLE CO.**, Marshfield, Wis.

Our Service Department

DEPRECIATION OF CORN IN SILO.

How much does grain in corn silage depreciate in feeding value from time it is put in silo to the time it is fed? Corn dented and glazed when cut. How does field corn compare with regular ensilage corn in feeding value, for putting in silo?

Eaton Co.

F. V. H.

The grain in corn does not depreciate as much when put in the silo as a great many people have the idea that it does. Of course, there is a slight depreciation in food value in the fermentation of the corn which makes it become good ensilage. After the corn once heats up in the silo, fermentation takes place and then cools down, there is no further depreciation. I really do not think the loss in food value would be any greater than the waste in grinding and feeding in that way, besides the fermentation necessary to make good silage really improves the digestibility of the corn and a larger per cent would be digested and assimilated than if fed dry.

If the regular ensilage corn is properly matured, got to the stage beyond roasting, so that many of the ears are dented and properly handled, this ensilage corn is as good a feed as your better-eared field corn. It is fully as palatable and fully as digestible, besides, of course, you should seed your ensilage corn a little thicker than field corn. You raise more tons per acre. I am positive that ensilage corn is the more profitable crop to grow for feeding purposes than the ordinary field corn. I do not mean that you are to get a variety like Red Cob Ensilage corn, that only gets probably to the milk stage, and some does not get as far along as that, in our climate. I mean corn that will ripen in Indiana and Ohio. That corn when planted in Michigan in an ordinary season will get almost fit to crib and is as well matured as ensilage corn should be to be made into the highest quality of ensilage.—C. C. L.

REDEEMING TAX TITLES.

Where one buys tax titles, what requirements of law does he have to comply with, and how long does the property owner have to redeem, and what interest has he to pay on the same?—B. H. G.

After the land is sold for taxes the owner has one year in which to redeem by paying the amount for which the land was sold, plus one per cent a month and \$5.00 for each description of land sold. After the year is up the owner may still redeem it by paying one hundred per cent and additional court costs any time within six months after there has been filed with the registrar in chancery proof of service by publication or otherwise, of notice upon the person having the title of record to redeem. As this method of acquiring title is purely statutory every requirement of the statute must be strictly obeyed in order to cut off the title of the prior owner.—J. R. R.

MAINTAINING LINE FENCE.

A and B having adjoining farms, with A's field into meadow and B's into barley, A turned his cows into the meadow while B was away, and B had no line fence. Can B get anything for his barley destroyed by the cows?—B. C.

If we are to assume that there was a line fence established by order of the fence viewers or by agreement of the parties, with part to be maintained by one and part by the other, and that B had not maintained his part, then A would not be liable for any damage

done by his cows to B's crops; for B is at his peril bound to maintain a legal fence. But if A's cattle broke through a legal fence, or if there was no legal division of the fence to be maintained, part by each, then each is bound at his peril to keep his stock at home, and it is no defense that B had maintained no fence. The only ground on which A can escape liability is by proof that there has been a legal division of the fence, and that his cattle got through B's part of the fence by reason of B's failure to maintain his share of the divided fence to the height and strength required by law. If the cattle were unlawfully on B's land he might put them in the town pound if there were one, or if not, advertise them as strays; or, so far as A would have any right to complain, he might lawfully turn them into the road; but if by turning them into the road they did damage to another neighbor perhaps B might be held liable. No man has a right to save himself by turning a common enemy onto his neighbor.—J. R. R.

PROBABLY TUBERCULOSIS.

I am losing a good many of my hens. They first become lame in one leg for a short time, then get cholera and die. We always feed good sound grain to our poultry, and they have a large place to run. Please tell me what to do for them. I have tried several different kinds of cholera medicine in the drinking water, but it does no good. This disease has been in the flock for some time.

St. Clair Co.

M. D.

The lameness in the leg, if accompanied by rapid emaciation, is usually a sign of tuberculosis. Another sign is the greyish nodules which may be found on the liver. There is no known cure for this trouble in poultry. If the flock is valuable and consists of a large number of birds it will pay to have a veterinarian inspect it. It might be necessary to kill all the hens and market those that were fit for food. Then the house can be thoroughly cleaned and sprayed and a new start made with healthy stock. It often pays to keep no poultry for a few months until the ground around the house has had a chance to become free from the disease.—R. G. K.

PAYING TAXES TO GET TITLE.

An estate of forty acres was divided equally among eight children. By the side of this, forty acres more was deeded to two, these two keeping their ten acres in a joint deed. Some eight years ago one of the above persons traded the half interest in the ten acres for a restaurant. During all these years the person that this land was deeded to has never come near, and the taxes have always been paid by the one who retained the other share. What I wish to know is if after a certain length of time, the one that pays the taxes can get a deed of the land for doing so?—C. L. D.

The only advantage of paying the taxes in this state is that it would be possible to raise a presumption of claiming ownership for the purpose of obtaining title by adverse decision. No title can be acquired merely by paying taxes on the land of another. The period for obtaining title by adverse decision is fifteen years in Michigan.

J. R. R.

Salt is required by all animals. The dairy cow requires an ounce or more a day and while she should be given all she needs, she should not be forced to take more than she wants. It is best, therefore, to give only a small quantity on the feed, and to place rock salt in boxes in the yard where she can lick it at will.

DESTROYING ORCHARD BRUSH.

UNDOUBTEDLY much damage is done to orchards by the insect pests and fungous diseases that breed in brush piles. They also harbor rabbits which are a serious pest to young trees. Freshly-cut orchard brush may leaf out and form a breeding place for the very diseases that careful spraying is necessary to prevent in the trees. Obviously it does not pay to spray brush piles so they must be destroyed.

This means that the best time to destroy them is as soon after being cut as possible. Of course, green wood does not burn easily but such piles can be burned by starting the right kind of fire. Do not try to build a little fire under the brush and expect it to spread. Such fires will soon flare up and die out and the time will be wasted. First build a good fire at the edge of the brush or the side from which the wind is coming. Feed the fire with sticks and dead orchard brush until a nice bed of coals is forming. Then the mass of green brush can be rolled over on the hot bed of coals and it can frequently be burned in a short time. It will not burn as readily as dry wood and it takes some time to produce the bed of coals as a starter. But it gets the brush out of the way in a short time and that is what is needed.

If brush is burned in an orchard on spots where a tree is missing the fires cannot be too large or other trees will be scorched. A long-handled fork is helpful in throwing in the rim of brush around the fire which does not burn. After a good bed of coals is obtained the brush from other heaps can be pulled by hand or hauled on a stoneboat and rolled over on the coals. If brush fires are located near dry grass they must be watched carefully. A broom and a pail of water are fine to beat out fires when they start in dry grass. The wet broom will hammer out small fires rather quickly. But when a grass fire gets a good start in the wind it is sometimes a dangerous proposition and such fires sometimes cause severe financial loss.

R. G. KIRBY.

ALFALFA SOD FOR POTATOES.

I have five acres of alfalfa sod that is getting too thin to leave for hay any longer. Did not get this fall-plowed and would like to know if it would do to plow this spring and to plant to potatoes? It is a high sandy loam. Would you advise plowing early, or wait until alfalfa got three or four inches high? I want to cultivate one year and reseed to alfalfa. I also have some new ground of high sandy loam, which has been pastured for years, that I would like your advice as to putting to peas or beans. Also would like to know your opinion of Shorthorn, Red Polled and Hereford cattle for dual purpose. Gladwin Co. R. E. E.

You could hardly secure a better place for potatoes than this alfalfa sod. I would advise plowing it early in the spring, working it occasionally until time to plant potatoes. By this method you will conserve moisture and have a splendid seedbed for potatoes.

New Ground for Peas.

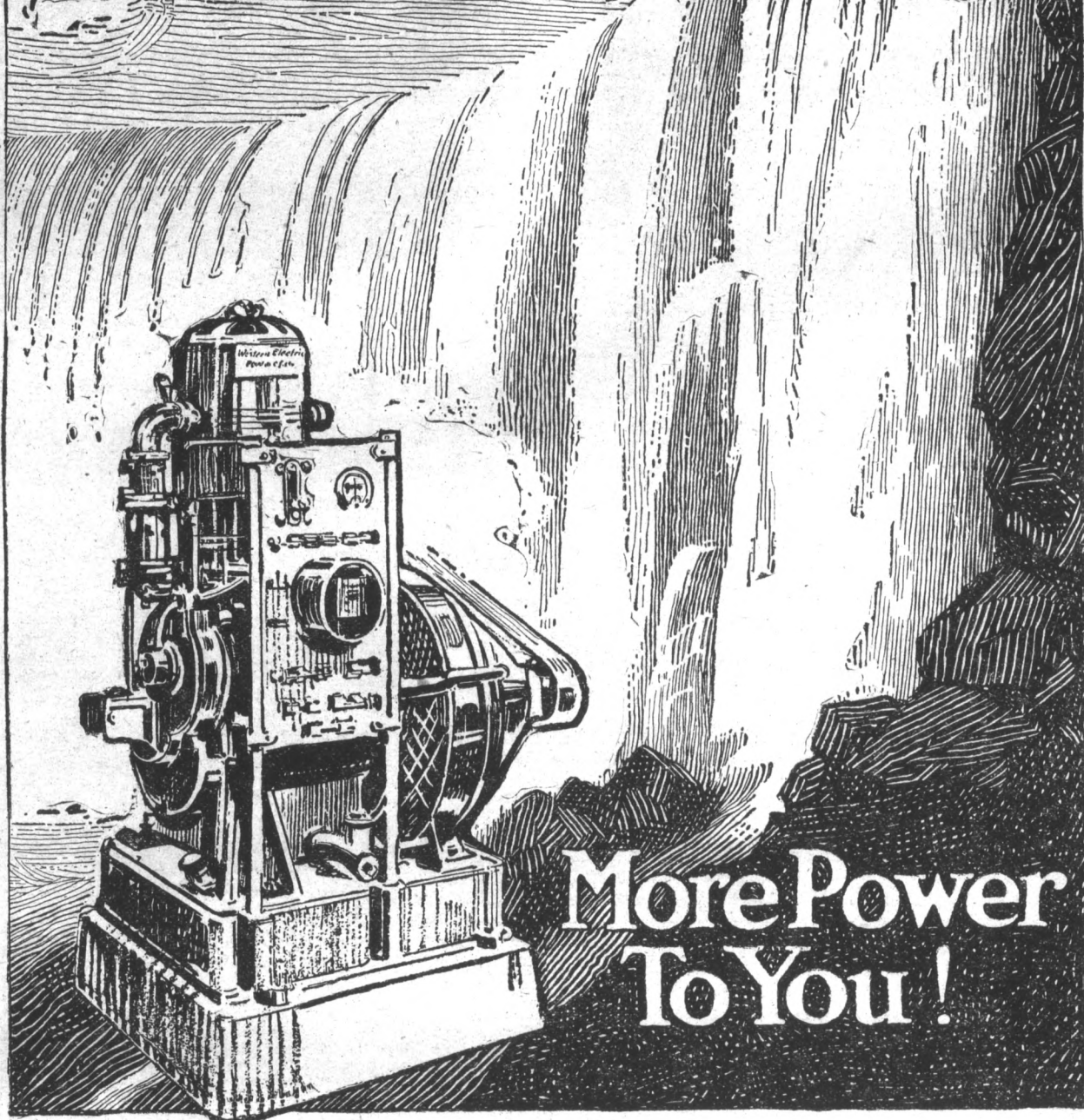
This pasture field would be better if it had been plowed last fall for peas but if you plow it early and work the ground good, using a roller so that you can get capillary connection between the furrow slice and sub-soil you should get a good crop of peas. My advice would be, if you contemplate raising peas, to contract with some seed firm. You would make more money, and be safer than to raise the Canada field peas and sell them on the open market.

Dual-purpose Cattle.

Red Poll and Shorthorn represent dual-purpose cattle and they are fairly good for both milk and beef, but the Herefords ordinarily are beef cattle. If you could get a milk strain of Shorthorn you would probably make no mistake and yet Red Poll are also good dual-purpose cattle.—C. C. L.

Western Electric Power & Light

Makes The Battery Last Longer



More Power To You!

Help that pays its own wages

This extra powerful Outfit with the pulley does a man's work for a few cents a day, running pretty nearly all your machinery. It saves your time in the bargain—and for a farmer certainly time is money.

Western Electric Distributors in this territory:

Western Electric Products Co.,
Grand Rapids, Mich.

Thompson Storage Battery Co.
Kalamazoo, Mich.

THE AUTO-OILED AERMOTOR

A Real Self-Oiling Windmill

Oil an Aermotor once a year and it is always oiled. Every moving part is completely and fully oiled. A constant stream of oil flows on every bearing. The shafts run in oil. The double gears run in oil in a tightly enclosed gear case. Friction and wear are practically eliminated.

Any windmill which does not have the gears running in oil is only half oiled. A modern windmill, like a modern automobile, must have its gears enclosed and run in oil. Dry gears, exposed to dust, wear rapidly. Dry bearings and dry gears cause friction and loss of power. The Aermotor pumps in the lightest breeze because it is correctly designed and well oiled. To get everlasting windmill satisfaction, buy the Aermotor.

Write today
for Circular.

AERMOTOR CO. Chicago Des Moines
Kansas City Minneapolis Oakland

A year's supply of
oil is sent with
every Aermotor



Aermotor
Towers are
Towers of
Strength

CABBAGE PLANTS

Fulwood's frost proof, will stand a temperature of fifteen degrees above zero. Plant now and have early cabbage. All leading varieties. Prices by express 1000 to 4000 at \$2.00 per 1000. 5000 and over at \$1.50 per 1000. By parcel post prepaid 100 for 50c; 500 for \$1.50; 1000 for \$2.50. Greater Baltimore Tomato plants same prices as cabbage. Satisfaction guaranteed, or money refunded. P. D. Fulwood, Dept. 1, Tifton, Ga.

BUY FENCE POSTS

direct from forest. Prices delivered your station. M. M. care of Michigan Farmer

PEDIGREE SEED OATS

Wolverine and College Success seed oats for prices. Apply THE JENNINGS FARMS, Bailey, Mich.

Please Mention The Michigan Farmer When Writing to Advertisers

THE PIONEER

of the
Automobile Insurance Companies
 of Michigan
 is the
Citizens' Mutual of Howell

This company has a membership of over 50,000, the result of six years consistent growth, based on sound business and insurance sense. It has lived and is living up to its original slogan, "Auto Insurance at Cost Plus Safety." Its officers are men with a statewide reputation for business honesty and sagacity and their advent into the insurance field has saved millions of dollars in premiums to the automobile owners of the state.

Since organization, the company has paid losses and claims amounting to over \$700,000.00 and has always maintained a cash reserve large enough to pay every claim on the day of its adjustment. Its advertised assets are CASH, REAL ESTATE and OFFICE EQUIPMENT, listed on March 27th as follows:—

Cash in Banks.....	\$ 50,068.95
U. S. Bonds.....	26,488.17
Office Bldg. and site.....	27,613.44
Office Furniture and Equip.	13,354.97
Total	\$117,525.53

The company occupies its own office building on the best corner of the main thoroughfare of the prettiest and most progressive small city in central Michigan. The building is new and modern and the office equipment is up-to-date, representing a large additional asset beyond the actual cost.

In addition to the officers, the home office staff numbers 20 trained executives and assistants. Thirty-two among the leading attorneys of the state comprise the legal department. There are three adjusters in the field and resident adjusters in practically every city and large town in Michigan.

The company is fully and adequately equipped for service and is dedicated to principle of A SQUARE DEAL.

CITIZENS' MUTUAL AUTO INSURANCE CO.
 HOME OFFICE, HOWELL, MICHIGAN
 There is an agent in your town.

DAIRYMEN!

Secure your ensilage seed corn now.

WEST BRANCH SWEEPSTAKES is Northern grown and combines large growth with early maturity. Order through the Michigan State Farm Bureau or direct from the growers. Guaranteed germination 90% or better.

West Branch Seed Corn Growers' Asso.
 Williamsport, Penn.

Attention Farmers

Make More Money and Save Dollars

By equipping your barns with Gaskell's Little Giant Cow Stanchions. We furnish you with the castings and catch and you will save from two to four dollars on every Stanchion. Gaskell's Little Giant Cow Stanchion is the most simple and durable cow stanchion ever invented. Thousands of farmers are using them every day. Many of these farmers just bought the castings of us and saved many dollars by building their own Stanchions. Send for our circular which tells all about our Stanchions and gives you our prices on Stanchions and our castings. Its free for the asking.

The Jess Gaskell Mfg. Co.
 Morenci, Michigan

For Sale Dunlap Strawberry plants \$3.00 per 1000. Gibson \$3.50. State inspected. FRED STANLEY, Bangor, Mich.

When writing to advertisers please mention the Michigan Farmer.

Raise the Quality And Quantity of Beans with Four Leaf Phosphate

Like clover and alfalfa, production of beans, peas and other legumes will vary directly with the amount of phosphorus they can get out of the soil.

Four Leaf Phosphate Rock is the cheapest source of phosphorus for all legume crops. It is most finely ground and therefore more easily available than ordinary phosphate rock. The use of Four Leaf Phosphate will insure bigger profits from your bean crop—a higher yield and better quality.

Write for prices and dealer's name.



**FOUR LEAF
 PHOSPHATE**

THOMSON PHOSPHATE COMPANY
 721 Fisher Building Chicago, Ill.

ENGINES

Two 7 H. P. Gray Stationary Engines for the Farm or shop, used only two months, \$125.00 each. Kurtz Paper Box Co. 219 Larned St. W. Detroit, Mich.

RECLEANED White Blossom Sweet Clover Seed at \$7.50 per bu. Bags included. Sample sent on request. A. CHURCH, Bad Axe, Mich.

Certified Russett Rural Seed potatoes for sale \$1.00 per bu. F. O. B. Manton, Mich. J. V. HARRISON, Manton, Mich.

News From Cloverland

By L. A. Chase

URGES USE OF NORTHERN SEEDS.

E. L. KUNZE, county agent of Chippewa county, is urging his farmers to standardize their grain crops on varieties of recognized superiority, so that they can the better realize on the favorable opinion of northern-grown seeds generally entertained elsewhere. That his section can win distinction in this direction, he holds, is manifested by the election of Veryl Gormley to the board of the Michigan Crop Improvement Association, and that John Dunbar took second place on his Wolverine oats at the M. A. C. grain show.

FARMERS GET ELECTRIC CURRENT.

NINETEEN farmers living in the new Baumgartner district near Iron River have signed a tentative agreement with the Iron Range Light & Power Company, by which electric lighting and power facilities will be extended to the rural district affected. Additional farmers are expected to join the arrangement. This resembles the action taken by farmers near Marquette recently.

BOUNTIES ARE LARGE.

THE record of bounties paid for the destruction of predacious animals in Gogebic county during the past six months, shows that two hundred and thirty-seven wolves, twenty-seven foxes, and seven wildcats ran up the total bounties paid to \$8,357, according to the Ironwood Daily Globe.

FAVORS HOME RULE.

THE Chippewa Board of Supervisors at its meeting, March 16, adopted a resolution favorable to the proposed constitutional amendment for county home rule. The vote was eleven in favor, five against, and three not voting. The subject had been under consideration by a special committee for some months. The board also directed the county agent to furnish the board with an inventory of the personal property of the Dunbar Agricultural School, whose affairs are to be wound up at the close of the current school year.

FARMERS ACCEPT PRICES OF SUGAR COMPANY.

A COMMITTEE of the Menominee County Farm Bureau has recommended acceptance of the scale of prices for beets proposed by the Menominee River Sugar Company—the only beet sugar factory in the upper peninsula. These prices, it was stated, are higher than those commonly paid elsewhere.

ROAD WORK PROGRESSING.

AT the annual meeting of the Chippewa County Automobile Club, recently held at Sault Ste. Marie, the proposed bond issue of \$125,000 for road construction in that county was strongly urged. It is stated that the bond issue will secure an aggregate of \$750,000 worth of highway construction in Chippewa county through state aid. There has been some disposition in the northern peninsula to claim more than its fair share of state highway money, and the Chippewa movement should, if successful, help to equalize the situation.

Work on the Gay-Lake Linden road has been resumed by the Keweenaw road commission. It is hoped that the highway will be ready for use this

summer. The seven-mile section of this road which falls to Keweenaw county to construct, is said to open up one of the richest farming districts in the copper country. It is stated that the Culver Lumber Company owning timber lands adjacent to the road, has already sold much cut-over lands. The specifications are for a sixteen-foot metalled surface and a twenty-four-foot road-bed. Tourists will greatly appreciate this addition to sight-seeing facilities in one of the most scenic regions of the state.

In Gogebic county winter contracts for road work have been nearly completed, according to the Ironwood News-Record. Approximately 19,000 cubic yards of gravel for the Lake Superior road, the Cloverland trail and the new copper country trail has been hauled. About four miles of clearing has been done on the Tula road. On the copper country trail a right-of-way for four miles between Wakefield and Tula has been cut out, and a large rock excavation has been completed between Wakefield and Thomaston. It is not expected that Gogebic county will undertake new construction this season, for which the unfavorable bond market is held responsible.

RECOMMENDS GRAIN VARIETIES.

THE Evening News of Sault Ste. Marie, publishes a list of dependable grains for the farmers of Chippewa county. The list includes, Wisconsin Pedigree and Oderbrucker barley; Swedish Select, Silver Mine, Wolverine and Mammoth Cluster oats; Marquis, Red Rock, Turkey Red and American Banner wheat; Rosen rye; Green Mountain, Rural, Irish Cobbler, Early Ohio and Triumph potatoes.

LARGE SUGAR CROP.

THE Munising News notes that maple sugar making has begun on Grand Island, a very large, beautifully wooded island in Lake Superior off the harbor of Munising and Onoto, Au Train and other places in Alger county where maple sugar is made on a large scale. The sugar maple is at home in Cloverland, as the Indians knew very well, but the industry is hampered by the fact that many of our farmers are working cut-over land—farms from which all trees have been removed. Eventually it may be a seriously felt oversight that each farm did not preserve its woodlot and maple grove here as in southern Michigan. Much of our standing sugar maple belongs on tracts owned by large proprietors who are not in a position to use their maples for this purpose. Would it not be advantageous if an arrangement could be entered into between these landowners and farmers adjacent to their holdings whereby the potential sugar crop on their lands could be gathered in?

HAS NEW SECRETARY.

THE Western Michigan Development Bureau is to be congratulated. The board of directors of this bureau has been successful in securing Mr. William P. Hartman as secretary. Mr. Hartman is splendidly qualified for this work and through his wide acquaintance and thorough knowledge of the western counties of the state should prove himself invaluable through the service he will be in a position to render. He was formerly agricultural commissioner of the Grand Rapids & Indiana Railroad and for the past year has been production manager of the Falk Potato Flour Corporation.

SUGAR BEETS ON BURNED MUCK.

I have about three acres of land where the muck has been burned off, which I sowed to sugar beets last spring, but they didn't come up. Later I sowed it to millet and it didn't come. Could you tell me the cause, and what to do for this piece of ground?

Sanilac Co. H. A. P.

My attention has been called to difficulties with burned-over muck at various times, in this state and in other states. I saw a piece of muck at the University of Wisconsin last year which was burned over about eight inches, not deep enough to vary the drainage or other conditions in the burned and unburned parts of the field. Corn was planted. The corn was excellent on the part of the field where the muck was not burned off. To the line where the muck was burned, the corn was small, stunted, practically a failure. It was also very significant that at various parts of the burned area there would be large individual hills. One opinion of the specialists in muck farming who were present, was, that the burning killed out the bacteria which made the plant food in the muck. The large stalks in various parts of the field were accounted for by the horse manure which had been introduced during the handling of the soil. Another point of view was that certain poisonous combinations had been formed during this burning which were neutralized by the addition of manure.

We do know that burning is a practice which is followed in foreign countries for certain types of peat. We know that in Minnesota it is recommended for certain types of peat. Burning will not act similarly under all circumstances—that is certain. We can only guess that the burning of the muck has produced conditions which prevented the growth of crops. If this is the explanation, then the introduction of manure should solve the problem. It is probably a question which can be solved by the application of manure. I have never seen a piece of muck that has been burned and was in the proper physical condition but what an application of manure would put it in shape, other conditions being favorable.

However, I would not attempt to raise sugar beets on this piece of land. I would grow a hay crop of some kind; Hungarian millet or alsike and timothy.—EZRA LEVIN.

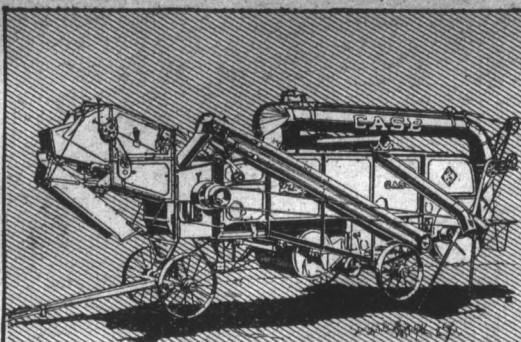
CELERY PLANTS STRANGELY AFFECTED.

I raise celery every year. This year it grew nicely but in some of the plants a stalk grew up about eight inches long and three-quarters of an inch in diameter, then the leaves grew out from that all along. When the tough outside part is cut off, it is tender. Can you tell me why this is?—J. A. D.

I have never seen anything similar to the character of growth which you describe. It would seem that this growth must have occurred before you banked or boarded the celery.

Judging from what we have seen in the growth of other plants, I would assume that there is more of a tendency to reversion than toward any diseased condition. It is possible that it was due to the character of the seed used. Whenever you have anything of this kind developing, it is a very good plan to send samples to the agricultural college. This will enable the college authorities to diagnose the case and if it is something new, they frequently are glad to investigate it.—C. W. WAID, Extension Specialist.

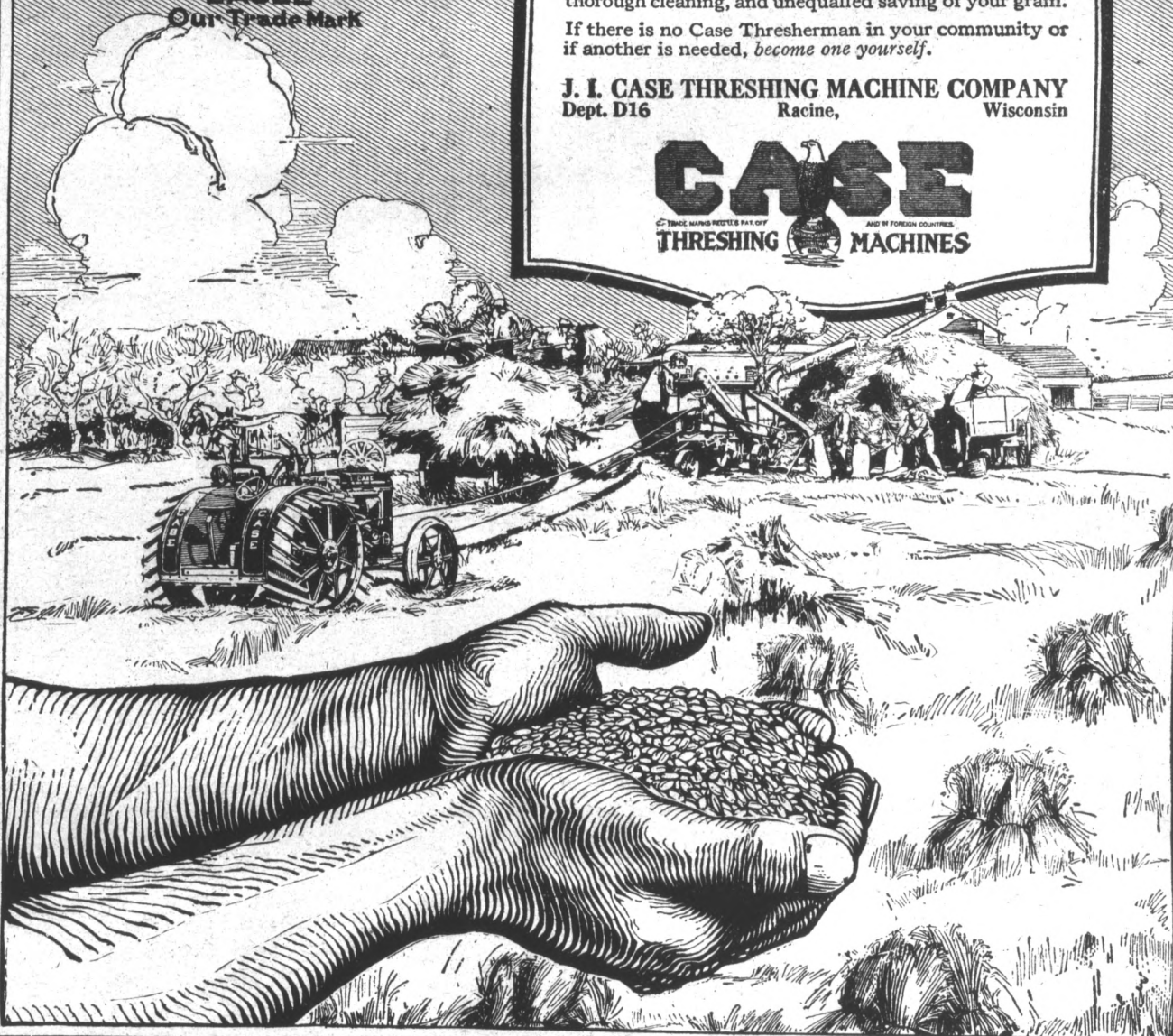
Illinois has experienced great success with its million and a half-pound wool pool, having sold four-fifths of it. They are manufacturing blankets, auto robes, clothing, etc. Many farmers not joining the wool pool found no sale for their wool, or very feeble markets.



Case steel-built, galvanized Threshers are made in the following sizes: 20x28, 22x36, 26x46, 28x50, 32x54, 36x58 and 40x62



Look for the EAGLE Our Trade Mark



Within Your Grasp

FROM the time the seed is planted until the threshed grain is stored safely in your granary or the local elevator, your crop is within your grasp only once—and that is when it is harvested and waiting to be threshed.

Winter killing (in some localities); a late Spring; a cold, wet Summer or a hot, dry one; soil blowing; weeds; rust; grasshoppers; chinch bugs; hail; windstorms—year after year such hazards menace your crop. Do what you will, you can only partially protect yourself against these dangers.

Then comes the final risk—threshing—the one factor, however, over which you have control. You need take no chances on having part of your hard-earned crop blown into the straw pile. Insist on Case threshing. Then you will be assured of clean threshing, complete separation, thorough cleaning, and unequalled saving of your grain.

If there is no Case Thresherman in your community or if another is needed, become one yourself.

J. I. CASE THRESHING MACHINE COMPANY
Dept. D16 Racine, Wisconsin

CASE
THRESHING MACHINES

"Saves Enough Grain To Pay the Threshing Bill"

"Since putting on The Grain-Saving Wind Stacker we have threshed 125,000 bu. of grain. We made many tests and think it safe to say that it saved from one to six per cent of the grain. Some farmers say it will save their entire threshing bill."—H. T. & O. R. Bornemann, Sioux Falls, S. D.

THE Grain-Saving Wind Stacker is used by threshermen, farmers and agricultural experiment stations throughout North America. It is NOT the ordinary stacker but the improved Wind Stacker with the grain trap which catches the grain and unthreshed heads that otherwise are wasted by the threshing machine—blown to the stack—due to faulty adjustments of sieves, improper regulation of blast, excessive speed variations, careless

feeding, unfavorable weather, etc. Leading manufacturers of threshing machines in the United States and Canada have adopted this stacker. Many supply it exclusively. Others can supply it if you demand it, and insist upon having it. Specify The Grain-Saving Wind Stacker on the machine you buy or hire this year. Accept no other! Ask your dealer, or any of the well-known threshing machine manufacturers or their agents.

The Grain-Saving Wind Stacker originated with the Indiana Manufacturing Company, Indianapolis, U. S. A.

The **GRAIN-SAVING** Wind Stacker

Hoosier Yellow Pine or Oregon Fir, with or without hinged doors. Best Anchoring system on the market. We can furnish one-piece staves in Pine up to 24 feet long. Fir up to 32 feet long. Prompt shipment from stock.

WOOD SILO

Steel Roofs, Chutes, and Paints. Complete line of steel roofs and chutes for silos. Paints for all kinds of farm buildings at money-saving prices direct from manufacturer to buyer. Write for prices and special agents' proposition.

HOOSIER SILO CO.
Dept. M-98 Albany, Ind.

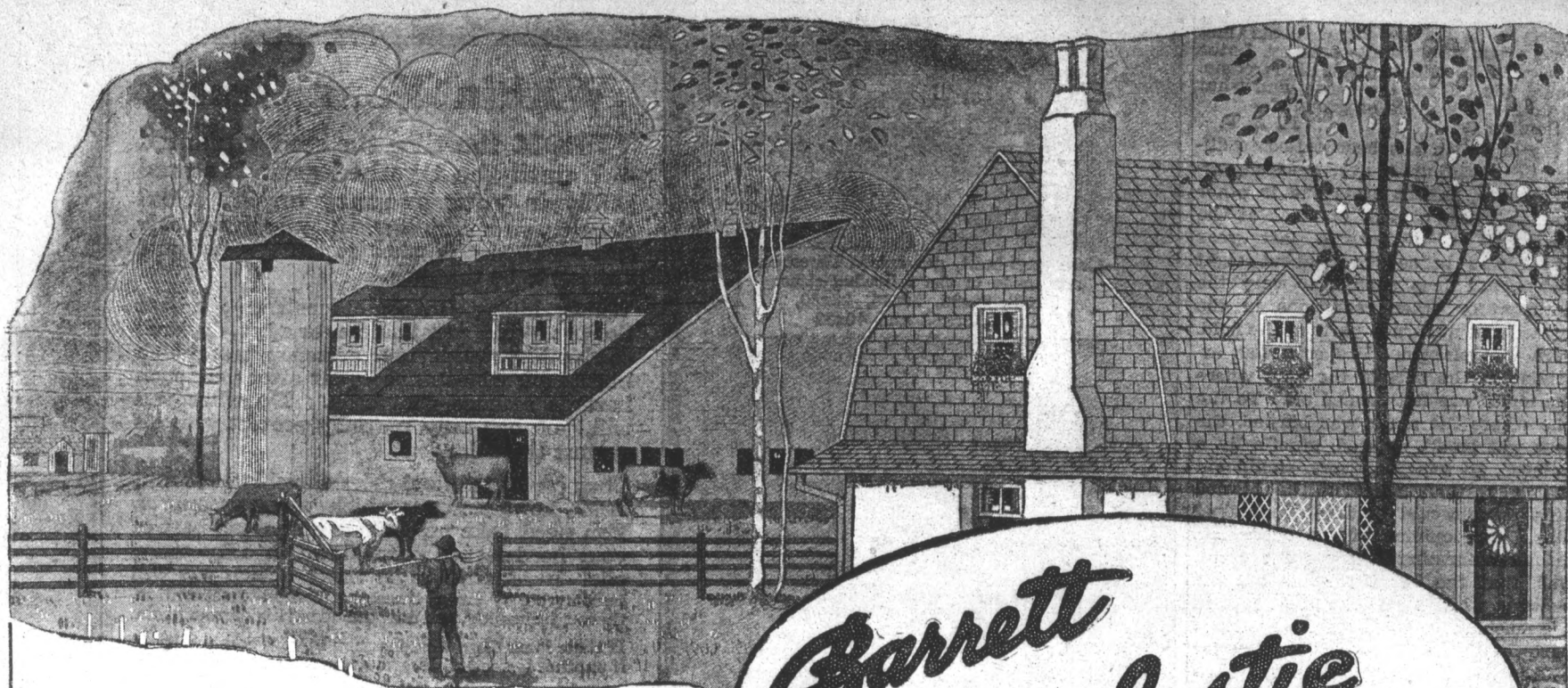
The Wolverine Detroit Nurseries

Clarence Aldrich, Lessee
Fruit Trees and Small Fruit Plants, Shade and Ornamental Trees, Evergreens, Flowering Shrubs, Roses, Vines, Perennials a specialty.
A Good assortment of Everything

Ask For Price List.
Mail address R. 2, Farmington, Mich.
Residence and Sales grounds on Grand River Avenue
17 miles from Detroit City Hall. No Agents.

VERBEARING STRAWBERRY
Our free Catalog describes and illustrates a full line of choice small fruit plants.
J. N. ROKELY, R. 6, Bridgman, Mich.

Certified Petoskey Seed Potatoes,
Grown in Presque Isle County. Price \$2.50 per cwt.
F. O. B. shipping point.
OTTO GRAMBAU, Metz, Mich.



Barrett Everlastie Roofings

The Everlastic Line

Everlastic "Rubber" Roofing

A recognized standard among "rubber" roofings. Famous for its durability. Made of high-grade waterproofing Materials, it defies wind and weather and insures dry, comfortable buildings under all weather conditions. Tough, pliable, durable and low in price. It is easy to lay; no skilled labor required. Nails and cement with each roll.

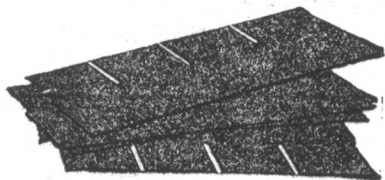


Everlastic Slate-Surfaced Roofing

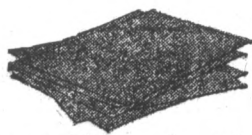
A high-grade roll roofing, surfaced with genuine crushed slate, in two natural shades, red or green. Needs no painting. Handsome enough for a home, economical enough for a barn or garage. Combines real protection against fire with beauty. Nails and cement with each roll.

Everlastic Multi-Shingles (4 Shingles in One)

Made of high-grade thoroughly waterproofed felt and surfaced with crushed slate in beautiful



natural slate colors, either red or green. Laid in strips of *four shingles in one* at far less cost in labor and time than for wooden shingles. Give you a roof of artistic beauty worthy of the finest buildings, and one that resists fire and weather. Need no painting.



Everlastic Single Shingles

Made of the same durable slate-surfaced (red or green) material as the Multi-Shingles, but cut into individual shingles, 8 x 12 3-4 inches. Laid like wooden shingles but cost less per year of service. Need no painting.

Roofing Dependability Assured—

For sixty years The Barrett Company has been America's leading manufacturer of roofings. During that time it has made and sold millions of rolls for buildings of every type.

The Barrett reputation for high-quality products and fair dealing is too valuable an asset to be endangered now by offering customers any article not absolutely dependable.

The low price at which Everlastic Roofings are sold is due to huge quantity production, modern labor-saving machinery, and the most efficient manufacturing and distributing methods.

Through the many Barrett Branches listed, below, your dealer obtains prompt deliveries and can readily supply you with any of the Everlastic Roofings.

In roll roofings, you have a choice of two styles—the ever popular plain-surfaced Everlastic "Rubber" Roofing and another handsomely coated with red or green crushed slate.

There are also two styles of Everlastic Shingles, one single and one in strips of four—both surfaced on one side with crushed slate in the attractive natural shades of red or green.

In no other roofings can you obtain such high quality at such moderate cost. Look for the Everlastic name when you buy. It's your protection against inferior roofings.

The Barrett Company



New York	Chicago	Philadelphia	Boston	St. Louis	Cleveland	Cincinnati	Pittsburgh	Detroit
Kansas City	Minneapolis	Dallas	Nashville	Syracuse	Seattle	Peoria	Atlanta	Duluth
Washington	Johnstown	Lebanon	Youngstown	Milwaukee	Toledo	Columbus	Richmond	Latrobe
			Buffalo	Baltimore	Omaha	Houston	Denver	Jacksonville

THE BARRETT COMPANY, Limited: Montreal Toronto Winnipeg Vancouver St. John, N. B.

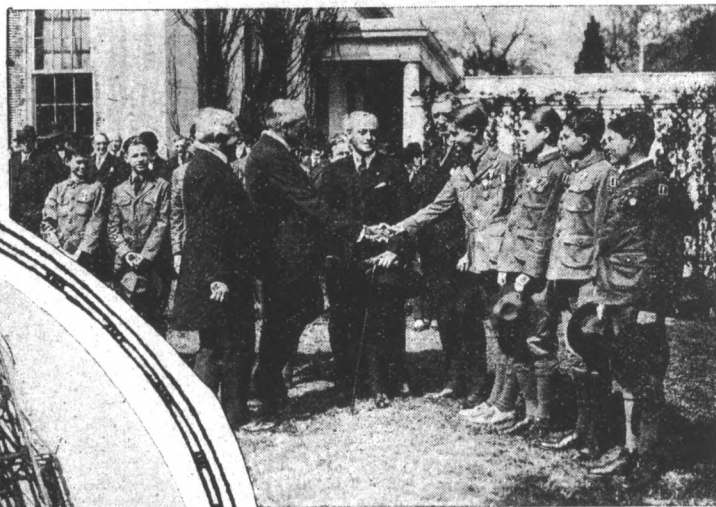
WORLD EVENTS IN PICTURES



Miss Timmerman and her pupils in the midst of a geography lesson accompanied by music.



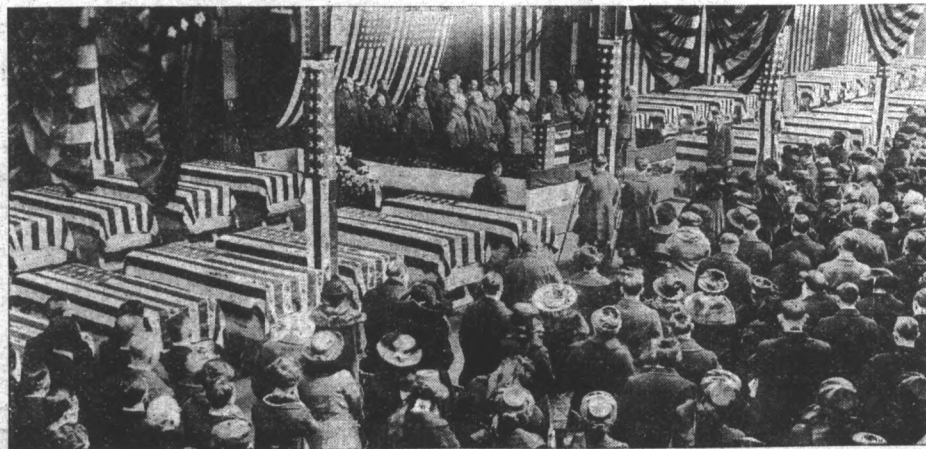
Axel Wallenberg, Swedish minister to the United States, and Mrs. Wallenberg, as they appeared on their arrival at New York.



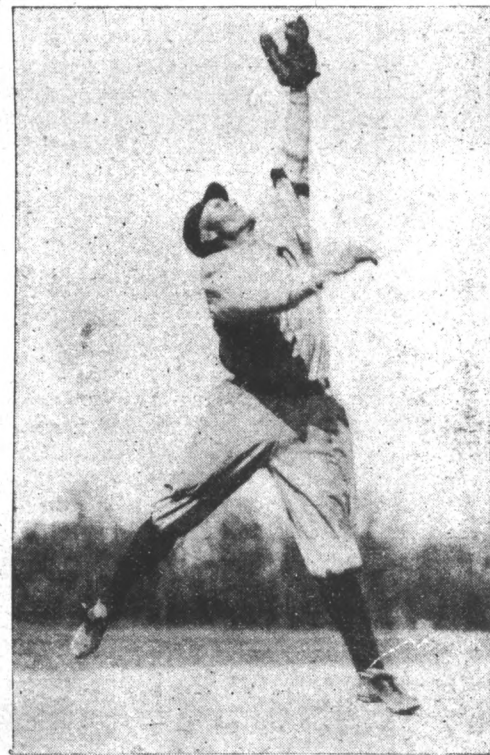
President Harding greets a number of picked boy scouts with a hearty handshake, on the White House grounds.



This immense Chicago grain elevator, the largest in the world, is totally destroyed by an explosion of grain dust. Four persons were killed and the property loss is ten million.



Impressive funeral services were held at the Hoboken Pier at New York, when the bodies of 1,609 American boys who gave their lives for their country, arrived from France.



Here is Jones, of the Detroit Tigers, looking about in the air for a wild ball.

THE CLAN CALL

By HAPSBURG LIEBE Copyright 1920, Doubleday, Page & Co.

Dale straightened.

"How did you find that out?"

"Don't matter how!" She smiled almost saucily. "I knowed about it afore ye did, Mr. Bill Dale. Don't you think whoever done it done a kind thing?"

"To disarm the Morelands, so that when the enemy comes they will have nothing with which to defend themselves?" Dale didn't know much about these hill feuds. "No, Miss Littleford, I can't say that I think it was a kind thing to do."

Miss Littleford arose and faced Dale. Her cheeks were flushed.

"Has the enemy come?" she demanded icily.

"No, but—"

"All right," the young woman broke in sharply. "If the enemy hain't come, what're you a-kickin' about?"

Her brown eyes were full of fire. They defied, and they withered, and Bill Dale suddenly felt that he was smaller and of less account in the scheme of things than that uneducated, wildly superb creature that stood there before him.

"Well, say it!" clipped Babe.

"I beg your pardon," Dale said evenly. "I didn't mean to offend, y'know."

His quick contrition struck the girl. Her mouth quivered. She dropped her fishing-rod, and began to toy absently with the end of her long, thick plait of brown hair.

"I've seed so much o' this fightin'," she murmured tremulously, "that it makes me go to pieces. I ought to beg yore pardon, mebbe, and I d-d-do. . . I've seed a good many fine, strong men brought home dead or a-dyin' from the Moreland bullets. And the Littlefords has killed Morelands, too. One side about as many as t'other, I reckon. I'd be glad to give my life to stop it!"

"I'll help you, if I can," Dale told her. "Perhaps we can make friends of the Morelands and your people."

"You don't know what a hard thing it'd be," she replied tearfully. "The two sets has hated each other ever sence I can rickollect. And you won't be here very long, I reckon."

"I may be here for the rest of my life," said Dale.

"Is it the coal?" inquired Babe.

"Partly—yes, it's the coal. I'm going to develop it for the Morelands."

Babe looked at him with a tiny herald of hope in her eyes. Before she could speak again, there came from somewhere back in the meadow the sound of her father's voice—

"Babe! O-oh, Babe!"

"Comin'!" cried the girl, half turning. "We'll try to make 'em friends; we'll try. Old Major Bradley, he'll be

up here afore long to spend the summer, and he'll help us. He's a mighty good man; you're shore to like him. He gen'ally stays with us when he's here. You go easy with John Moreland! But when ye git him, ye'll have 'em all. I'll work on pap. The' ain't no danger o' trouble right now, anyways. Good-bye, Bill Dale!"

"One moment, Miss Littleford," and he took a step after her. "Are you sure there's no danger right now?"

Babe halted, faced about nervously, and smiled a little.

"Don't call me 'Miss' no more," said she. "It makes me feel old. Call me what everybody else calls me, ef ye don't mind. Why, every one o' the Littlefords lost their rifles last night the same as the Morelands did! Meet me here at sundown, and I'll tell ye about it. Good-bye, Bill Dale!"

"Good-bye, Babe," he smiled.

CHAPTER VI. At the River Again.

JOHN MORELAND met Dale at the gate.

"What did ye find out?"

"I learned," was the answer, "that the Littlefords all lost their guns just as the Morelands did."

"The devil!"

The mountaineers began to crowd about Dale.

"And who," asked their leader, "do ye think done it?"

Bill Dale shook his head slowly and threw out his hands.

"How should I know?" He went on: "Babe told me about the Littleford guns disappearing. I saw her down at the river; she was fishing."

"Did she say anything," pursued John Moreland, "at sounded like she knowed whar them guns went to?"

"She told me," said Dale, "that she would give her life to stop the fightin'. She seemed rather badly worked up over it."

From the cabin's front doorway came a woman's sorrowful voice:

"And me, too; I'd give my life to stop this here fightin'. I had a boy, a big, strappin' boy—"

John Moreland frowned toward his wife and interrupted, "Now, Addie, honey, don't do that."

It ended the talk.

Mrs. Moreland dried her eyes on a corner of her freshly-ironed gingham apron, and announced the noonday meal. The mountaineers dispersed. Grandpap Moreland went away clawing at his long white beard and grumbling over the loss of his beloved old Lancaster.

An hour later, Dale cornered the Moreland leader on the vine-hung front

porch and suggested that they look over the coal property that afternoon. He was eager to go to work, eager to be doing something worth while, he told Moreland. The hillman stood very still for what seemed to the other a very long time, and had no word to say. Evidently the feud had all his mind now.

When he did speak, he said simply: "All right, Bill."

After half an hour of fighting their way through thickets of blooming laurel and ivy, they drew up before an old and mildewed cabin at the north end of David Moreland's Mountain. Moreland led the way in and pointed to a spot under a small, paneless window.

"Thar," said he, "is whar we found my brother David."

A little brown owl flew uncertainly out through the tumbled-down chimney. A colony of mudwasps droned under the rotting rafters. The two men turned for the point at which the coal vein ran out to the light of day.

Dale picked up a piece of the shining black stuff. Judging by the little he knew and the great amount of description he had heard, the vein was very large and the coal itself of the finest grade.

"It was a big find," he told his companion, "a big find. It was a pity to let it lie here untouched for so long; and yet, it's worth more today than it was ever worth before."

His enthusiasm ran warm, and Moreland caught it quickly. Together they hastily planned out the little railroad that was to wind its way through the wilds and connect with the big railroad at the Halfway Switch.

"I know I'm a-doin' right about it," the mountaineer said twice for the benefit of his conscience. "I know pore David he would want me to do this ef he could know."

"I'm sure of it," agreed Dale. "I'll start for Cincinnati tomorrow. I've got enough money to take me there and back. I have a very wealthy friend there—his name is Harris; I think I can borrow enough from him to finance the beginning of this thing. And I'll buy a locomotive and cars, and all the other necessary machinery, while I'm in Cincinnati—unless I fail to get the money from Harris. When I get back, which should be within eight days, we'll start the work. At a guess, I'd say we'll need twenty men. Can we get them?"

"Shore," nodded the mountaineer. "And all Morelands at that."

They turned homeward. At last, Bill Dale was happy. He had something to

do now—an aim in life. He had difficulties to overcome, obstacles to remove, barriers to surmount—it was his big chance!

It was almost sundown when Dale returned from his visit to the coal vein—Big Pine Mountain hid the sun at a little after three in the afternoon. He borrowed a fishing-rod and a minnow-pail, which made his going to the river seem proper enough to John Moreland, and set out to meet Babe Littleford. He was glad that nobody expressed a desire to accompany him.

He found Ben Littleford's daughter where he had found her twice before—sitting on a stone the size of a small barrel. She was fishing with an unbaited hook, which was equal to fishing not at all, and she seemed pleased when she saw him coming. He sat down on the stone at her side. She moved over a little shyly, and tried to cover her feet with her calico skirts.

"Needn't bother to hide them," laughed Bill Dale. "They're pretty enough. Most feet, y'know, are necessary evils, like chimneys and rainspouts."

Babe Littleford blushed. He went on, to hide her confusion, "Tell me about the rifles."

"You must shore keep it a secret," she told him.

"I promise."

"Better put yore hook in, so's ef anybody comes along—"

Dale threw out an empty hook.

"I want to tell ye some things fust, so's ye'll understand better when I come to the part about the rifles," Babe began, looking thoughtfully across the water to where a kingfisher sat in watchful waiting. She continued slowly, choosing her words carefully, "I was brought up to hate 'em Morelands, but—I don't think I do. My people is jest like the Morelands. The biggest difference ye can find is that one side mostly has grey eyes like you and t'other side mostly has brown eyes like me. All but their everlastin' fightin', they're good people, Bill Dale."

"Each side, ye see, is brought up to hate t'other side. I'm ashamed to tell it, but—I understand the fust plain words my Uncle Saul Littleford's last baby said was these here: 'Damn John Moreland!' It started a long time ago, and it started over nothin'. Grandpap Littleford and John Moreland's pap got in a dispute over whether Kaintucky was in Virginny or Nawth Ca'liner, and went to fightin' about it. Purty soon my Uncle Saul and Abner Moreland happened along, and they went to fightin', too. Thank goodness, it was on Sunday, and none of 'em had their rifles with 'em. Whatever else (Continued on page 481).

AL ACRES—After Slim and Al had finished, "Pigdom" was quite complete.

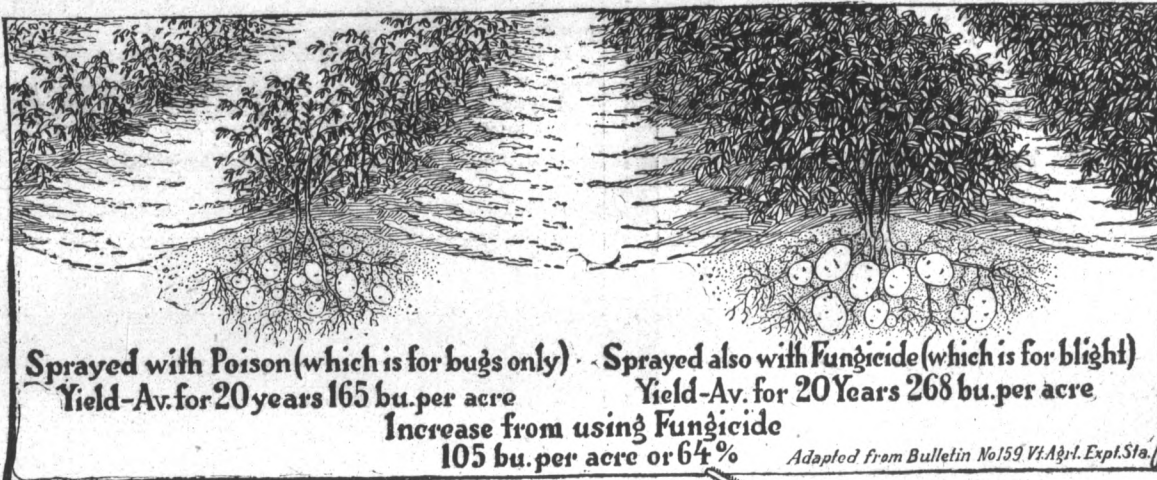
—By Frank R. Leet



For fruits and vegetables

Use Pyrox on

Apples
Cherries
Currants
Gooseberries
Grapes
Pears
Plums
Quinces
Raspberries
Roses
Strawberries
Shrubs
Flowers



Sprayed with Poison (which is for bugs only) · Sprayed also with Fungicide (which is for blight)
Yield-Av. for 20 years 165 bu. per acre · Yield-Av. for 20 Years 268 bu. per acre
Increase from using Fungicide
105 bu. per acre or 64% Adapted from Bulletin No 159 Vt. Agr. Expt. Sta.

Use Pyrox on

Asparagus
Beans
Cabbages
Cantaloupes
Celery
Cucumbers
Egg Plants
Peppers
Potatoes
Squashes
Seed Corn
Tomatoes
Watermelons

Crop Insurance Which Costs You Nothing

THE sure way to protect your fruits and vegetables from fungous diseases is to spray every year. This insurance costs nothing because the increased yields pay the cost—"even when there is no fungus."

Twenty years of spraying potatoes at the Vermont Agricultural Experiment Station brought an average increase of 105 bushels per acre, as the result of using

a copper fungicide to prevent blight. Even during five years when there was no blight there was still an average increase of 63 bushels per acre.

Spray—Not for Bugs Alone But To Control Fungus and Increase Yields

Diseases cause heavier losses than bugs. When you apply a poison to kill bugs, also apply a fungicide to control blight and rot. Do both at one operation with Pyrox. Pyrox is a strong poison insecticide combined with a powerful copper fungicide. Used for 23 years, it has a country-wide reputation for controlling chewing insects and fungous diseases, and for its invigorating

effect. It makes richer, darker foliage; stouter, stronger plants—it helps to increase yield and quality "even when there is no fungus."

Pyrox is easy to use—just mix with water. It sticks like paint—gives lasting protection. It is smooth and fine—goes farther and covers more thoroughly. Pyrox saves time, saves labor, saves material.

It is important to spray early. See your dealer and get your Pyrox now—packed in sizes for every need, large or small. Write today for the new Pyrox book which gives complete directions for spraying the crops listed above.

43-E Chatham Street, Boston, Mass.

BOWKER INSECTICIDE COMPANY
1006 Fidelity Building, Baltimore, Md.

716 Conway Building, Chicago, Ill.

"even when there is no fungus"

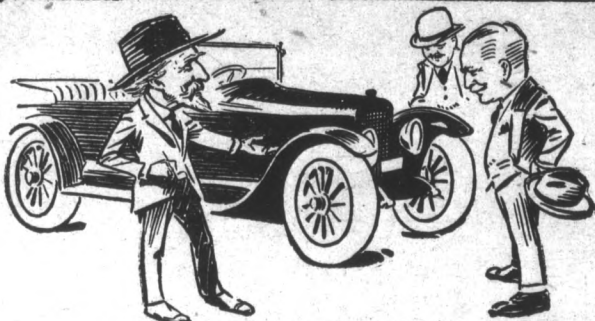
REG. U. S. PAT. OFF.

Pyrox

TRADE MARK REGISTERED



Lowe Brothers



A brand new car for less than \$4

NEIGHBOR Bill told me about the bargain. Told me, Wednesday.

So, Thursday, I bid my old car good-bye. We shut the door on it, and never looked at it until Saturday morning, when it was time to go to the Sunday School picnic.

Wife was considerably fussed. Declared the car wouldn't be fit to use. When I opened the door, there it was, just wreathed in smiles, and hard as you please.

Maybe we didn't feel all

puffed up, when a lot of the folks at the picnic, accused us of buying a new car.

When a fellow can buy a couple of quarts of Lowe Brothers Auto Varnish Color for \$4, and put it on the car himself, Thursday, and use his car, Saturday, looks like everybody who wants to, can have a new car. You can get this Auto Varnish Color down at the paint store. Comes in 11 colors. No trick to put it on, or I could never have done it.

The Lowe Brothers Company
499 EAST THIRD STREET, DAYTON, OHIO
Boston Jersey City New York Chicago Atlanta Memphis
Kansas City Minneapolis Toronto
Factories: Dayton Toronto

Paints



Every hour in the day

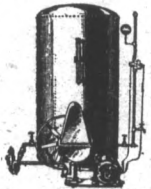
You can use running water under pressure in your home

HOOSIER Water Service

may be used in any home, and once installed, banishes the drudgery and inconvenience of pumping and carrying water by hand. Hoosier Water Service installations are easy to install and to operate. Pumps from any well. If you intend to improve your home it will pay you to become acquainted with Hoosier Water Service equipment.

FREE Upon request we will send you complete details about Hoosier Water Service.

FLINT & WALLING MFG. CO.
Dept. C Kendallville, Indiana
STAR WINDMILLS HOOSIER PUMPS



Ride a Ranger

the finest bicycle ever built anywhere at any price. Select from 44 styles, colors and sizes made in our three big model factories. **SAVE \$10 to \$25** on your bicycle. Pay cash or take advantage of the 12 months to pay plan. Many parents advance first small deposit and energetic boys and girls easily earn the small monthly payments. **30 DAYS FREE TRIAL** on the Ranger you select. Costs nothing unless you are satisfied. Delivered free. Ex. prepaid. lamps, horns, wheels, parts, etc. **WRITE TODAY** for information, free illustrated catalog, factory prices and terms. **Meade Cycle Company** Dept. 6-77 Chicago, Ill. Don't delay. Do it now.



WITTE
LEVER CONTROLLED
Log Saw \$125 F.O.B. K. C.



Engine, Saw, Etc., all complete. From Pittsburgh add \$6.50. Ask for terms. Folder FREE. **WITTE ENGINE WORKS** 2191 Oakland Avenue Kansas City, Mo. 2801 Empire Building Pittsburgh, Pa.

BINDER TWINE

Get our low price in quantities to GRANGES and FARMERS' ASSOCIATIONS. Agents wanted. Samples free. Theo. Burt & SON, Melrose, Ohio

Red Seal Dry Batteries Guaranteed



Best For Every Farm Use
Red Seal Batteries spark strongest—last longest—always dependable. Have the confidence of all power farmers.

Ask Your Dealer
Every "Red Seal" he sells is guaranteed. Ask dealer also for engine owners' handbook, free to users of Red Seal Batteries.

Manhattan Electrical Supply Co., Inc. New York - Chicago St. Louis - San Francisco. Factories in Jersey City, St. Louis, Ravenscroft, O.

The Revival at Mud Valley

Our Weekly Sermon—By N. A. McCune

THE Reverend Matthew Skimp did not sit well on his sensibilities, and had an idea. If he had known he returned to his seat. He had an how dangerous ideas sometimes idea that would shake Mud Valley! are, he would probably have been slow. No question about it. It was new, and er in presenting his idea to his congregation. Mr. Skimp was returning guage of Scripture, make the dry bones from a conference of rural ministers. live. He did not tell his wife, when He had gotten a good deal from the addresses and talks, but what impressed he got home—not at first. He thought him most was, the display of books on the country church, and on country better sleep on it, he told himself. That night he slept on it. The first life in general.

Is it possible, he thought, that I have been all these years in the ministry and yet I haven't known anything about such books? The fact was, Mr. Skimp had always planned on serving big city churches. But as the years sped by and he did not get the city call, he began to lose his grip on his work. The country was the most unpromising place in the world, he thought, and the country church had about as much inspiration in it, as there is light in a jack-lantern. But as the train carried him nearer home, he began to think he might have been wrong. At any rate, some one had thought enough of country life to write about it, and about the country church. Mighty attractive looking books they were, too, nothing cheap about them. His first thought was, to buy a shelf of these volumes, and they would give him inspiration for his work. He would have new ideas and a new enthusiasm.

BUT this thought remained with him but a moment. Ideas! What chance would ideas have, in the church in Mud Valley? Most of the members were idea-proof. An idea would sink about as deep in their minds as a pea would in the side of a barn. They were not at all satisfied with the way things were going, of course. In fact, that was the point, things were not going. Things were standing. There were mutterings about getting a new preacher, and sometimes it got to Skimp's ears. But Skimp wasn't as young as he was once, and calls were not overly numerous. But how could he, how could anyone, rejuvenate Mud Valley church, with the people who now composed it? There was John Thick, the president of the board of trustees, and there was Simon Dribble, the richest man in town. Here were Mr. and Mrs. Henry Fuss, the best educated pair the church boasted. Mr. Flat, the choir leader, and Ezra Draft, the Sunday school superintendent, and Mrs. Forse, the Ladies' Aid president, and Moses Grasp, the post master, who paid to the church but did not belong—all these were good people, but there was no more leadership in them than in the town pump. It was evident to Matthew Skimp that he was up against the real thing. Either he must resign in the near future, or there must be some kind of a mental and moral shake-up in his church.

INSPIRATION, it is said, comes only to genius. That being so, Mr. Skimp must have a few tatters of genius about him, for he had, what was to him, an absolutely new idea. He would get some of those books and form a reading club in his church. He would pass out cards, and get as many as possible to promise to come for twelve nights, as a minimum. There would be some assignments of reading to be done on the outside, and this would be reported on, at the meetings. The choicest parts of the book or books to be studied, would be read aloud. When Reverend Matthew Skimp got this idea he was on the train, and it stirred him so, that he had to get up and get a drink of ice water. He was unable to sit still, however, and so got up and went to the smoker. There the fumes

time he woke up—he woke up several times—he almost fell on the floor. His wife asked him what was the matter. He'd had a dream, he said. His dream was, that he saw a large crowd of people gathered on the hill that leads up to the church. A team of big horses belonging to John Thick was drawing a wagon loaded with books. The books were piled on a hay rack. The team was stuck, and the crowd was lending a helping hand to get it started. It was an enormous load, and no team should have been asked to pull it, he heard Thick say. "Whose books are they?" someone asked. "They're the preacher's, and he's going to make every man and woman in town pass an examination on them." At this, there were angry cries. Some were for catching the preacher and giving him a coat of tar and feathers. Others were for unhitching the team and making Mr. Skimp pull the load up the hill himself. Just then someone began throwing the books off the wagon and crying, "Let's have a bon fire!" That was when Mr. Skimp almost fell out of bed.

NEXT morning he told his wife.

Mrs. Skimp was a small woman, small and patient. She had lived many years in parsonages, and she knew the trade, from furnaces that wouldn't work, to ladies' aid suppers, when every dish and spoon in the parsonage is borrowed. To say she had been through the mill, would express it about right. She listened to her husband without making any comment, until he told his dream. "Well, that would have been exciting, anyway, if they had tarred and feathered you," she remarked. "It has been pretty quiet here this year. But where will you get the money for all those books? You didn't have enough money last year to get a good pocket Bible."

"I'll make the people buy 'em," said Skimp. "They'll buy 'em or bust. If I've got to resign sooner or later anyway, I might as well have a good scrap, and have something to resign over. I'm tired being so everlastingly meek."

"That's the way to line it out, dad," said Curly Skimp, aged fourteen.

"My soul, I didn't know the children were up!"

"Sure we're up, and we've heard most all you said, the dream you had, and ever'thing."

"Well, that's all right, children, but don't give your dad away. Wait until we get all ready to spring it."

If Matthew Skimp needs someone to say a good word for him on the day of judgment, he can call in any of his three children, for they always would swear by him, from the day he began to carry them around on his back.

"When're you going to get the reading club started, dad?" demanded Curly.

"I'm going to preach on it next Sunday, and I shall order four books at the least, this morning. The quicker the sooner."

That morning, while Madame Skimp prepared breakfast, assisted by three-year-old Mary, who spilled most of the year-old Mary, who spilled most of the so, that he had to get up and get a cream, the Reverend Matthew Skimp sent to his denominational publishing house an order for the following books: "The Church at the Center,"

by Wilson. "Chapters in Rural Progress," by Butterfield. "The Story of John Frederick Oberlin," by Beard. "The Way to Win," by Fisher, and "Fear of God in Your Own Village," by Morse.

Skimp drank three cups of coffee for breakfast.

(To be continued).

The Clan Call

(Continued from Page 478)

we are or ain't up here, Bill Dale, we gen'ally respects the Sabbath day to keep it holy. . . ."

"I see," Dale muttered sympathetically.

Babe lifted her rod until the small end was clear of the water again, and went on in a voice that throbbed.

"I've seen my own mother set down in the floor and take her boy's head in her lap—oh, such a big, fine boy he was!—while the blood run through her dress to her knees, blood from a Moreland's bullet. He died with mother's arms and mine around him. It was all we could do fo' him, was to love him. I've seen sisters watch their brothers die from Moreland bullets; and young wimmen watch their sweetheart's die, and wives watch their husbands die.

"I tell you, Bill Dale, them Morelands never misses when they have even half a fair shot. You'd be puffedly safe in a-lettin' any of 'em shoot dimes from atween yore finger and thumb all day. And it's the same way with the Littlefords. They're fighters, too, every one, and they don't give in any more than the Morelands does.

"Addie Moreland knows what it is to take her dyin' boy's head in her lap, whilst the blood run through her dress to her knees. His name was Charley, and he was bad; he'd drink, and oncet he shot up Cartersville. But Addie, she allus loved him better'n Cale or Luke. Wimmen like her allus loves the worst boy the best; 'cause they need it the most, the worst boys does.

"It's the wimmen that pays, Bill Dale, when the's fightin'. The wimmen o' this valley is right now on needles; they're afeard the men'll find their rifles. You can guess whar the guns went to now, cain't ye? The wimmen hid 'em last night after the men had gone to sleep! By good luck, they had almost a whole night fo' it. You must be shore to keep it to yoreself—but I know ye will. Addie Moreland, she started the idee. She got Granny Moreland to spread the word amongst the wimmen o' my people. When the fightin' fever sort o' dies down, the guns'll all be brought back and put whar they belong."

She arose and stood there smiling down upon him. He was staring at the swirling water without seeing it at all.

Her voice brought him to himself.

"What're you a-thinkin' about, Bill Dale?"

Dale went to his feet. He saw that she was smiling, and he smiled, too.

"I was thinking," he said, "of the difference between you and some other women I know."

Her clear brown eyes widened. "And I reckon I seem pretty no 'count, don't I?"

"No. Not at all. It is—er, quite the opposite, Babe. You make them appear unreal, artificial."

Babe Littleford's countenance brightened. She did not doubt that he meant it. He was not of the sort that flattered. She began to like Bill Dale at that same moment.

And Bill Dale told himself as he went homeward that he was beginning to like Babe Littleford. He did not fight the feeling, because it somehow made the world seem a better place.

(Continued next week).

Farm Hauling Enters a New Era

TODAY progressive farmers are placing old farming methods on trial. Value must be proved or the old must go. In these times of high costs the wastes of past years must fall by the wayside.

In the search for economies, the always-important work of farm hauling is being rigorously revised. On many farms, *International Motor Truck* haulage has already ushered in a new era of energetic movement—of time- and work-saving efficiency.

By this transportation short-cut, stock is marketed in less time and with less shrinkage—crops are hauled when prices

are right—supplies are delivered promptly when needed—hard-hauling jobs are made easy and long trips short.

The fact that *International Motor Trucks* are the product of a concern that has a broad-as-agriculture reputation for fair dealing, good value, and the production of dependable labor-saving farm equipment, should be ample assurance that these trucks will in all cases provide low-cost hauling service.

The sizes range from $\frac{3}{4}$ -ton to $3\frac{1}{2}$ -tons capacities and there is a style of body for every hauling requirement.

INTERNATIONAL HARVESTER COMPANY

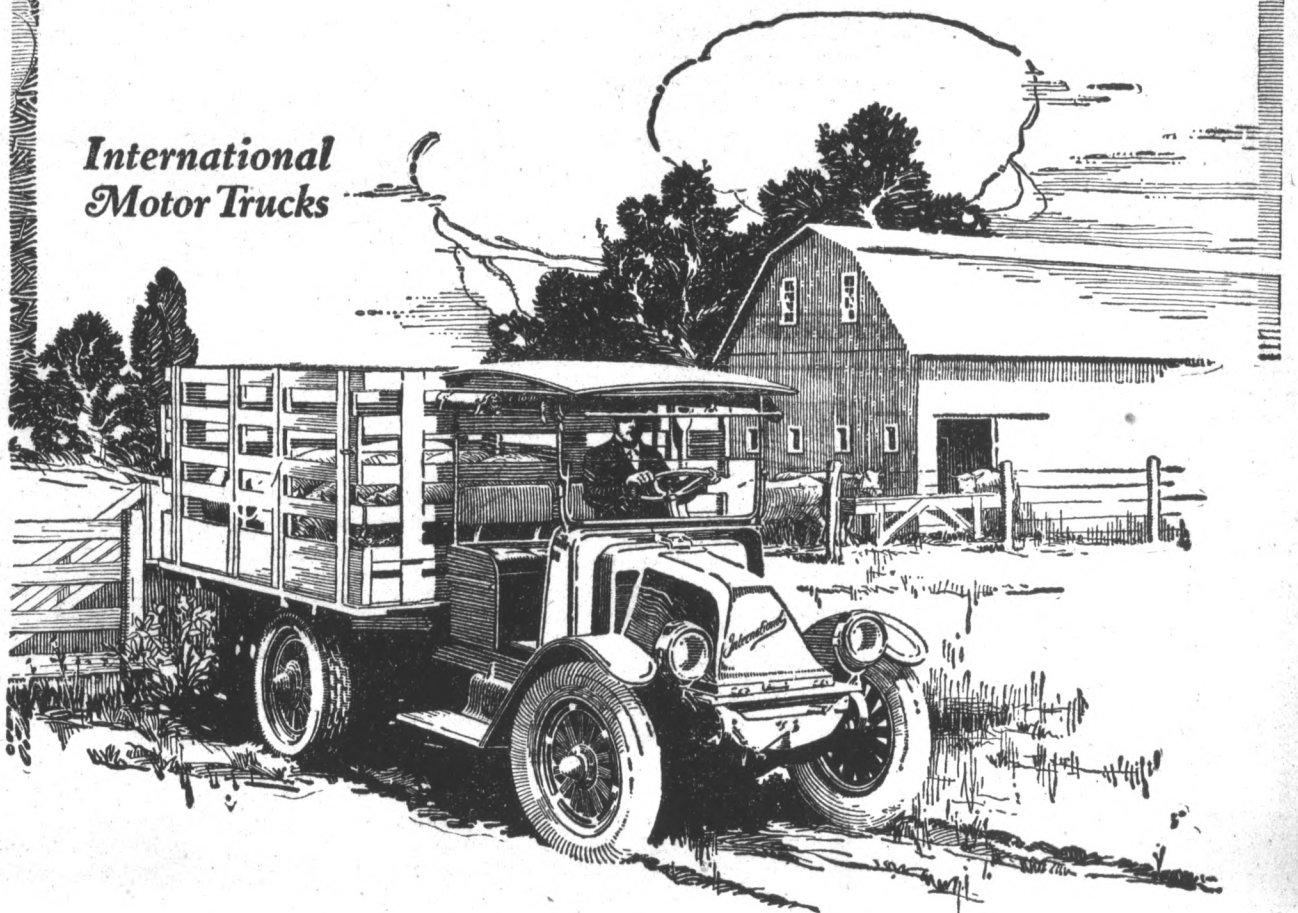
CHICAGO

OF AMERICA
(INCORPORATED)

USA

92 BRANCH HOUSES IN THE UNITED STATES

International Motor Trucks



PRICES SLASHED!

Beautiful Waist

FREE!

\$6.00 Value

Now
\$2.98

Postage
Paid



SEND NO MONEY

Here is one of the biggest values ever offered to readers of this paper. We'll send this splendid serge skirt and with it this beautiful white voile waist FREE—without asking for one cent with the order. Skirt is made of good heavy weight serge, gathered at waist, wide loose belt; two pockets trimmed with tailored buttons. Colors: Navy Blue or Black. Sizes, waist 23 to 40; length, 36 to 40 inch. The waist we give free is made of white voile, handsomely trimmed with lace and embroidery; sizes 36 to 46.

ROCK BOTTOM PRICES Just send your name and address, giving size and color of skirt wanted, also size of waist wanted. We'll send both by parcel post prepaid. You pay the mailman when delivered. Money back if not pleased. Here is positively a big \$6.00 value for only \$2.98. Send NOW as the number of free waists is limited. Order by Number 226 B1002.

Both for \$2.98

ONLY \$2.98. Send NOW as the number of free waists is limited. Order by Number 226 B1002.

HOWARD LUX CO., DEPT. 226 CLEVELAND, O.

FOR SALE

New \$1350.00 Tractor, —\$500.00

Full particulars on request.
PURITAN MACHINE COMPANY,
1601 Lafayette Blvd., Detroit, Michigan.

Learn Auto and Tractor Business

Learn \$150 to \$400 a Month Right in your own neighborhood get into big-paying business. Learn in 6 to 8 Weeks. Work on real Autos, Trucks, Tractors. Write today for FREE 65-page Opportunity Book.

Rahe School Dept. 2592 Kansas City, Mo. Cincinnati, Ohio

Tractor Owners

Our Adjustable Safety-Trailer

will do this for you, it is doing it for others:

Protect your tractor from physical injury. Protect your tractor from repair expenses. Keeps the front wheels on the ground and prevents turning over. Will pay for itself in short time. Simple. Reliable. Inexpensive. Let us tell you more about it. Write today for booklet. Agents wanted. GLASS BROS., Maxwell Sta., Detroit, Mich.

Paint Specialty Salesman

To sell our complete line of paints, varnishes and roofing paint specialties to consumer trade on straight commission basis, exclusive territories granted. In one letter state age, previous experience, references, territory or towns you can cover. Only producers will be considered who can make some real money. The Forest City Paint & Varnish Company, Cleveland, Ohio. In business over fifty years.

Tobacco Kentucky Natural Leaf Mild Smoking, pure mellow tobacco direct from grower, 10 lbs \$3; 20 lbs \$5. Chewing 12 lbs \$4.50 prepaid. Send no money. Pay when you receive tobacco. Doron Farms Tobacco Association, Mayfield, Kentucky.

75 bu. "Early Everett" potatoes—splendid variety—resembles Early Rose. \$1.75 per 100 lbs. sacks Bartlett Fruit Farm, Central Lake, Antrim Co., Mich.

For Sale—Red Kidney Seed Beans, Northern grown, \$1.50 per cwt. A. L. Meredith, McBain, Mich.

SWEET Clover Seed, White blossom, scarified, 99% pure, high germination. Closing out price \$6.50 bu. f. o. b., bags free. E. V. Harman, R. 3, Latty, Ohio

NOW! Save Money!

Buy Direct-From-Our-Factory and you will find it easier to solve High-Cost-of-Living problems. We can save you money on that Range—Pipeless Furnace—Combination Coal-and-Gas Range you need.

Cash or Easy Payments

Take 10 Mos. or 1 Yr. to Pay

It also presents money-saving offers on Kitchen Cabinets, Refrigerators, Paint, Roofing, Cream Separators, Furniture and many other home and farm necessities.

Send your name and address on postcard for it today.

Ask for Catalog No. 113 Kalamazoo Stove Company Manufacturers Kalamazoo, Mich.

A Kalamazoo Direct to You

FARM HELP

Position by experienced poultry man. Can get results. For particulars write Benj. M. Frick, 8061 Olivet St., Detroit, Mich.

Single Man with some experience wants position as helper on farm where small fruits are grown. James Scholey, Ann Arbor, Mich.

WORK DAYS AND REST NIGHTS

Can you do it now? If you can't,
there's something wrong.

Many find coffee a disturbing
element, so wisely leave it off
and use

Postum Cereal



Postum is a pure
cereal drink con-
taining nothing that
can possibly disturb
nerves or digestion.
You'll find Postum
has a delightful fla-
vor that fully satisfies.

"There's a Reason" for Postum

Made by Postum Cereal Co., Inc.,
Battle Creek, Mich.

POULTRY

Quality Baby Chicks

and 8 weeks old pullets
AT REDUCED PRICES

American-English Strain S. C. W. Leghorns our specialty. Produced from the choice of 2000 hens on free range. We are not running a hatchery but produce all the eggs that go into our incubators from high quality selected stock. Only the best are used for hatching. This stock is worth more to you than those bought from the regular hatchery though our prices are practically the same. We are now booking orders for latter part of April, May and June delivery. Our supply is limited so place your orders early.

Macatawa White Leghorn Co.
R. 1, Holland, Mich.

BABY CHICKS R.I. Red, Barred Rocks, White Wyandottes, White Leghorns. Selected healthy chicks. Order early, have winter layers. First hatch Feb. 28th. Write for price list and circular. **DERR & ADAMS**, Litchfield, Mich.

Baby Chicks

FREE delivery. Superlative quality from select high-producing stock. All popular varieties. Reasonable prices. Write for catalog at once.

AERDALE POULTRY FARM, Springfield, Ohio.

Barred Plymouth Rock Cockerels, M. A. C. Strain \$5 per 100, \$8 or 2 for \$15. Mrs. **JESSE F. BALL**, R. 9, Charlotte, Mich.

DAY OLD CHICKS S.C. White Leghorns. From trap-nested stock where every hen must produce 80 eggs in four winter months. One hundred big thrifty chicks for \$25.00. **MACALWHITE POULTRY YARDS**, Alex. MacVittie, Proprietor, Caro, Mich.

BABY CHICKS, Eight im- varieties at lowest possible prices. A trial order will convince you of their superior quality. Catalogue free. **Ohls Poultry Yards and Hatchery**, Marion, Ohio.

BABY CHICKS Hatching eggs, Barred Rocks, Norman strain, trap-nested, bred-to-lay, expertly tested for many generations, large illustrated catalogue 25c, stamps for circular. **Norman Poultry Plant**, Chatsworth, Ill.

Barred Rocks Hatching eggs from Parks 200-egg strain. Rich in the blood of Parks best pedigree pens. \$2 per 15, \$6 per 50, \$12 per 100. Prepaid by parcel post in nonbreakable containers. **R. G. KIRBY**, Route 1, East Lansing, Mich.

Broad View Farm Big Type S. C. White Leghorns big long bodied birds. Heavy layers of big white eggs. Exhibition type eggs \$2.50, 100 \$8. Post paid. **E. B. McKECHER**, Hillsdale, Mich.

CHICKS! CHICKS!

If you are looking for chicks that are bred for heavy laying and exhibition here is your chance. OURS grows and pay. Leghorns, Rocks, Reds, Anconas, Minorcas, Wyandottes, Orpingtons. Prices 13c and up. Post paid. Catalog free. **HOLGATE CHICK HATCHERY**, Holgate, Ohio.

CHICKS English Strain White Leghorns per 100; prepaid by mail safe arrival guaranteed send cash with order special rates on 500 or more. **JAMESTOWN HATCHERY**, Jamestown, Mich.

Additional Poultry Ads. on Page 486



Reynolds Shingles Never Curl or Split

Reynolds Shingles have been in service for more than 20 years and have never been known to curl or warp. Remember this when buying your next roof covering—because shingles that do curl are traps for flying sparks and brands. Protect your buildings and contents with Reynolds—the fire-resisting shingles that have saved thousands of farmers from fire loss. Send for complete information and name of nearest dealer.

H. M. REYNOLDS SHINGLE CO.
"Originators of the Asphalt Shingle"
GRAND RAPIDS, MICHIGAN
Reynolds Shingles Grow More Beautiful With Age

KEEPS EGGS FRESH Remarkable Discovery Keeps Eggs Fresh For One Year

C. G. Knight, a prominent druggist of Chicago, has discovered a wonderful new preparation that is guaranteed to preserve all fresh eggs perfectly for one year. He calls it the K. & G. Egg Preservative. It is not liquid glass but comes in powder form. One package mixed with three gallons clean water will preserve 25 dozen eggs. Makes a safe solution to put eggs in for winter. No change whatever takes place. No odor, no taste. Eggs can be used for all purposes: poaching, boiling, pastries. The yolks do not break down. Eggs always fresh.

Mrs. A. Kisselbach, E. St. Louis, says: "Can honestly say I have had great success with K. & G. Preservative." Mrs. J. M. Liljedahl, Essex, Iowa: "I have found your egg preservative entirely satisfactory." Mrs. S. R. Shinkel, Mitchell, S. D.: "My eggs kept just fine. Shall use your preparation next year sure." Mrs. E. S. Summerlick, 4635 Calumet Ave., Chicago: "I have used your preservative two years. Have used many egg solutions but find K. & G. more satisfactory."

Now is the time to begin preserving eggs. April eggs will be worth twice as much to you next winter. Begin right now and let K. & G. Egg Preservative make money for you. Write today to the K. & G. Laboratories Co., Dept. F., 338 E. 51st St., Chicago, Ill. Send 50c and get big package prepaid. Enough to preserve 25 dozen eggs. Write today—Now.

Agents Wanted in Every County

Our Boys' and Girls' Page

How to Tell a Story

By Uncle Ed.

A BOY writes me now and then, along with them, and see over again and from the letters he sends I know he is a wide-awake chap. He tells me all about the things that happen on the farm, and he does it in a way that makes me laugh, so full are the stories of the vim and vigor of the great out-of-doors. The other day a letter came telling me about a puppy that has lately come to the farm. And that little collie has a great many things to learn yet. Just like you and me and all of us in that respect, isn't he?

Well, the dog got a habit of chasing the hens and if he could catch them he would hurt them pretty badly sometimes. For this bad habit he had to be punished, sometimes quite severely. My little friend told me about this in a way that would surely have made you laugh as heartily as I did. Then he told me that Flicker got a notion that his services were very valuable in getting the cows in and out of the barn, and he did a great deal of barking and running up close behind the cows. But one day when he had been particularly bold, he ran up behind one of the cows, and she gave him a kick that sent him away across the barn floor singing an altogether different tune. He whimpered about that a good while, but he has been a great deal quieter ever since. It was a pretty severe lesson, but if he has mastered it it will be a good thing for him—and for the cows and hens.

The way you say things makes all the difference in the world about the interest they carry to other folks. The little boy of whom I have been speaking surely has quite an art of making his word pictures life-like. And there is a thing we may all cultivate. Boys and girls all some time or other write letters and accounts of what takes place on the farm. How do they do this? So that other people are carried

the incidents that are described? Do they, in short, write interesting letters? Here is something we ought to make the most of.

A FARMER boy I knew used to be thinking up little stories while he was out on the farm at his work. He would tell these to his mother, who was his comrade, for his father had died some years before. "Write your stories down," she one day said to her boy. "While you are out here working think them up, then write them when you have time."

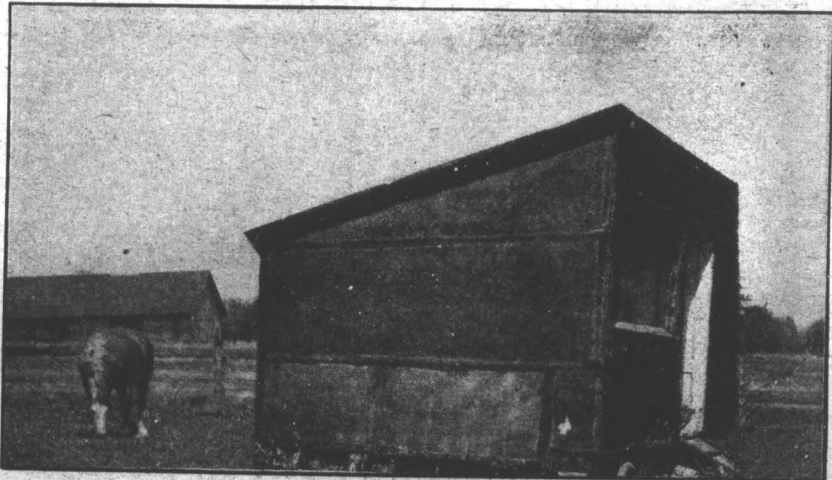
And he did. There was a small bedroom away round in the back part of the house with a small table in it facing a window. Here the boy did his writing. Sometimes it was so cold in there that he had to write with his mittens on, but he forgot all about how cold it was and kept on with his work. Years afterward he used to get out those sheets and laugh over the things he wrote. They did not seem to him very brilliant then. But they were his beginning and the day came when he wrote many articles for papers and magazines and two or three books which were successfully published.

The thing which makes one's letters interesting is that they shall be done the very best possible. The penmanship should be carefully done, so that there may be no doubt what any word is; the language and the spelling ought to be correct. If any word you wish to use is not familiar to you, look it up in the dictionary, so that both spelling and meaning may be clear. Above all, write sensible things—leaving out every word of slang and vulgarity. Let your letters and the stories you write be just such as a gentleman would be glad to own as his work.

Getting Ready for the Flock

By R. G. Kirby

Lesson V.—Hatching Pointers. range in a tangle of grass and weeds THE nest for a setting hen must will be built in the same manner. be large enough so that the eggs Small packing boxes such as are will not be crowded on top of used for shipping canned goods prove each other. It must not be so deep good nests for setting hens. In the that eggs are broken when the hen bottom of the box place a piece of in- steps down on them. Note the nest verted sod freshly cut from a grassy that a hen makes when she hides her place. This sod will furnish enough eggs in a hay mow. It is just a scoop- ing too dry and will be quite sure to vents the eggs from rolling away from increase the number of chicks that each other. When climbing back on will hatch. It makes the condition in the nest the mother hen simply steps the nest somewhat like the hen would over on the eggs and does not jump select if allowed to build her own nest down upon them. A nest stolen on the outside.



An Inexpensive Colony House which any Boy Handy with Tools Could Build.

Over the sod place a little loose litter of straw or hay to make a smooth hollow to contain the eggs. Dust the hen with insect powder or treat her with blue ointment as a preventive of lice. Many setting hens are tortured trying to stay with their eggs when pestered with lice, and they may leave the eggs if such pests are allowed to bother them. If a dusting powder is used it is good to repeat the operation after about the second week of incubation.

Place the hen in a secluded place away from the other birds. Do not set a hen in the laying-house with the rest of the flock or she will be disturbed by the other hens and it will be more difficult to keep her nest free from lice. Try a setting hen for one day and night on an artificial egg. Then if she takes to the nest and seems very broody she may be given her setting of eggs.

Setting hens need plenty of corn and water. It is fine if they can be freed each day for a short period of dusting and ranging. The exercise helps to keep the hen healthy and the short period she is away from the eggs will do them more good than harm. If several setting hens are near together and freed at the same time the owner must occasionally watch them to prevent fighting, and also see that each hen returns to her own eggs.

Never disturb the setting hen more than necessary. This is of special importance about hatching time. Then the hen's instinct will tell her not to leave the nest and she will tend carefully to business to protect the little damp, fuzzy chicks as they come from the shell.

BOOST.

Boost and the world boosts with you,

Knock and you're on the shelf,
For the booster gets sick of the man who kicks

And wishes he'd kick himself.
Boost when the sun is shining,
Boost when it starts to rain,
If you happen to fall, don't lie there and bawl,
But get up and boost again.

COW-TESTING CLUB.

BY J. C. MILLS.

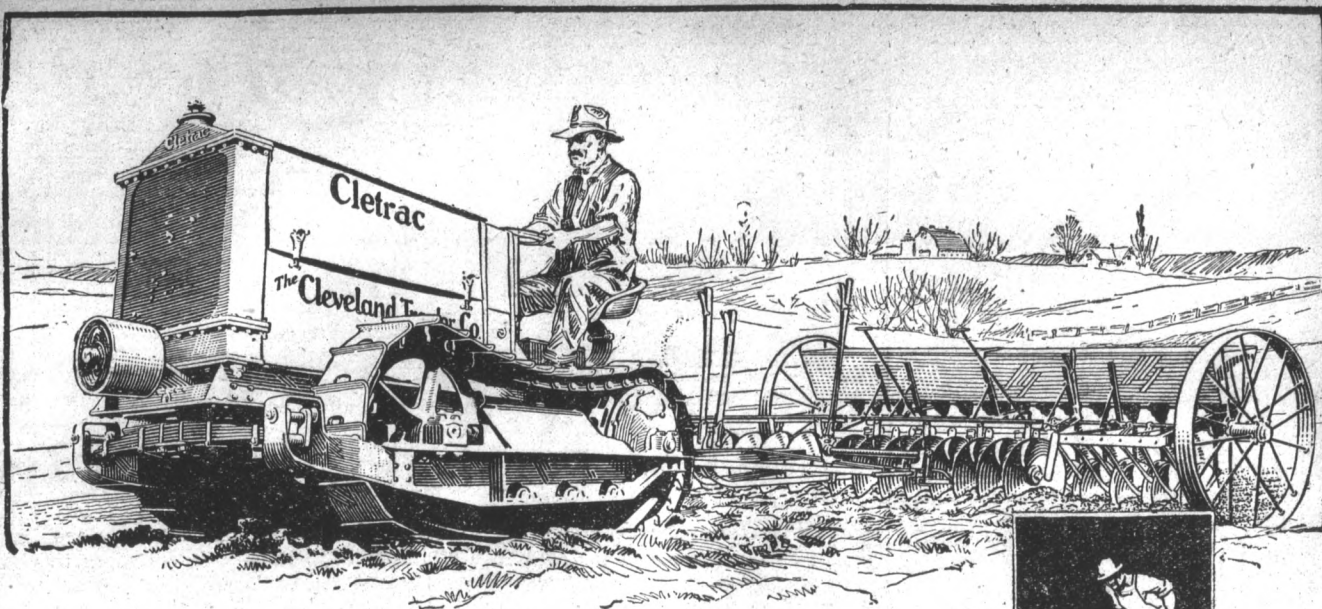
TEN Maple Grove boys have organized into a cow-testing club and under the direction of the county club leader are keeping record of cows on their farms. Each boy has taken one or two cows and are weighing the milk both night and morning, also they are weighing all feed given the animals.

Not long ago these boys met at the home of Mike Wendling and a demonstration in milk-testing was given. This enabled each boy to tell within a few cents just what the cows produced and to easily detect the boarder cows in the herd. At their next meeting on March 1 at Springbrook school-house, the boys took up the subject of balanced rations.

Plans are being made to have an open meeting and invite in all people interested in this work, for the purpose of extending the club activities.

Last summer nine boys in Maple Grove formed a pig club, each boy raising a registered Duroc Jersey pig. These boys now own some of the best hogs of this breed in Saginaw county, and several persons who have seen these pigs have already spoken for young pigs the coming spring. The boys growing these pigs are: Edward Wendling, John Rockledge, Lester Holmes, Larry Princinsky, Alphons, Arthur and Joseph Bishop, all of Che-saning.

The tracking of wild animals is great sport, but difficult unless one is able to identify the tracks. Boys will find real pleasure in making a study of animal tracks.



Cletrac Speed Gets in More Seed

THOSE first few days when ground and weather conditions come just right for planting—that's when speed counts. and Cletrac has it to burn.

The two wide tank-type treads get a firm grip on the soft loose seed-bed. No power is lost through slipping and Cletrac travels swiftly along—always delivering the full-rated drawbar pull of its big motor.

There's no tractor hard-pan under Cletrac-fitted seed beds, for Cletrac does not pack the soil. Its weight is distributed

over 800 square inches of track surface and the pressure is only $4\frac{1}{2}$ pounds per square inch—about half the pressure a man exerts.

Cletrac turns short—a turn of the wheel does it. It hugs close along the fence, swings sharp around at the headlands, cleans up the corners. You don't need teams to follow the Cletrac.

Write for your copy of "Selecting Your Tractor"—the factful booklet on the Cletrac-way of power farming, and see the Cletrac dealer near you.



HARD THIS WAY BUT—



EASY ON A TRACK THE CLETRAC WAY

SPECIFICATIONS

Horsepower: 12 at drawbar, 20 at belt-pulley
Length: 96 inches
Width: 50 inches
Height: 52 inches
Weight: 3420 pounds
Turning Circle: 12 feet
Traction Surface: About 800 square inches
Center to Center of Tracks: 38 inches
Belt Pulley: Diameter 8 inches, face 6 inches

THE CLEVELAND TRACTOR CO.

"Largest Producers of Tank-Type Tractors in the World"

19021 Euclid Avenue

Cleveland, Ohio

Cletrac
TANK-TYPE
TRACTOR

Increase Your Wool Clip

You lose part of your wool money by shearing with hand blades. Shear with a machine. The extra wool secured soon pays the cost of one.

Stewart Shearing Machines get you more and better wool easily and quickly. No second cuts—no ridges to be gone over.

This year's market conditions make it imperative that your wool grade high as possible. A Stewart Machine guarantees long, even fiber, that brings best prices.

There's a Stewart Machine for your flock, whether it's ten or ten thousand. The Stewart No. 9 ball bearing, works wonders with flocks up to 300. For larger flocks select from our high grade line of power operated machines shown in Catalog No. 69. Write today.

Chicago Flexible Shaft Company
Dept. B 127 5600 Roosevelt Road Chicago

Stewart No. 9 Ball Bearing Shearing Machine

Hand operated, easy running—strongly built. At your dealer's, only \$22, or from us by sending \$2, paying the balance on arrival.

"B-V-T" Silo

Will last forever. You will never have to rebuild it! Neither will your grandchildren. Built from the famous BRAZIL VITRIFIED FIRE CLAY. The "B-V-T" has been on the market ten years without a failure. Send for Catalog D
Brazil Hollow Brick and Tile Company
BRAZIL, INDIANA

\$54.50 PUTS THIS NEW MILL ON YOUR OLD TOWER

Albion Mills are quiet and powerful. Fit any 4-post steel tower. We furnish new mast-cap and guide without extra charge. One-third the working parts of any other mill. Only main Pitman bearing subject to wear. This is oilless. Requires no attention. Will last for years. Is then replaceable in 20 minutes. Governed by dependable weight without springs. You need a good Mill now to shorten your chores and ease the backache. This is your chance—an Albion direct from the manufacturer, fully guaranteed. We also make high grade steel mills. Write today for catalog.

Union Steel Products Co. Ltd.
528 N. Berrien Street
Albion, Michigan, U. S. A.

MINERAL HEAVE COMPOUND FOR HEAVES

Booklet Free \$3.25 Box guaranteed to give satisfaction or money back. \$1.10 Box Sufficient for ordinary cases (Includes War Tax).

MINERAL HEAVE REMEDY CO., 463 Fourth Ave., Pittsburgh Pa.

Ear Tags FOR STOCK

Tag your stock—best and cheapest means of identification for Hogs, Sheep and Cattle. Name, address and number stamped on tags. Catalog mailed free on request.

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

LANDOLOGY

Special Number just out containing 1921 facts of Clover Land in Marinette County, Wisconsin. If for a home or as an investment you are thinking of buying good farm lands where farmers grow rich, send at once for this special number of LANDOLOGY. It is free on request. Address
SKIDMORE-RIEHL LAND COMPANY
381 Skidmore-Riehle Bldg., Marinette, Wisc.

WRITE FOR THAT BOOK TODAY

BROWN'S BARGAIN FENCE BOOK FREE GET MY LOW PRICES BEFORE YOU BUY

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

DIRECT FROM FACTORY

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

FREIGHT PREPAID

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

KITSELMAN FENCE

Get It From the Factory Direct PRICES 'WAY DOWN

We've knocked the bottom out of high cost of fence building. We Pay the Freight and save you money. Here's a man that Saved 38 per cent

Mr. R. D. Dillard, Milton, Okla., writes: "I found all the Fence as good or better than I expected. I saved \$26.65 on my \$75.00 order."

You will never know how much you can save thru our DIRECT FROM FACTORY TO FARM selling plan until you get our free catalog. Write today KITSELMAN BROS. Dept. 278 MUNCIE, IND.

\$24.95 Upward American CREAM SEPARATOR

On Trial. Easy running, easily cleaned. Skims warm or cold milk. Whether dairy is large or small, get handsome catalogue and easy monthly payment offer. Address

AMERICAN SEPARATOR CO., Box 5061 Bainbridge, N.Y.

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

Before making up anything for Dessert

Consider the advantages of using

JELL-O

for making such desserts as are described in every recipe book.



Compare the old style recipes in those books with the new ones for making the same desserts in the easy Jell-O way by using Jell-O.

See how much easier and better these are made by using Jell-O—and how much cheaper, too.

Remember, always, that Jell-O is already sweetened and flavored and that it does not have to be cooked.

Jell-O is put up in six pure fruit flavors: Strawberry, Raspberry, Lemon, Orange, Cherry, Chocolate.

At all grocers' and general stores, 2 packages for 25 cents.

We will send you a copy of the Jell-O Recipe Book, free, if you will send us your name and address.

THE GENESEE PURE FOOD COMPANY
Le Roy, N. Y., and Bridgeburg, Ont.



Aspirin

Then It's Genuine

Unless you see the name "Bayer" on tablets, you are not getting genuine Aspirin prescribed by physicians for 21 years and proved safe by millions. Always say "Bayer."

Aspirin is the trade mark of Bayer Manufacture of Monoaceticacidester of Salicylicacid.

"HOMEWOOL" VIRGIN WOOL YARN

50¢ a 4-Oz. Skein. Guaranteed 100% Virgin Wool. Brilliant colors; white, turquoise, scarlet, heather, maroon, navy, oxford, black. Mention color desired. Be convinced that it is the finest hand knitting yarn you ever used—order now. HOME WOOLEN MILLS Est. 1876 204 N. Main St. Eaton Rapids, Mich.

DIRECT FROM THE MILL

Strawberries, Everbearing

and Spring varieties. Raspberries, Hardy Shrubs, Roses & Etc. Our plants will please you and our prices will save you money.

GEO. H. SCHENCK, Elsie, Mich.

SENATOR DUNLAP Strawberry Plants at \$3.50 per 1,000; \$2.50 for 500; \$1.00 for 250. Guaranteed first class or money refunded. C. H. STANLEY, Flower View Farm, R. 2, Paw Paw, Mich.

Strawberry Plants Red and Black Raspberry plants write for price list. GEO. B. OWENS, Box 353, Leslie, Mich.



To improve the golden moment of opportunity, and catch the good that is within our reach, is the great art of life.—Johnson

Woman's Interests

Why Not Make a Dress Form?

Do you do your own sewing? If you do, have you a dress form? If you haven't, would you have it if you could get it for the cost of a gauze vest, a third of a roll of gummed paper, and ten cents worth of beaver board, plus three or four hours' time? You can have a form exactly like your figure, raised shoulder, curved in back, hollow chest and all, or "perfect thirty-six," whichever you happen to be, with no greater outlay than that. Is there anything you need more? Can't you just see yourself now trying to fit that new spring dress, craning your neck about over your shoulder to get a glimpse of the back, and thereby twisting yourself all out



The First Strips are Placed Around the Waist Line and Down the Center of the Front and Back Before Beginning with the Diagonal Strips.

of shape; pulling up the "bulge" on your left shoulder with your right hand, and, of course, not knowing whether it is just right or not until your right hand drops again; basting in the sleeves and ripping them out. Can you get your own in right the first time? Don't they always pull somewhere at first?

If you want to make your own personal sewing easy, do what the women in Jamestown township, Ottawa county, Michigan, are doing. Three of them—Mrs. Leon Ocobock, Mrs. Clyde Hollis and Mrs. Homer Freeman—went up to the Women's Congress at the Agricultural College and saw the forms. A little inquiry told them that the clothing specialist, Miss Helen Arms, would come up to their community and teach them to make forms, if they could get four women from three other communities to meet with them and promise to teach the rest of the women in their neighborhood how to make the forms. You may imagine it was no trouble to find a dozen homeseamers who wanted dress forms, so Miss Arms met with a class in Mrs. Ocobock's home and taught the three groups of women how to make this most necessary aid to home dress-making.

A gauze vest four sizes smaller than you usually wear is the foundation of the form. For instance, if you wear a thirty-six, buy a thirty-two. Old vests may be used, but as the foundation must be very snug, these take so much

time to fit that unless the class has ample time it is poor economy to use them. The vest must be built up high in the neck to come up under the chin. A piece of gauze from another old suit may be sewed around the neck for this. There must be short sleeves, too, so as to give a foundation for the shoulder. The vest is put on over the corset and brassiere and all fullness taken out with darts. The extra cloth taken up must be trimmed down closely so as to leave a smooth foundation for pasting paper.

Kraft paper, which comes in rolls one inch wide is used. This should be cut into pieces convenient for pasting, twenty-one inches, fourteen inches, ten inches and a few seven inches long being used.

After the vest is fitted tightly, a strip of the gummed paper is pasted about the waist line. To wet the paper lay a wet sponge or cloth in a saucer and draw the strip across. In pasting it on the figure, it must be drawn very tightly and pasted and "slapped" down firmly. If it is put on loosely and the outside. The strips may be an inch apart. When the paper holds, form is not firm and strong.

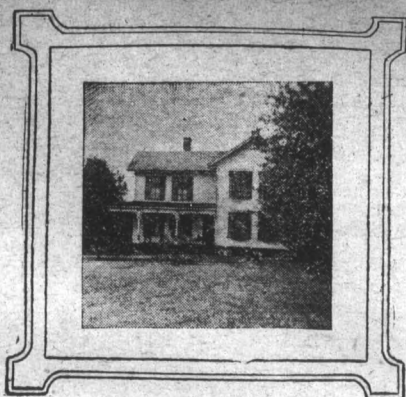
After the strip about the waist line, a strip is pasted down the center front, and one down the center back.

Then the work of filling in begins, the remaining strips being placed diagonally, beginning at the shoulder and working down to the waist line.

Here the model should be given time to sit down and rest. The next step is to paste on the strips below the waist. These should be put on diagonally for the first coat. When the skirt is finished, a second coat of paper should be put on, the strips on the skirt of the second coat going up and down. The form is then ready to be removed.

To remove, take a safety razor blade and cut through the paper directly down the center back, first marking the line with pencil and yardstick. Then with sharp shears, cut the vest, and carefully remove the already stiff form, so that it will not be bent or broken.

Cut three inch strips of paper and paste on the inside of one edge of the cut form. Bring the other edge exactly into line, and while one person inserts the



The Strips Are Crisscrossed Under the Arm the Same as in the Front, Shaping the Armhole in the Process.

hands inside the form to give a firm base let the other workers press the ped" down firmly. If form onto the moistened strips from it is put on loosely and the outside. The strips may be an inch apart. When the paper holds, paste similar cross strips on the outside, and over the ends of these short strips on either side of the cut, paste a long strip running from top to bottom. The form should first be trimmed off smoothly about the bottom to a point which has been marked, indicating the greatest hip measurement.

To finish the neck and shoulders, trim off the foundation vest to the edge of the paper, and bind by strapping short bits of paper from the inside, out over the edge.



Strips Pasted Diagonally Across the Front. A Razor Blade May be Used to Cut the Tape.

The base is best made from beaver board, a yard usually being enough to furnish the base for ten forms. Set the finished form on the beaver board and mark the outline with a pencil. Cut it out, and slip just inside the form, keeping the edges flush. Hold in position with short strips of the paper firmly pasted on, and as a last finish, bind the bottom with a strip of paper running around to cover the ends of paper.

After the form has stood a day it is well to give it a coat of shellac or varnish. This preserves the paper, renders it waterproof, and gives a smooth surface. If you find the surface so slippery that your garments slip about when you are fitting, a vest may be drawn over the form.

Jamestown township was well represented in the group which met with Mrs. Ocobock, the women coming from different sections of the township. The group included Mrs. R. B. Stillwell, Sr., Mrs. R. B. Stillwell, Jr., Mrs. J. K. Koe, Mrs. Harry Bos, Mrs. M. Kremers, Mrs. John De Weerd, Mrs. L. D. Barclay, Mrs. Herbert Sneden, Mrs. Raymond Freeman, Miss Jennie Van Noord, and Mrs. Hollis and Mrs. Homer Freeman. They set a record, by finishing three forms, with the exception of putting in the base, from ten o'clock to three-thirty, and taking time off for a delicious pot-luck dinner besides.

HOME QUERIES.

Who can give M. J. T. the help she wants? Her recipe for "Dutch Peppernuts," herewith published, lacks something to give it "pep." Can some reader tell her what to do?

"Dutch Peppernuts."

One and one-fourth cups of brown sugar; two tablespoons of cinnamon; one tablespoon of cloves; one teaspoon of baking powder.

Stir into this three eggs, add all the flour possible, must be very stiff. Cut size of quarter and bake in very slow oven. Cakes puff up, can be iced. Will keep for months.

Home Demonstration Agent Activities

OAKLAND County.—The Seymour Lake food study club have considered the subject of invalid diet. At one meeting they prepared and served a dinner. The Oakland club, as also the Hudson and West Highland clubs are also studying foods. At East Oxford and Goodison, the women have elected to study clothing. In this county two women, Mrs. G. T. Hendrie and Mrs. S. H. Latourrette, have been chosen to serve on the executive board of the farm bureau. At North Oxford a fireless cooker demonstration was given, and the Holly group discussed budgeting.

Kalamazoo County.—In this county several schools are serving hot lunches. Two of these are near Galesburg, where in one school the parents cook the lunch and send it to school hot, while in the other the lunch is cooked and served at school. Another near Climax is cooking and serving the lunch. A garment club has been organized at Climax. At a nutrition class in Cooper one member reported that her work in the club had interested the whole family in eating proper foods for bone and muscle-building.

Shiawassee County.—Several community meetings were held, where the women decided the line of work they would like to take up. The agent has given talks on nutrition at Bancroft and Ovid, and advised several people on proper diet for themselves or children under their care. Hiss Helen Arms, the clothing specialist from the Michigan Agricultural College, gave a week at the farm bureau office teaching the making of dress forms. Fifty-two women received instruction in form making.

Allegan County.—Here the agent has been helping the women can beef and arousing interest in hot lunch clubs. Three dress form schools were held, when women from seven townships took part. In Otsego the hot lunch work begun last year by high school girls as an experiment has been taken over by the school board, which has furnished equipment.

Chippewa County.—The club at Daffner have studied costume design and color harmony. Several meetings for making dress forms have also been held.

SPRING AND SUMMER CATALOG.

Send fifteen cents in silver or stamps for our up-to-date spring and summer 1921 catalog, containing over five hundred designs of ladies', misses and children's patterns, a concise and comprehensive article on dressmaking, also some points for the needle, (illustrating thirty of the various, simple stitches), all valuable to the home-dressmaker.

No. 3525.—Ladies' Envelope Chemise. Cut in four sizes: Small 32-34; medium 36-38; large 40-42, and extra large 44-46 inches bust measure. A medium size will require 2½ yards of 36-inch material. Price 12c.



No. 3502.—Ladies' House Dress. Cut in seven sizes, 34, 36, 38, 40, 42, 44 and 46 inches bust measure. A 38-inch size will require 6¾ yards of 36-inch material. The width of the skirt at the foot with plaits extended is about 2½ yards. Price 12c.



No. 3234.—A New Play Apron. Cut in five sizes, 1, 2, 3, 4 and 5 years. A four-year size will require 1½ yards of 36-inch material. Price 12c.

No. 3500.—Girl's Dress. Cut in four sizes, 4, 6, 8 and 10 years. A six-year size will require 2¾ yards of 36-inch material. Price 12c.



No. 3520-3511.—Ladies' Costume. Waist 3520 cut in seven sizes, 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Skirt 3511 cut in seven sizes, 24, 26, 28, 30, 32, 34 and 36 inches waist measure. To make this model for a medium size will require 6¾ yards of 36-inch material. The width of the skirt at the foot is about two yards. Two separate patterns, 12c for each pattern.

No. 3364.—A Youthful Style. Cut in three sizes, 16, 18 and 20 years. Size 18 will require five yards of 27-inch material. This dress measures about 1½ yards at the foot. Price 12c.

We Would Like to Send You This Book About Better Heating



THIS new book will surely interest you, if you are planning the erection of a new home -- or if you have a residence, store or other building that is improperly heated.

"THE STORY OF HOMAKER" sets forth in plain, simple language the advantages of the pipeless furnace method of heating. It also

explains exactly why HOMAKER is the **better** pipeless furnace.

HOMAKER is the product of ripe experience, backed by the most modern of manufacturing resources. It is built by The Williamson Heater Company, which, for nearly a third of a century, has ranked among the foremost heating and ventilating engineers of this country.

HOMAKER

"HOME-MAKER"

PIPELESS FURNACE

This **better** pipeless furnace is pre-eminently the heating plant for economy, comfort and health. HOMAKER furnishes an abundance of warm, balmy air that is absolutely **clean--dust-free**. It ends the dust and dirt evil for all time. When you shake or dump HOMAKER, all its doors are closed tight. No dust can escape.

HOMAKER is the **oversize** furnace. Its generous dimensions of casing and register, the **centering of all** heat-radiating castings and the elimination of all abrupt angles, are wonderful fuel savers. Combined, they assure free, easy circulation of the heated air--plenty of warmth on the coldest days without forcing the fire.

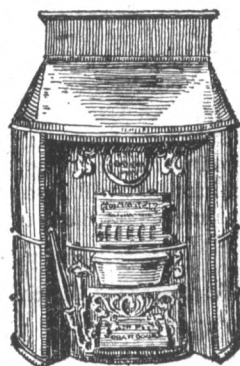
HOMAKER has a quadruple casing, the inner section being of laminated construction (2 sheets of steel between which is placed a heavy layer of air-cell asbestos). This improved insulation conserves practically all the heat. Instead of heating the cellar, the warm air travels directly up through the register and into every room in the home.

Ample Warmth Guaranteed

The Williamson Heater Company **guarantees** that HOMAKER will heat your home to **your entire satisfaction**. If it fails, **your money will be refunded**, your furnace taken out and every trace of its installation removed.

Find out why you have the right to expect more -- in comfort, health and economy -- from this **better** pipeless furnace. Write today for our free book "The Story of HOMAKER."

The Williamson Heater Company,
338-K West Fifth St., Cincinnati, Ohio
Michigan Distributors:
Morley Bros., Saginaw, Mich.



COUPON

THE WILLIAMSON HEATER CO., 338-KW. Fifth St., Cincinnati, Ohio

You may send me without obligation, your free book, "The Story of HOMAKER."

Name _____

Street or R. F. D. _____

City _____

State _____

Coffee at Wholesale

Repeat orders and many kind words of Comment indicate to us that Old Colony Blend is what the people of Michigan want.

We guarantee our goods to be satisfactory or money refunded.

Let us parcel post you prepaid.

3 lbs. \$1.00 or 10 lbs. \$3.20.

State if you want it ground.

5 lbs. choice Black, Green or Mixed Tea \$2.50.

John E. King Coffee Co.

160 Jefferson Ave. East, Detroit, Mich.

Mantles That Last Longer and Give Better Light



Reinforced base on every Coleman Mantle. Stands up under rough usage. Outlasts all others. Gives the most light. Made in our own factory by special patented process. Buy from your dealer, or order direct from nearest office. Dept. C32 Price per doz. \$1.50.

THE COLEMAN LAMP COMPANY

Wichita St. Paul Dallas Toledo
Atlanta Los Angeles Chicago

DAHLIAS

12 choice named varieties \$2.00.

\$1.00.

The Stock That Wins 1st Prize At The MICHIGAN STATE FAIR EACH YEAR

BAUMAN'S DAHLIA GARDENS,

Birmingham, Mich.

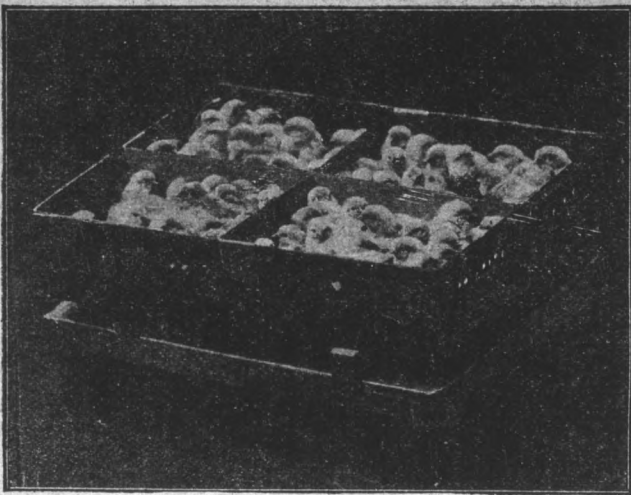
Send For Catalogue

Good Reading

OFFER No. 301.

Michigan Farmer, one year.....\$1.00
McCall's Magazine, one year.... 1.50

Total value\$2.50
Both for \$1.75.



200 Chicks Ready for Shipping

CHICKS

Our Tenth Year

We hatch about 20,000 every Tuesday. White Leghorns and Brown Leghorns. Bred to lay, large white eggs. Stock has been improved considerably during the ten years, and is now some of the best. We ship everywhere by parcel post in lots of 25, 50, 100 and 1000 or more. Safe arrival guaranteed.

Write for catalogue with price list.

Wolverine Hatchery

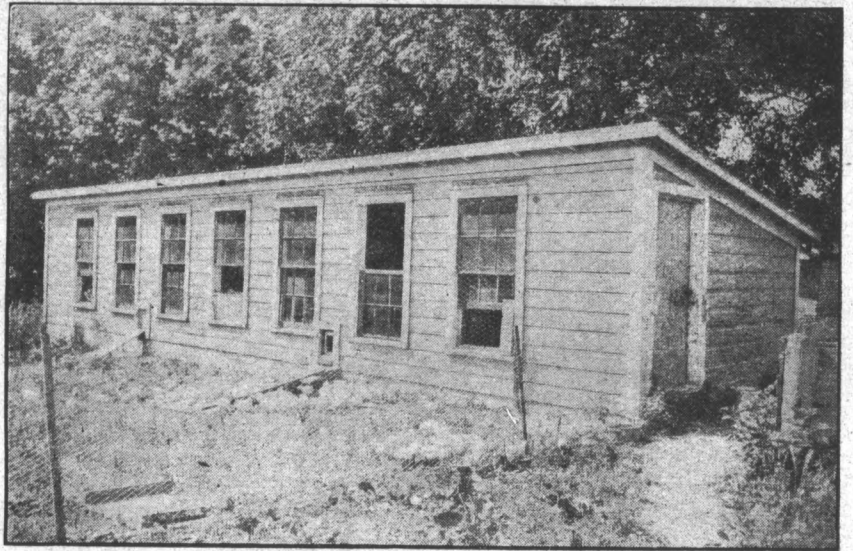
H. Wiersma, Owner and Mgr.
Zeeland, Mich., R. 2,

Farm Poultry

Useful Brood Coops

By R. G. Kirby

MANY chicks are lost each year sun during the day and cool quickly at night because the brood coops do not protect them from rats. Sometimes the chicks are blown over in storms or several weeks in a metal brood coop. If such coops are used they must be placed on undrained sites. A strong wooden floor is necessary as it helps to provide drainage and keeps out the rats and weasels. Each coop should have a watertight roof and an opening top must also be placed in the shade



A Convenient Well-lighted Poultry House is Essential to the Successful Handling of the Farm Flock.

in front for the chicks that can be tightly closed each night.

The small shed-roof brood coops are easy to make and satisfactory. They give the hen more room than an A-shaped coop. The front can be protected by a sliding door covered with quarter-inch mesh wire. This door can be quickly closed each night and is almost a guarantee that the chicks will be there in the morning if the floor is also tight. It takes time to close a large number of brood coops each night. It is very tiresome if necessary to bend over and close each opening with a small board and block it with a stone. The sliding door closes with one shove and opens with another and time is an important factor when caring for a lot of chicks in the spring.

The metal brood coops look neat and protect from rats. Their fault is the fact that they become very hot in the as the black paper becomes very hot. It pays to give some attention to the brood coop equipment, as such coops are good for many years of service if properly stored after use. Sometimes they can be built of scrap but if this is scarce it pays to buy good quality matched lumber and make strong coops which will look good and last. They can be painted outside to match other buildings and given a coating of lice paint inside to protect the hens and chicks from pests.

Small barrels are often used as brood coops by putting slats across the front. Packing boxes can be used that way. But always remember that rats and weasels may appear where none have been seen. The poor makeshift of a brood coop is a constant menace to every chick in that coop. And it is very discouraging to come out some morning and find that a rat or weasel has decimated a promising brood.

Michigan's Largest Pedigree Poultry Farm

DAY OLD CHICKS

From S. C. W. Leghorns, That have been carefully culled for heavy laying. Mated with PEDIGREE cockerels, whose records in the past five years are, the lowest in that time, 215 eggs, in one year, and as high as 290 eggs, in one year. We guarantee that every chick and breeder that we sell comes from Lakewood Farm only. Write for catalogue. Grade A, 20c each. Grade B, 15c each.

Lakewood, Farm, Box B, Holland, Mich.

Baby Chicks Pure Bred 800,000 in 1921

To your door prepaid by us Guaranteed live delivery. We have the most modern methods of hatching and shipping methods and we ship you nothing but the best, our stock is of the standard Free range bred for heavy egg laying quality and our chicks are strong and healthy and will develop very rapidly. We have the following breeds S. C. White, Buff and Brown Leghorns, Anconas, W. and B. Rocks, R. C. and S. C. R. I. Reds, B. and W. Orpingtons, W. Wyandottes. Get our big bargain offer in CHICKS and BROODERS and save money on your ORDER and Maturity of your flock. Circular FREE.

WOLF HATCHING & BREEDING CO., Dept. M, Gibsonburg, Ohio.

CHICKS At Reduced Prices CHICKS

20,000 large, strong, well hatched chicks every Tuesday hatched from eggs laid by selected hens on free range insuring healthy, vigorous chicks that will live and grow into money for you.



Barron S. C. White Leghorn heavy weight and heavy layers American S. C. White Leghorns heavy laying strains S. C. Brown Leghorn the most beautiful Leghorn and a good layer. S. C. Anconas great layers.

We Ship By Parcels Post and Pay the Postage to Your Door.

We guarantee the chicks to reach you in good condition. Catalogue free.

WYNGARDEN HATCHERY, Box M, Zeeland, Mich.

Huber's Reliable Chicks--700,000 for 1921

By Parcel Post Prepaid. Guarantee Live Delivery.



This is our 12th season in hatching Baby Chicks of quality, bred for exhibition and high egg production. Prices after Apr. 1st. S. C. White and Brown Leghorns, 13 and 15 cts. Barred Rocks, R. C. and S. C. Reds, 15 and 17 cts; S. C. Anconas 14 and 16 cts; S. C. Black Minorcas 22 cts; S. C. Buff Orpingtons, 21 cts; White Wyandottes 25 cts. Odds and Ends 13 cts. Our chicks are hatched right and full of pep. All we ask is one trial and we know you will come again the same of thousands of others. Combination offer on chicks and Brooder stoves.

HUBER'S RELIABLE HATCHERY,
East High St.,
Fostoria, Ohio

SUPERIOR BABY CHICKS

At greatly Reduced Prices. English and American White Leghorns and Anconas farm raised—Free Range—Highest Quality—Lowest Prices.

A Square Deal is Our Motto

If you want the best that money can buy send for our free catalogue and price list TODAY.

Superior Poultry Farms & Hatchery, Box 203, Zeeland, Mich.

CHICKS CHICKS

Shipped safely everywhere by mail. S. C. White Leghorns and S. C. Mottled Anconas, the great egg machines. Strong, sturdy chicks guaranteed to satisfy. Order now for spring delivery. 13th season. Free catalogue. W. Van Appledorn, R. 7, Holland, Mich.

DAY-OLD CHICKS

Strong, vigorous fellows, the kind that live and grow. Carefully selected, open range, purebred utility stock. Price reasonable. Circular free. **SUNBEAM HATCHERY, 243 S. Main St., Findlay, Ohio.**

Additional Poultry Ads. on Page 487

\$15.95 Buys 140-Egg Champion Belle City Incubator

Hot-Water, Copper Tank, Double Walls Fibre Board, Self-Regulated. \$9.95 buys 140-Chick Hot-Water Brooder. Or both for only \$23.95. Express Prepaid. East of Rockies and allowed to points West. Guaranteed. Order now. Share in my \$1,000 in. Prizes, or write for Free Book "Hatching Facts." It tells everything. Jim Rohan, Pres. Belle City Incubator Co., Box 14 Racine, Wis.

The Chinese Egg Industry

IN view of the effect Chinese eggs are said to have on the market, a survey of the egg industry of China by former Commissioner E. F. Benson, of the state of Washington, who has been making a tour of the Orient, holds peculiar interest.

The Washington legislature four years ago enacted a law for classifying and labeling eggs and providing a penalty for the sale of foreign eggs unless they were branded "Foreign." This law was declared unconstitutional by a justice court in Seattle and no further attempt was made by the department of agriculture to enforce it. The 1919 legislature passed another law designed to meet the objections in the first law. One of the leading brokers in the handling of Chinese egg products obtained an injunction restraining the commissioner of agriculture from enforcing these laws and the case was tried in the superior court of the state of Washington. The decision of the superior court sustained the 1919 law, but held the 1915 law to be invalid. The state appealed to the supreme court and the appeal is still pending.

It was because of this legal wrangle that former Commissioner Benson made his survey of the egg industry of China. He found, contrary to expectations, the egg products factory he visited in Shanghai utterly clean and sanitary. The eggs at that factory were first candled and all bad ones were returned to the shipper at his expense. Each can of eggs was inspected by three different persons before it was passed. All employees were examined as to health and cleanliness. The former commissioner, however, doubted that such sanitary measures were observed in the smaller factories, particularly in the interior. His report in part follows:

Egg prices now are twenty cents per dozen in Shanghai for fresh eggs. This unusually high figure is because of the Japanese demand this year. At interior points, where shipping facilities do not bring them into competition with fac-

tory prices, eggs now sell at five cents per dozen—Shanghai dollar (silver). So the factories are gradually raising the price of eggs in China. At Hankow, the most important egg market in China, the average price for eggs in 1919 was seven to ten cents per dozen (Mexican) at the factory wholesale.

The wholesale price of dried egg albumen in Hankow during 1919 ranged between ninety and one hundred taels per picul, and the dried yolk between fifty and sixty taels per picul. The average value of the tael is \$1.17 gold and a picul is one hundred and thirty-three and one-third pounds, hence in our money the dried egg albumen sold in Hankow during the last year at an average price of eighty cents a pound gold, while the dried yolks sold for fifty-two cents a pound. Some factories use duck eggs to quite an extent, frequently ten per cent. Duck eggs cost forty per cent less than hen eggs.

The eggs marketed at Hankow average fourteen to the pound, or, in other words, one dozen eggs weigh a trifle more than thirteen ounces, while our Pacific coast "standard" size eggs weigh twenty-four ounces per dozen; thus the average Hankow eggs are only a little over half the size of our "standard" eggs.

The factories always buy eggs by the pound, and while some districts having large hens have eggs that go eight to the pound, others go twelve to fourteen, and in some districts eggs are quite small, going sixteen or eighteen to the pound. One hundred pounds of eggs in shell make six and a half pounds of albumen and fifteen and a half pounds of yolk dried. The albumen, when separated, is frequently frozen instead of being dried, while the yolks and whole eggs are usually dried.

The Hankow egg factories are owned by French, Belgian, American, English and Chinese. The largest of these factories represents an investment of \$2,000,000 in the one plant and has an output capacity of seventy tons or nearly two million eggs per day. The six principal factories at Hankow have a daily capacity of 251,000 pounds of dried eggs or about 16,000,000 eggs.

HENS ADOPT CHICKS.

SOMETIMES it may be desirable to place the chicks hatched in a small incubator under hens for brooding. This saves operating a brooder for a small number of chicks. To do this successfully the hens should have been setting at least four or five days. Have the hens in boxes that chicks cannot crawl out of easily and place the boxes so that a board can be placed over them. Leave just enough room for ventilation.

It does not pay to overcrowd the brood by giving too many chicks to one hen. This always increases the mortality rate and results in at least a few weak and stunted chicks. About ten to fifteen chicks will be enough, depending on the size of the hen. Place the chicks under her at night. Slip them under the wings from the side so she cannot peck at them.

Then it will be safe to leave the chicks for the night but return to the boxes at sunrise and see if the hens are talking to the chicks and the chicks are answering back. Find if any hen pecks viciously at a chick when its head appears through her plumage. If this occurs she has not adopted them and may kill the chicks if they are not taken away and given to another hen. If the hen shows a friendly interest in each chick that comes from under her wings she is quite apt to mother them successfully.

Leave the chicks under the hens until the next day and then place mothers and chicks in their separate brood coops. Some hens will adopt chicks readily while others will be ugly and resent it. Often the hens

that appear the most persistent setters will prove to be the meanest and hardest to manage. It takes some patience to make hens adopt chicks that are artificially hatched and it is not practical except in cases where money can be saved by eliminating the use of one brooder. We would not wish to do it except in cases where there are only thirty or forty chicks to brood.—K.

CAUSES OF STURDY CHICKS.

THE writer was looking over a flock of chicks that had bright beady eyes and sturdy legs. Their wings were developing rapidly and no signs of bowel trouble were evident. What was the reason for that condition? First, they had a vigorous parentage and the old birds had been selected for vigor and stamina.

The chicks were from hens' eggs instead of pullet eggs, and the hens had been exercising and given plenty of range and a balanced ration to keep their digestive systems in good condition. They had not been heavily forced for eggs. The eggs were not allowed to chill or overheat in the poultry house but were gathered frequently and stored in a temperature as closely as possible to fifty-five degrees.

The eggs were placed in the incubator while they were less than four days old and many of them were only one day old. Of course, eggs two weeks old will often hatch but the fresher the eggs the greater are the chances for sturdy chicks.

During the process of incubation the eggs were held closely to one hundred and three degrees and so they hatched rapidly when the hatching day arrived. They were not fed until about sixty-hours old and the egg yolk had been absorbed. Then they had a little grit and some buttermilk and dry rolled oats for the first scratch feed. They were forced to exercise and then had a chance to rest by a warm brooder stove in a clean brooder house. They had a balanced growing mash and plenty of fine-cut green feed. Such were the causes of "good luck" with a flock of young chicks.—R. K.

PURE-BRED POULTRY PAYS.

Because of the possibility of expanding a poultry business rapidly it pays to start with pure-bred stock. Then you can multiply the flocks rapidly according to the amount of your time and equipment, and the profits will always be a constant proof of the value of your pure-bred poultry over the mongrel fowls.

Before selecting the breed of poultry it is often possible to visit the farms of other poultrymen and observe their stock. A brief inspection and a talk with the owner will bring out many points of interest and furnish useful information to be tried out on the home flock.

RENTING ORCHARD ON SHARES.

I have a fine orchard of young apple trees covering over an acre of ground now bearing heavy crops of fruit, has been well cared for, well sprayed, etc. I wish to rent it on shares. Please tell me what share is fair and just to each or both parties in regard to pruning, mulching, spraying, spraying material and outfit, picking, sorting and marketing of the apples.—Subscriber.

I cannot give you anything definite on this matter, as all our orchard rental propositions were on orchards of large trees which had been neglected and were of the type that were not bringing any material income to the owners. We have never rented on a share basis, always paying cash rent. I do know of cases where parties have rented orchards and furnished all the spray materials, in fact, done all of the work and gave the owner one-quarter to one-third of the fruit and had the remainder for the labor and expense in working it.—T. A. F.

70 EGG INCUBATOR \$5.45

Order Direct From This Advertisement

Only 1200 at This Price

You will save money if you order one of these splendid incubators now. Purchased by us at a forced sale—less than cost to manufacture. Now yours at a tremendous price reduction. Ready for immediate shipment securely packed. Weight 15 lbs.

Practically All Metal!!

Made round like a nest with no cold corners. 70 egg capacity. No experience needed to get big results. All newest and best improvements. Free instruction book included. DEPT. MD-42

HARRIS BROS. CO., 35th and Iron Sts., Chicago

POULTRY

For your best quality of CHICKS

Send Your Order to the

City Limits Hatchery,

Rt. 5, Box 11, Holland, Mich.

Our chicks are of the highest quality and our prices are within reach of everybody. We have S. C. W. Leghorns, S. C. Anconas, English White Leghorns, S. C. B. Leghorns, and Barred Rocks.

DAY OLD CHICKS

HOMESTEAD FARMS

If you are a farmer poultryman you will be interested in the Michigan bred Pure Breed Practical Poultry. A stock of demonstrated value for practical poultry people: stock bred under the plan of the Michigan Agricultural College and distributed at fair prices.

2,000 Eight Weeks Pullets
Leghorns, Anconas, and 16 other breeds. Shall we send you our 64-page descriptive Catalog? Chicks delivered parcel post prepaid.

STATE FARMS ASSOCIATION,
Desk 1, Kalamazoo, Michigan



BABY CHICKS

We furnish pure bred chicks of the finest quality from high egg producing stock. Flocks built directly from laying contest winners. We have seven teen breeds. Write for our free illustrated catalogue and price list.

J. W. OSSEGE HATCHERY,
Dept. 99, Glandorf, Ohio.

Anconas Bred-to-Lay and Exhibit, baby chicks and hatching eggs. Send for mailing list. Manning's Ancona Farm, Coldwater, Mich.

B-A-B-Y-C-H-I-X

Crescent Strain S. C. White Leghorns, Black Leghorns, Brown Leghorns, Buff Leghorns, Black Minorcas, Rhode Island Reds, Barred Plymouth Rocks, (also White), Wyandottes, Silver laced and White and Mottled Anconas. We hatch eggs from flocks on range on separate farms. Send for booklet, containing much of value to poultry raisers.

CRESCENT EGG COMPANY, Allegan, Mich.

Baby Chicks from fine stock, to produce eggs, at utility prices. Catalogue FREE. Lee's Poultry Farm & Hatchery, Edison, O.

OVIE'S BABY CHICKS

High Quality--Moderate Prices

You can pay more and get less in quality but you can't get a bigger value for the same money. That's why once a customer always a customer.

25,000 Husky Chix Weekly
from free range, carefully selected stock, hatched by experts in a real up-to-date hatchery. We specialize in 14 leading breeds. Safe delivery guaranteed by P.P. prepaid. Write for catalog.

OVIE'S POULTRY FARM & HATCHERY
34 State Street, Marion, Ind.

MID-WEST BABY CHICKS

Mean real profits in your poultry flock. Our illustrated catalog tells you why you ought to buy our "Better Baby Chicks". 12 money making varieties. We ship anywhere by prepaid parcel post. Write tonight to Frank B. White, President.

MID-WEST HATCHERIES
Head Office: 655 Ft. Dearborn Bank Bldg., Chicago, Ill.

Baby Chicks Good big, healthy chicks of show room quality at utility prices. Catalogue free. Sycamore Hatchery, Sycamore, Ohio

BARRED Plymouth Rock cockerels for sale, some nice thrifty birds from prize-winning stock \$4 and \$5. George H. Campbell, R. 5, Box 70, Xpsilanti, Mich.

BABY CHICKS

Hatched from free range stock. Quality and live delivery guaranteed. Write for catalogue.

BABY CHICKS High Quality, Heavy Laying Strains. Vigorous Chicks from Hardy Stock. Prize winners at N. Y. & O. State Fairs. 35 best breeds—low prices. Safe arrival guaranteed. Cir. free. **CRYSTAL POULTRY FARMS,** Shepard Strong, 7901 Franklin Ave., Cleveland, Ohio

Baby Chicks and Eggs for Hatching
Barron's White Leghorns, Barred Rocks and R. I. Reds. Big sturdy chicks from free range stock with high egg records. Interesting catalogue free. **BRUMMERS POULTRY FARM,** Holland, Mich.

CHICKS English Strain White Leghorn. Bred to lay Brown Leghorn and Anconas. Bargain prices for our quality stock kept on free range. Order now for early deliveries. **Hillside Grove Hatchery Farm,** R. 1, Holland, Mich.

April Chicks Buy 'em Near Home

April 12th and 19th. Barred Rocks, R. I. Reds \$16 per 100. White Rocks, Orpingtons, Wyandottes, \$18. Brown and White Leghorns, \$15. Add 50c for half and quarter hundreds. Please name second choice. Prepaid and guaranteed live delivery.

Washtenaw Hatchery, Ann Arbor, Mich.

Buff, Barred, Columbian
Partridge, Silver Pencilled, White Rocks; Anconas, White Wyandottes, Rouen Ducks. \$2 setting. Catalog 2c.

SHERIDAN POULTRY YARDS,
R. F. D. 5, Sheridan, Mich.

DAY-OLD CHICKS

\$16.00 per 100 and up. Hatching eggs, \$2.00 to \$15.00 per setting and \$9.00 to \$15.00 per 100, from 25 varieties of pure bred, farm raised fowls: Chickens, Geese, Ducks, Turkeys and Guinea. Price list and circular free. Plenty of nice breeding stock. Book now for early spring delivery. **WILMINGTON HATCHERY & POULTRY CO.,** Wilmington, Ohio.

Fowler's Buff Rocks: Eggs for hatching. Also a few for prices. R. B. FOWLER, Hartford, Mich.

Don't Buy Baby Chicks
Until you get our catalog and prices. Pure bred, heavy laying White and Brown Leghorns, Anconas. Write today. **Monarch Hatchery, Zeeland, Mich.**

LOOK [75,000] CHICKS

Our Hi-Grade profit paying Bred-to-Lay, M. A. O. tested and exhibition chicks, at reasonable prices. Hatching eggs, 8 varieties, Circular FREE. **Lawrence Poultry Farm, R. 7, Grand Rapids, Mich.**

SELECTED WINTER LAYERS

S. C. WHITE LEGHORN EGGS FOR HATCHING, laid by hens that averaged over two hundred eggs each last season. 15 Eggs \$3.00; 30 \$5.50; 100 \$15.00. **BABY CHICKS** week beginning March 1st. \$5 \$7.50; 25 \$10.50; 50 \$20.50; 100 \$40.00. Valuable catalogue. **Dunningville Poultry Farm, Dunningville, Mich.**

Snowy White Rocks Fishel strain, dandy layers Eggs \$1.50-15; \$4-50; \$3-100 All prepaid. **Mrs. Earl Dehnhoff, Vanburen, Ohio**

5 lb. English White Leghorns

Barron strain. My free catalog describes them, gives feeding methods, a new way to cull hens and much valuable information. A. Wauchek, Gobleville, Mich.

S. C. WHITE LEGHORN CHICKS
Send for Catalog. **SNOWFLAKE POULTRY FARM,** Route 1, Grand Rapids, Michigan

BABY CHICKS 25 for \$5.50 50 for \$10.00 and 100 for \$18.00. Prepaid, safe delivery guaranteed. Single Comb White Leghorns; White, Buff and Barred Plymouth Rocks; S. C. R. I. Reds and Anconas. **Fenton Chicken Hatchery, Box 244, Fenton, Mich.**

Barred Rocks 15 eggs, \$1.50; 100 for \$7; by prepaid mail. Flock average last year 133 eggs. **LEWIS B. AVERY, Clinton, Mich**

Barred Rocks from Rocky Ridge Hatching eggs lay birds \$2.00 per 15. Prepaid by Parcel Post. **W. T. RICHARDSON, Hanover, Mich.**

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

CHICKS. Bred-to-lay S. C. W. Leghorn and Barred Rock quality chicks that please, guaranteed full count and to arrive to you "all ready made" in first class condition by parcel post paid. Leghorns \$15 per 100. Rocks \$18 per 100. Special prices on 500 to 1000. Circular. **Sunnybrook Poultry Farm, Hillsdale, Mich.**

Choice Baby Chicks English and American White Leghorns and Anconas. Catalog free. **M. D. Wyngarden, R. 4, Zeeland, Mich.**

CHICKS Pure-bred White and Brown Leghorns from free range heavy laying stock that is of large size with large egg capacity. Sent postpaid. Prices reasonable. Safe arrival guaranteed. Catalog free. **Royal Hatchery, R. 2, Zeeland, Mich.**

Eggs from pure Toulouse geese. Ten for five dollars. Parcel post paid. **Mrs. Amy Southworth, Allen, Mich**

John's Big Beautiful Barred Rocks are hatched, develop quick, good layers, fine show quality, 30 eggs \$5.50, 50 \$5. Postage paid. Photos, circulars. **JOHN NORTON, Clare, Mich**

Look! 100,000 for 1921. Day Old Chicks. Barred, American and English; and Anconas. Write for free catalog. **Fairview Hatchery, R. 2, Zeeland, Mich.**

Ohls Improved Leghorns
BABY CHICKS, bred from stock with high egg records and show room quality. None better for filling the egg basket. Catalogue free. **Ohls White Leghorn Farms, Marion, Ohio**

Rhode Island Reds R. C. Large fancy cockerels at \$3-each. Address **BURT SISSON, Imlay City, Mich.**

R.C. Rhode Island Red eggs for hatching. Also some fine cockerels for sale. **MRS. ALBERT HARWOOD, R. 4, Charlevoix, Mich.**

LOOK! 1,000,000 for 1921. \$13 a 100 and up. Postage PAID. 95% live arrival guaranteed. FREE feed with each order. 40 breeds chicks, 4 breeds ducklings. Select and Exhibition grades. A hatch every week all year. Catalogue free. Stamps appreciated. **NABOB HATCHERIES, Gambier, Ohio.**

BABY CHICKS Single Comb White Leghorn (Tom Barron Strain), Barred Plymouth Rock, S. C. R. I. Red, Anconas, White Wyandottes and Brown Leghorns 25 for \$5.50, 50 for \$10.00, 100 for \$17.00. Ross Wade. **Meadow Brook Hatchery, Mt. Morris, Mich.**

Baby Chicks Anconas, White Leghorns, Brown Leghorns and B. Rocks all have single combs, at greatly reduced prices \$11. per 100 and up parcel post paid, safe delivery guaranteed, catalog free. **Knolls Hatchery, R. 3, Holland, Mich**

Barred Plymouth Rock eggs for hatching. \$2.00 per 13 postpaid. Fullblood stock. Prize winning strain. **J. A. BARNUM, Union City, Mich.**

S. C. B. Minorcas. Pen No. 1 headed by a son of our \$50. 12 lb. cock, mated with \$30. our best hen, \$3.00 per 15. No. 2 pen headed by a cockerel of Pape strain, Eggs \$2.50 per 15. Incubator eggs \$3.00 per 100. **R. W. MILLS, Saline, Mich.**

R.C. Br. Leghorn Eggs \$1.50 for 15. Pekin duck, \$1.50 each. **MRS. CLAUDIA BETTS, Hillsdale, Mich.**

Additional Farm Ads. on Page 493

OHIO RAKE

FARM IMPLEMENTS

Corn Planters, Spring Tooth Harrows

A BIGGER AND BETTER YIELD

The Ohio Rake Sure-Drop Corn Planter positively insures your seed getting into the ground right. It yields a profit the first year in giving a better and larger stand of corn.

Absolutely accurate: It plants just the number of grains you want in row or hill at exactly the spacing you want, and will not scatter nor break the corn. You never have to thin out after planting with a Sure-Drop. It is light, yet strong and durable, and carries the Ohio Rake guarantee of reliability. Some of its many advantages are: Large hinged hoppers, making seed plate changes possible without removing seed—combined foot and hand lever for raising runners—equipped with automatic reel and marker—adjustable to width of rows from 28 to 42 inches—will plant any variety of corn or beans.

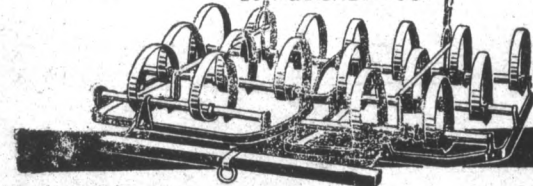
All Steel Spring Tooth Harrow
Constructed entirely of the best steel—not a

single casting. The strongest and best harrow on the market. Can be horse or tractor drawn. Both the Planter and Harrow were formerly made by the Gale Manufacturing Co., of Albion, Mich. Prices on all Ohio Rake Farm Implements have been substantially reduced since last fall.

There's a Dealer Near You

There are 210 Ohio Rake dealers in Michigan who carry Ohio Rake Implements in stock. Send us your name and we will send you descriptive circulars of any of our implements and the name of our dealer nearest to you.

THE OHIO RAKE CO.
DAYTON, OHIO
ESTABLISHED 1884



WE MAKE
Transplanters
Potato Planters
Spike-Tooth Harrows
Spring-Tooth Harrows
Disc Harrows
Corn Planters
Corn Shellers
Harrow Gars
Hay Rakes
Hay Loaders
Hay Tedders

Use Dandelion Butter Color

Add a half-teaspoonful to each gallon of winter cream and out of your churn comes butter of golden June shade to bring you top prices.

DANDELION Butter Color

All stores sell 35-cent bottles, each sufficient to keep that rich, "Golden Shade" in your butter all the year round. Standard Butter Color for fifty years. Purely vegetable. Meets all food laws, State and National. Used by all large creameries. Will not color the buttermilk. Tasteless.

Wells & Richardson Co., Burlington, Vermont.

Built to Stand Abuse

Easy to clean and keep clean. Capacity guaranteed.

See your dealer or write for Catalog No. 46

Sturges & Burn Mfg. Co.
Established 1865
Chicago, Ill.

Sturges Milk Cans

Stop Losing Calves

Treat Your Own Herd as Dr. David Roberts Himself Would Treat Them. His Treatment Used Successfully for Past 30 Years.

Easy to Apply—Sure Results

Stamp Abortion Out OF YOUR HERD AND Keep It Out



ASK FOR "The Cattle Specialist"

Sent free on request. Answers every question pertaining to Abortion in Cows. Tells how to treat your own herd at small expense. Write

DR. DAVID ROBERTS VETERINARY CO., Inc.
640 Grand Ave., Waukegan, Wis.



America's Pioneer Dog Medicines

BOOK ON DOG DISEASES And How to Feed

Mailed free to any address by the Author

H. CLAY GLOVER CO., Inc.
118 West 31st Street, New York

Lump Jaw

Fleming's Actinofarm, for 30 years the standard Lump Jaw remedy. \$2.60 a bottle postpaid. Money back if it fails. Send for FREE Vest Pocket Veterinary Adviser. Describes Lump Jaw and 200 other Cattle and Horse diseases.

FLEMING BROTHERS, 252 Union Stock Yards, Chicago

Greater Acre Efficiency in Potatoes

(Continued from Page 467)

ported their experiences with fertilizers last year as follows:

Emmet County, Michigan, (Lawrence Overholt).

On sod, no treatment, bushels.... 103
Manure, bushels 157
Manure and acid phos., bushels... 216

Remarks.—Potatoes receiving manure and phosphate treatment were "set" heavier, had better quality and were more uniform. This was a striking demonstration.

Emmet County, Michigan, (Wilbur Morrow).

No treatment, bushels 208
500 lbs., 0-16-0, bushels..... 230

Remarks.—Excellent quality and uniform in size and shape.

Emmet County, Michigan, (Fred Schmalzreid).

No treatment, bushels 300
500 lbs., 2-12-2, bushels..... 368
500 lbs., 0-16-0, bushels..... 340

Remarks.—Quality good and few unmarketable potatoes.

Emmet County, Michigan, (Elias Leusing).

Manure, bushels 119
Manure and 500 lbs., 0-16-0, bush.. 177

Remarks.—Soil conditions were not good; i. e., soil was light. Double plowing was done for quack grass in the spring. The weed was conquered.

Emmet County, Michigan, (J. C. Schmalzreid).

No treatment, bushels 226
500 lbs., 2-12-2, bushels 219
500 lbs., 0-16-0, bushels 219

Remarks.—The above was not a fair trial. When the fertilizer was sown (broadcast) a small hurricane came up, and before the fertilizer could be dragged in was probably scattered over a part of the township and also on check plot.

Emmet County, Michigan, (George Schmalzreid).

No treatment, bushels 156
500 lbs., 2-12-2, bushels 208

Remarks.—Quality good and not so many small potatoes. Vines made a quicker growth.

Marquette County, Michigan, (J. A. Jeffery).

No treatment, bushels 66
Manure, bushels 197
Muriate of potash, bushels..... 247½

Remarks.—The above test was conducted on a peat soil.

Leelanau County, Michigan, (Louis Solem).

Barnyard manure, bushels an acre 150
300 lbs., 2-8-2, bushels an acre.... 175

Remarks.—The commercial fertilizers gave better results, but it may have been that the potatoes were planted about three weeks earlier and it was a wet season. They yielded about one hundred and seventy-five bushels, while the twelve-acre field yielded about one hundred and fifty bushels.

The rest of the farmers in this locality use barnyard manure on their potatoes, and the average yield this year was about one hundred to one

hundred and fifty bushels per acre.

Leelanau County, Michigan, (John Jelinck).

Remarks.—Potatoes planted with a horse-drawn planter with fertilizer applied at planting time in rows yielded about twenty bushels more an acre than those where no fertilizer was used at planting time, but in both cases the field was manured and plowed in spring, and four hundred pounds of 1-8-6 fertilizer applied with grain drill about two weeks before planting.

Leelanau County, Michigan, (Ed. C. Egeler).

No fertilizer, bushels 164
550 lbs., 2-8-6, bushels 208

Remarks.—This was on a six-acre field. I left two half-acre strips in the field that I did not fertilize.

Cheboygan County, Michigan, (H. L. Molineaux).

No fertilizer, bushels 218
2-8-3 fertilizer, bushels 256
(Amount not stated).

Leelanau County, Michigan, (Frank Craker).

No fertilizer, bushels 100
500 lbs., 1-8-6, bushels 200

Remarks.—Best results were obtained with barnyard manure and commercial fertilizer combined. Without manure commercial fertilizer made a difference of twenty-five to thirty bushels per acre.

Otsego County, Michigan, (J. J. Allis).

Unfertilized, bushels 101
560 lbs., 3-10-4, bushels 143

Remarks.—Gain per acre through the use of fertilizer was 42.1 bushels where 560 pounds per acre was applied, thus making a gain of 150 bushels per ton of 3-10-4 fertilizer used on a light sandy soil.

Otsego County, Michigan, (C. J. Franks).

Unfertilized, bushels 106
500 lbs., 3-10-4, bushels 149

Remarks.—(By A. C. Lytle, County Agricultural Agent). Gain per acre was 43.2 bushels, using fertilizer at the rate of 500 pounds per acre. This makes a gain of 172 bushels of potatoes per ton of 3-10-4 fertilizer when used at the above rate and on this soil. These potatoes were grown on a light sandy soil, and the fertilizer on both of the above tests was applied broadcast and cultivated in when the potatoes were about six inches high.

As will be noted, the yields were not very high, even where the fertilizer was used. This can be easily accounted for. Both of these farms consist of light sandy land, and both of them have been ravaged by grasshoppers for at least the last three years. This has necessarily reduced the humus content to a very low per cent. Plenty of rainfall during the growing season, no doubt, aided materially in getting returns from the fertilizer.

"Milking Time"

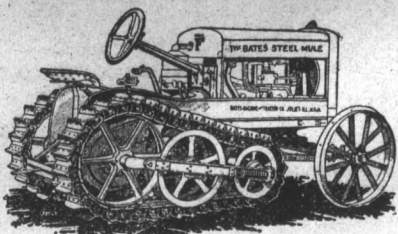
What It Means—By A. L. Haecker

TO the average farm boy, the surroundings for the milker as well as words "milking time" do not have a very agreeable sound.

The job of milking is some chore when we consider that there are twenty-four million dairy cows in the United States that have to be milked from one to four times a day, according to their production. During the past few years the milking machine has made rapid progress; and with a large number of good makes on the market and many thousands being successfully operated, we are extremely hopeful of getting relief from this source. In a recent conversation with a prominent dairy farmer from New Zealand, I was surprised to learn that the bulk of the milking in the country of New Zealand is now done with the machine. Of

the average farm boy, the surroundings for the milker as well as words "milking time" do not have a very agreeable sound.

The job of milking is some chore when we consider that there are twenty-four million dairy cows in the United States that have to be milked from one to four times a day, according to their production. During the past few years the milking machine has made rapid progress; and with a large number of good makes on the market and many thousands being successfully operated, we are extremely hopeful of getting relief from this source. In a recent conversation with a prominent dairy farmer from New Zealand, I was surprised to learn that the bulk of the milking in the country of New Zealand is now done with the machine. Of



The most efficient Tractor in America

ANOTHER PROOF of Bates Steel Mule Leadership!

(Results of Tests conducted in 1920
by University of Nebraska,
as per Law of that State.)

Tractor	Maximum Drawbar Horse Power	% Belt Power at Drawbar	Maximum Belt Horse Power	Weight	Cu. In. Displacement of Motor	No. of In. Dia. Placement Per Min. Per Drawbar H. P.
BATES STEEL MULE 15-22	28.10	77	29.78	4600	280.5	14338
Rumley 16-30	22.90	68	33.02	9000	653.3	18219
Wisconsin 16-30	22.22	70	31.50	6000	510.5	21297
Case 15-27	21.81	60	31.25	6160	351.7	14835
Avery 14-28	21.02	67	31.83	7540	470.4	17705
Autman Taylor 15-30	21.10	61	34.37	8240	510.5	22742
Hart Parr 30	19.06	62	31.37	5450	464.5	17005
Frick 15-28	19.48	65	30.00	6100	425.3	19434
Gray 18-36	19.15	59	32.70	6310	478.4	21084
Wallis 15-25	18.58	62	29.87	3500	326.3	17263
Twiss City 12-20	18.45	66	27.93	5000	348.4	18469
La Crosse 12-24	17.83	71	24.94	4070	305.3	19001
Avery 12-20	17.58	72	24.26	3000	300.8	18827
R-B 12-20	17.53	67	23.96	4355	354.4	18174
Moline 9-18	17.40	63	27.45	3500	192.4	20124
Huber 12-20	16.28	61	26.24	4000	445.3	20977
Manitou 12-25	15.98	61	25.97	6183	464.5	21746
Coleman 16-30	15.87	52	30.41	5100	510.5	30852
Titon 10-20	15.60	58	28.15	5708	538.8	18815
Cletrac 12-20	15.32	62	24.94	3200	276.5	22893
Case 16-28	15.28	67	22.81	5080	381.7	23734
Rumley 12-20	15.02	58	25.37	6038	472.3	17315
Belter 12-20	13.43	55	24.24	6200	420.4	23775

*From Power Farming Dealer.

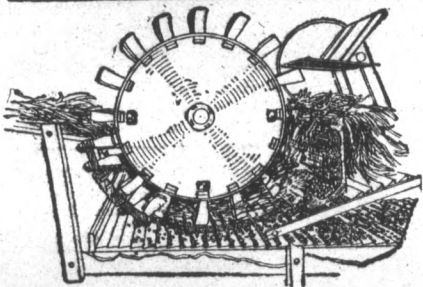
Bates Steel Mules lead in producing bigger crops because they do the most work for the least money. Farmers need dependable machinery now more than ever.

Send for our catalog "The End of the Search."

Bates Machine & Tractor Co.
JOLIET, ILLINOIS
Established 1883

Dept. 3-T Joliet, Illinois
MICHIGAN JOLIET OIL TRACTOR CO.
Lansing, Michigan

Bates Steel Mule
F-1163 DOES NOT PACK THE SOIL



"Beats Out" the Grain

Threshing grain with the old-fashioned flail and separating it with a pitchfork was a costly, tiresome method. But it saved the farmer's grain. The same principles, less manual labor but with vastly more efficiency, are built in the

Red River Special

It doesn't wait for the grain to fall out, as other machines do. It beats out the grain to the last kernel. The Big Cylinder, and the beating shakers plus the action of the "Man Behind the Gun" insure clean work on every job.

H. L. Gehant, West Brooklyn, Illinois, says:

My 36x56 Red River Special separator is more than you claim for it. The thing that impressed me most was the method of separating the grain from the straw and chaff by the "Man Behind the Gun." I want to tell you and all your prospective customers that this one single piece of construction does more and better work right at the cylinder than any other make of machine does all put together. Then the special Beating Shakers get what little grain escapes the "Man Behind the Gun."

Ask the Red River Special owner in your neighborhood to do your threshing. You'll save the price of your thresh bill in grain and time. If you want to do your own threshing, ask about our "Junior" Red River Special.

Write for Circulars

Nichols & Shepard Co.
(In Continuous Business Since 1848)
Builders Exclusively of Red River Special Threshers, Wind Stackers, Feeders, Steam and Oil-Gas Tractor Engines.
Battle Creek, Michigan

Barn Paint \$1.35 Per Gallon
Get factory prices on all paints. We guarantee quality. We pay the freight.
FRANKLIN COLOR WORK, Dept. M, Franklin, Ind.

course, this means large, well equipped dairies and more interest in the business.

The greatness of the dairy industry is more appreciated now than for several years past. Dairying actually shows a gain during the past year of several hundred million dollars, while most of the other farm branches show losses into the billions. This can easily be accounted for when we consider that the dairy cow is the most economical animal on the farm in her use of food; also that the business of dairying requires such qualities as industry, thrift and perseverance which are too often shunned by the man who seeks the easier rather than the better way. Crop growing is not hard; it has its seasons of work and long seasons of practical idleness; but the man who succeeds in the dairy business must reckon with three hundred and sixty-five days of work in the year. This has prevented the business from being overcrowded, and competition is less keen.

WE cannot get away from milking time. We can, however, make this task more pleasant and agreeable. We can put more windows into the barn; let in the light—nature's disinfectant and messenger of cheer—let in fresh air through ventilators, and prepare a sanitary place for the cows. Cement floors are easy to lay; good sanitary drainage and comfortable stalls for the animals can be purchased; we can provide drinking cups and tanks where heat is supplied; the barn can be fixed up so the chores may be done easily and quickly, and then milking time will have lost its disagreeable features.

There are many good things which come with improved barn equipment. Many udder blemishes are prevented; a healthier herd is obtained, and the dreaded TB has little opportunity to spread. A good-looking place for the stock means better sales. I have often paid a higher price for a cow that was clean and standing in a light, comfortable stall than if the same animal had been in a dark, dirty barn. Better records can be made, for with comfort the animal will produce her maximum. Improvements of this kind save feed, bedding, time, and, most of all, the patience of the worker. Efficiency can be attained only by joy in the work, and joy, applied to the dairy, can be obtained only where conveniences and improvements make the work pleasant.

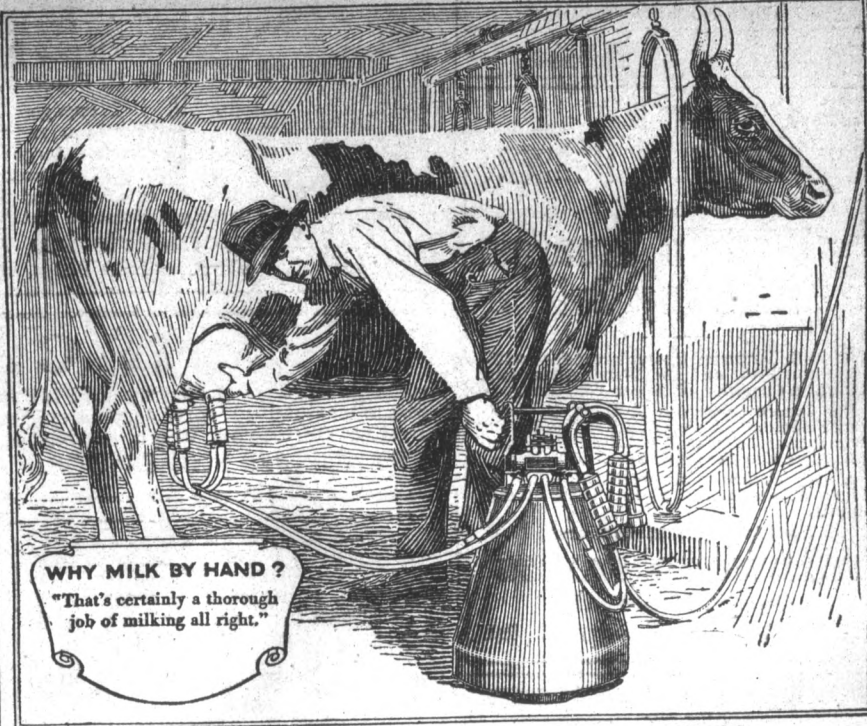
Much thought is now being given to the farm boy, and no better subject can be considered. Great concern is shown over the fact that the boys are leaving the farm. Get the boy interested in the farm, and he will wish to stay there. Make the work agreeable, and interest him in making improvements. New things appeal to a boy more keenly than to a man. Men often are too slow in adopting changes, even when unquestionably to better things.

We cannot expect to make milking time sound like the call to dinner or the Fourth of July, but we can do a great deal to remove many of the disagreeable thoughts which are apt to come with this well-known call.

SALE OF LAND FOR TAXES.

How long can the land taxes be returned unpaid before the land will be sold? What are the proceedings? Can the sale be stopped by paying part of the taxes, or must the whole be paid to keep the land from being sold?—C. M.

Lands are not sold for delinquent taxes till the first Tuesday in May of the second year after the taxes are due. If the interest of one person is assessed with that of another, he may pay his own taxes, and have a receipt for the part on which he pays. That is provided by Compiled Laws 1915, Section 4049.—J. R. R.



WHY MILK BY HAND?
"That's certainly a thorough job of milking all right."

"The milker has always been ready to do its duty at milking time without any grudge. It has done its work well, milked clean and absolutely kept up the milk flow." —WILLIAM GRIESE.

A Hired Man That Milks Thoroughly and Satisfactorily

PERFECTION is the hired man that milks your cows thoroughly and satisfactorily. That means, good milk flow, uniform milking, and clean milking at all times.

That's the kind of milking you want twice a day every milking day of the year. Why bother with hand milking and all its drudgery. Let Perfection solve your milking problems.

Perfection will milk your most valuable cows thoroughly and to your entire satisfaction.

It uses the same gentle action as the calf, a gentle suction followed by a downward squeeze followed by a period of rest. That is why cows like the Perfection and give their milk down freely.

It's an easy task for one man to thoroughly milk 24 cows in an hour's time with the Perfection. This is your opportunity to increase your herd or to milk the same herd with less labor and always get a thorough, satisfactory job of milking.

Find Out More About the Perfection Write and let us send you a free copy of "What the Dairymen Wants to Know." It answers all milking machine questions. We'll also send you a list of Perfection owners' names and addresses near you.

Why Milk By Hand? Perfection milks more thoroughly.

Perfection Manufacturing Company

426 S. Clinton St.
Syracuse, New York

2126 E. Hennepin Ave.
Minneapolis, Minnesota

PERFECTION MILKER



Fuller Milk Pails

INDIANA Silos produce milk or beef at lower costs and help you increase your profits. You never needed to reduce costs more than now.

Over 60,000 American farmers, who own 75,000 Indiana Silos are already enjoying a bigger profit because of their silos.

No other silo has ever won such an endorsement from the American Farmer.

Write now for reduced prices, early buyers' proposition and easy payment plan.

THE INDIANA SILO & TRACTOR CO.
47 Union Bldg. Anderson, Indiana
47 Silo Bldg. Kansas City, Mo.
47 Indiana Bldg. Des Moines, Iowa
47 Live Stock Exchange Bldg., Ft. Worth, Tex.

INDIANA SILO

Farms and Farm Lands

4 Acre Truck Farm 1/2 mile from car line and pavement to exchange for 60 to 80 acre farm with stock and tools. Stock farm for rent; 85 acres cultivated land, 165 acres pasture. Good land, good buildings. House and lot on car line and pavement to exchange on 40 to 80 acre farm. Will buy stock and tools. AXE & SON, Bay City, Mich.

FOR SALE—Opening a new tract of fertile farm lands well located in the great potato and dairy district of Wisconsin and Michigan. Secure first choice now. Liberal terms. Write for free booklets, etc. Sanborn Company, No. 29, Sanborn Bldg., Eagle River, Wisconsin.

CUT-OVER Clay loam land in Presque Isle County's Clover Seed Belt. Ten per cent cash, balance payable with yearly clover seed crops. The cash payment loaned to settler for live stock on long time, 6 per cent. John G. Krauth, Millersburg, Mich.

Homeseekers Chance 40+ acres rich farm land. Central Michigan. \$800 with \$100 or more down. Balance 10 years. Roads, railroads and cities established. See us before buying. Stalford Brothers, 15 Merrill Bldg, W.S. Saginaw, Mich.

CENTRAL WISCONSIN FARMS and cutover lands. Silt loam, clay subsoil. No sand or swamps. A wonderful clover section. Prices very reasonable. Write for list. OWEN REALTY CO., Owen, Wis.

Farms and Homes in Delaware where the lands productive and prices reasonable. Pleasant climate, State Board of Agriculture, Dover, Del.

For Sale One of the best farms. 3 miles south of M. A. C. 122 A. with good buildings. \$152 per acre. S. W. HEMPHY, R. 7, Lansing, Mich.

FARMS Poultry, truck, stock, and grain farms cheap. FIGGS & NOCK, Salisbury, Md.

Additional Farm Ads. on Page 493

BREEDERS' DIRECTORY

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

THE HOME OF

Imp. Edgar of Dalmeny

Probably
The World's Greatest
Breeding Bull

Blue Bell, Supreme Champion at the Smithfield Show 1919, and the Birmingham Show 1920, is a daughter of Edgar of Dalmeny.

The Junior Champion Bull, Junior Champion Female, Champion Calf Herd and First Prize Junior Heifer Calf, Michigan State Fair, 1920, were also the get of Edgar of Dalmeny.

A very choice lot of young bulls—sired by Edgar of Dalmeny are, at this time, offered for sale.

Send for Illustrated Catalogue.

WILDWOOD FARMS

ORION, MICHIGAN

W. E. SCRIPPS, Prop.

Sidney Smith, Supt.

For Sale

Woodcote Trojan-Ericas

We are offering ten cows bred to either IMP. ELCHO OF HARVESTOWN, or IMP. EDGAR OF DALMENY

Write for our 1921 BULL SALE LIST

Woodcote Stock Farm, Ionia, Mich.

REGISTERED Aberdeen-Angus. Ten heifers, six bulls from eight to fourteen months. Best of breeding, the growthy kind that make good. Reasonable. Inquire F. J. WILBER, Clio, Mich.

CLOVERLY ANGUS

Cows and Heifers Bred to

Blackcap Brandon of Woodcote 2nd

GEO. HATHAWAY & SON, Ovid, Mich.

Reg. Aberdeen Angus bulls and heifers from 6 to 18 mos. old of the very best of breeding, also Berkshire Swine, boars ready for service and pigs both sex singles, pairs or trios, will accept Liberty Bonds.

RUSSELL BROTHERS, Merrill, Mich.

Registered Bull

ready for immediate service \$100.
J. M. WILLIAMS, North Adams, Mich.

GUERNSEYS

Bull calves for sale. Sired by Anton's May King that sold for \$7,000. Farmers prices and guaranteed to please. GILMORE BROTHERS, Camden, Mich.

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

Guernsey Bulls of May Rose Breeding. Their dams have records 420 to 650 lbs. fat also a few cows and heifers are offered.
H. W. WIGMAN, Lansing, Mich.

FEDERAL Inspected Guernsey Bulls. Priced to sell. Nine sold in 10 mos. A fine Masher Sequel 3 yrs. old, sure, sound and right \$175.00. Four grandsons of Ex-Champion A. A. cow under 8 mos. old from cows on test.
G. W. & H. G. RAY, Albion, Mich.

GUERNSEY Bull, two years old, dam from imported May Rose stock, sire's dam 711 fat, sire's sire Langwater Hambro.
M. HOMPE, R. 5, Grand Rapids, Mich.

Guernsey Bull calf, six months old, his nearest females average 702 fat. Dam untested. Sire grandson of Murne Cowan.
M. HOMPE, R. 5, Grand Rapids, Mich.

Wanted to buy 6 grade Guernsey cows between 4 and 7 years old, subject to 60 day retest, must be A No. 1.
The Meadows, G.E. Emstrom, Mgr. Ann Arbor, Mich.

For Sale Six registered Guernsey bulls May Rose breeding ready for service. Cheap if taken soon.
John Ebels, R. 2, Holland, Mich.

Reg. Guernsey bulls for sale cheap. State T.B. tested and from good producing and A.R. cows. Age 1 to 12 mo.
C. E. Lambert & Sons, Linwood, Mich.

FOR SALE Guernsey bulls, old enough for light service.
L. J. BYERS, Coldwater, Michigan

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

Holstein Friesian heifer and bull calves, purebred registered and high-grade. Price \$20 up. Splendid individuals and breeding. Write us your requirements.
Browncroft Farms, McGraw, N. Y.

\$175 buys reg. Holstein heifer 2 yr. old. Fresh soon. Sire by Prince Komdyke "hanna". A 31.66 lb. bull. Bred to 28 lb. bull. B. B. Reavey, Akron, Mich.

Reg. Holstein Bull Calf \$60 Reg. and Del. Born in Dec.
J. R. HICKS, St. Johns, Mich.

NOTICE

The Winwood Herd

on Nov. 1st will move their Herd of Pure Blood Holsteins to their new home, 1 1/2 miles south of Rochester, Mich. and for the next 30 days we will sell what bull calves we have cheap as we will be unable to get our buildings complete before winter. So get busy if you want a son of Flint Maplecrest Boy at your own price.

JOHN H. WINN, (Inc.)
Roscommon, Michigan



HOLSTEIN CATTLE

H. R. Boomer, New Plymouth, Idaho, writes:

"I engaged in breeding purebred Holsteins because this is a natural dairy country, and because Holsteins are the largest producers, according to the Advanced Registry records of the various breed associations. Long ago I noticed that whenever a cow did something worth publishing it was usually a Holstein cow."

The Holstein-Friesian Association of America
164 American Bldg., Brattleboro, Vermont

O. I. C. HOGS

all ages sired by Callaway Edd 1918 world's grand champ. boar and C. C. Schoolmaster 1919 world's grand champion also Wonder Big Type and Giant Buster. Write your wants, all stock shipped on approval.

CRANDELL'S PRIZE HOGS,

Cass City, Mich.

THE PONTIAC HERD

"Where the Champions Come From"

Offer special prices for 60 days to Michigan dairymen on bull calves from tested dams, sired by Sir Clothilde Concordia or Flint Hengerveld Lad. Send for extended pedigrees and prices.

Pontiac State Hospital

Pontiac, Mich.

Several New Milch Cows with calves at side. Holstein and Jersey. Appy Gotfredson Land Company, Ypsilanti, Michigan
Mr. L. H. Leonard, Manager. Telephone 749F13

Holstein or Guernsey calves, practically pure, 7 weeks old, \$25.00 each, crated for shipment anywhere. Satisfaction guaranteed. Bonds Accepted.
Edgewood Farms, Whitewater, Wis.

For Sale. Three reg. Holstein bulls, ready for service, well bred and good color. Prices in reach.
WM. BRINKMAN, Fairgrove, Mich.

Four Handsome Daughters

of the 34 lb. show bull "Judge Joh. Lyons" and out of A. R. O. cows all for \$1200.

Also bull calves from the same sire from \$50 up.

Bulls ready for service from \$100 up.

SINDLINGER BROTHERS
Lake Odessa, Mich.

USE PURE-BRED SIRE!

Estimates furnished by the Dairy Division of the United States Department of Agriculture show that the dairy cows of the country average only 4,500 lbs. of milk per year.

A good Holstein bull will increase the production of the ordinary herd 0 per cent in the first generation.

Let us help you find a good one to use on your herd. You cannot make a better investment.

The Michigan Holstein-Friesian Association

H. W. NORTON, Jr., Field Secretary,
Old State Block, Lansing, Michigan

33.60 lbs. butter average of gddams of 8 mo. old cost of service. Liberty Bond or note.
M. L. McLAULIN, Redford, Mich.

The Traverse Herd

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

TRAVERSE CITY STATE HOSPITAL
Traverse City, Mich.

"Top Notch" Holsteins

Buy a "milk" Bull of Quality from the Breeders of the world's only cow to produce 800 lbs. milk in 7 days, having an 800 lb. daughter.

Our herd is rich in the blood of Colantha 4th Johanna, the only cow that ever held all world's records in every division from one day to one year at the same time. She produced 651.70 lbs. milk in 7 days. We are offering for sale a bull, whose dam exceeds this record by over 7 1/2 lbs. in 7 days.

His dam's records are—
Milk 1 Day 100.1 lbs.
Butter 7 Days 659.3 lbs.
Butter 7 Days 26.31 lbs.

His name is KING VALE CORNUCOPIA WAYNE, No. 312599

Born February 6, 1920

His dam and sire's two nearest dams average

Butter 7 Days 33.02 lbs.

Milk 7 Days 607.3 lbs.

Handsomely marked about one third white.

\$250.00 f. o. b. Howell.

McPHERSON FARMS CO., Howell, Mich.

All herds under U. S. Supervision.

Cluny Stock Farm

Offers

Cluny Konigen Colantha Silver 326205

Born May 29, 1920

A white bull with a few black spots.

His sire a 30 lb. son of King Segis Pontiac Konigen.

Sire's 7 nearest dams average 32,301 lbs. butter 624.1 lbs. milk in 7 days.

His dam has a Jr. 3 year old record of 17,683 lbs. butter from 418.7 lb. milk and is a granddaughter of Colantha Johanna Lad.

2nd dam—a 21 lb. cow that our barn records show milked over 145,000 lbs. in 14 milking periods producing 15 calves.

Pedigree on application.
Price \$250.00. Federal Accredited Heard.

R. Bruce McPherson, Howell, Mich.

Reg. Holstein Friesian cows will sell one or more. Segis and Pontiac breeding bred right and priced right from two to six yrs. old come and see them or write. HENRY S. ROHLFS, R. 1, Akron, Mich.

A Proven Blood Line

KING SEGIS transmitted to his sons the power to transmit to their daughters the greatest of production over long periods. It is his offspring that has recently made the greatest yearly production ever dreamed of 37,381.4 pounds of milk in a year.

We have for sale at moderate prices. Beautiful individuals of show type KING SEGIS bulls.

GRAND RIVER STOCK FARMS

315 N. East Ave., Corey J. Spencer, Owner Jackson, Mich.

Under State and Federal Supervision

WANTED Reg. Holstein Females. Send full particulars and price. Address Box K-326 care Michigan Farmer, Detroit, Mich.

HEREFORDS

Cows with calves at side, open or bred heifers of popular breeding for sale. Also bulls not related.

Allen Bros. Paw Paw, Mich.

616 So. Westnadge Ave.,
Kalamazoo, Michigan

HEREFORDS

Two high class, registered bulls, nearly a year old, for sale. One double standard, and one with horns, good size, color, and markings. Both the making of show bulls.

COLE & GARDNER,
HUDSON, MICH.

BUTTER BRED JERSEY BULLS
CRYSTAL SPRING STOCK FARM,
Silver Creek, Allegan County, Michigan.

The Wildwood Farm
Jersey Cattle, Majesty strain. Herd on State accredited list. R. of M. testing constantly done. Bulls for sale. ALVIN BALDEN, Phone 143-5, Capac, Mich.

JERSEY BULLS Ready for Service. Raleigh—Oxford and—Majesty breeding. Meadowland Farm, Waterman & Waterman, Packard Rd., Ann Arbor, Mich.

Lillie Farmstead Jerseys Bull calves from COLON C. LILLIE, Coopersville, Mich.

Jersey bulls for sale: From Marguerite's Premier a grandson of Pogue 99th and R. of M. dams SMITH & PARKER, R. 4, Howell, Mich.

Meridale Interested Owl No. 11311 heads my herd bull calves from this great sire and out of R. of M. dams for sale. Leon E. Laws, R. 6, Allegan, Mich.

Registered Jersey Bulls ready for service from R. B. FOWLER, Hartford, Mich.

Again the Jersey Cow Proves Her Superiority as an Economical Producer of Butter

In a five year survey just completed at the Nebraska Agr'l College the Jersey produces a pound of butter cheaper than any of the other dairy breeds. Five breeds were represented; thirty Jerseys, twenty Holsteins, six Guernseys, seven Ayrshires, five Shorthorns.

The Jerseys required 9.91 lbs. hay, 16.16 lbs. silage, 8.69 lbs. concentrates for each pound of butter produced. Her nearest competitor required 13.86 lbs. hay 19.16 lbs. silage, 10.09 lbs. concentrates, for each lb. of butter. Nearly 4 lbs. more hay, 3 lbs. more silage, 1.4 lbs. more concentrates for each pound of butter than the Jersey required.

At present prices of feeds in Mich. Jerseys produced a pound of butter 6.5 cents a pound cheaper than nearest competitor, 7.7 cents cheaper than second nearest, 9 cents cheaper than third nearest and 20 cents cheaper than fourth nearest competitor.

Jerseys produced one pound of butter for 29.7 cents cost of feeds based on present Mich. prices. Think, Act.

Registered Shorthorns. Bulls and heifers. prices within reach of all.
G. R. DeSHETLER, R. 4, Tecumseh, Mich.

BIDWELL SHORTHORNS

BUY A BULL

that will put weight on your dairy calves—the difference will soon pay for the bull. Now selling good Scotch and Scotch-topped yearlings, reasonably priced. We guarantee every animal to be a breeder. Federal Test. One hour from Toledo, Ohio, N. Y. C. R. R.

BIDWELL STOCK FARM,
Box D, Tecumseh, Michigan

Milking Shorthorns, bulls and heifers 5 mo. to 1 year old for sale at reduced prices to make room for younger stock. E. H. KURTZ, Mason, Mich.

Stop! Look! Listen!

Have you a catalog of the Shorthorn Sale to be held at M. A. C. Feb. 25th at 1 P. M. We are listing four valuable females and two show bulls.

Richland Farms,
C. H. Prescott & Sons, Tawas City, Mich.

The Maple's Shorthorns

Kirklevington Lad, by Imp. Hartford Welfare, in service. Stock for sale.

J. V. WISE, Gobleville, Mich.

One Yearling Shorthorn Bull calf registered, for \$125. M. G. MOSHER & SONS, Osseo, Mich.

MEADOW HILLS—Shorthorns. Herd headed by Silver King, full brother of Lavender Sultan Purdue University's great sire. For sale females of all ages, a few young bulls. Geo. D. Doster, Doster, Mich.

Branch County Farm
Breeders of

Polled Shorthorn Cattle

Young Bulls For Sale
Several well bred herd bull prospects.
GEO. E. BURDICK, Mgr., Coldwater, Mich.

We now have
FIVE BRED HEIFERS

that we will sell cheap if taken at once. Inquire about them or better come and see them.
CARR BROS. & CO., Bad Axe, Mich.

VALLEY VIEW FARMS
Choice young Shorthorn cows and heifers for sale at all times, bred or open, or a carload, also a few young bulls strong in Sultan Blood. Write
S. H. PANGBORN & SON, Bad Axe, Mich.

Central Michigan Shorthorn Breeders Association offer for sale 75 head; Both milk and beef breeding; all ages. New list ready Jan. 15.
M. E. MILLER, Sec., Greenville, Mich.

Reg. Red Polled cattle choice young bulls from 6 to 18 mo. old for sale.
FRANK KEBLER, R. 1, Grand Ledge, Mich.

Shorthorns. Bull calves for sale from the best milking blood obtainable.
ROSEMARY FARMS, Williamston, Mich.

Reg. Red Polled bull calves, from 3 mos. to 1 year old, sired by Famous Charming, 7/8 same blood as Charming 1919 International Grand Champion. Our herd State and Federal tested. Westbrook Bros., Ionia, Mich.

Dutch Be'ted Cattle Registered pure bred stock
Z. VELDHUIS, 3723 Maxwell, Detroit, Mich.

HOGS

Berkshire Bred Sows and Gilts \$50 and up, for April. May and June farrow. Have a few good fall pigs at reasonable prices for sale.
M. G. MOSHER & SONS, Osseo, Mich.

Buy Pigs Now Registered Duroc pigs crated and delivered to express station for \$20 each. Either sex or can furnish ones unrelated to each other. These are late fall pigs sired by State Fair winners and weighing over 100 lbs. Write for particulars. Michigan Farm Ltd., Pavilion, Mich.

DUROC JERSEYS

Bred gilts, service boars and fall boar pigs at Bargain prices. Your correspondence or personal inspection is cordially invited.
RUSH BROS., Oakwood Farm, Romeo, Mich.

Duroc Boars at bargain prices large growthy hogs 15 months old at \$60. Will send C. O. D. and register in the buyers name. Orders booked for Apr. pigs to deliver June 1st.
W. E. Bartley, Alma, Mich.

Write Me at once I have just what you want heavy bone registered Duroc Jersey boars ready for service.
W. H. MAYES, L. B. 505, Durand, Mich.

A FEW CHOICE Duroc fall boars for sale.
MATT MATTHYSSE, R. 3, Byron Center, Mich.

DUROC Jerseys. Boars for spring service, heavy boned type, from the most popular blood lines at reasonable prices. Partridge Rock eggs from best laying strain \$2 per 15. Drott & Berns, Monroe, Mich.

GOMBAULT'S CAUSTIC BALSAM

The Perfect Liniment

For External Use on
The Human Body

It is astonishing how quickly Caustic Balsam relieves Stiffness and Lameness, Rheumatism, Neuralgia, Strains, Sprains, Lumbago, Backache, Sore Throat, Chest Cold, Stiff Joints, etc.

Serious results through Blood Poisoning are liable from scratches, cuts or wounds from rusty nails or other metal. This great remedy applied at once will prove a preventive, is a perfect antiseptic, soothes while it heals. *What it has done for others it will do for you.*

Write us for any information desired. \$1.75 per bottle at druggists or sent parcel post on receipt of price.

THE LAWRENCE-WILLIAMS CO.
Cleveland, Ohio

HOGS



Spring pigs by Walt's Orion, First Sr. Yearling Detroit, Jackson, Gd. Rapids and Saginaw 1919
Phillips Bros, Riga, Mich.

Brookwater Duroc Jerseys

BOARS—Ready for Service

Bred Sows and Gilts

Write us for Prices and Pedigrees. Mail orders a Specialty. Satisfaction guaranteed.
BROOKWATER FARM, Ann Arbor, Mich.
H. W. Mumford, Owner J. B. Andrews, Mgr.

DUROC SOWS and gilts bred to Jacks Cherry Orion King No. 169259 Son of the \$10,000 boar owned by Longview Farm, Le Summit, Mo. also young boars ready for service out of good sows. Apply
THE JENNINGS FARM, Bailey, Mich.

Duroc Jersey Sows and Gilts bred for March, April, May farrow. Also a few spring boars. Best of blood lines and splendid individuals. Satisfaction guaranteed. Write for pedigree and prices, or better come and see, visitors welcome. Thos. Underhill & Son, Salem, Mich.

A FEW CHOICE Bred gilts for sale.
Carey U. Edmonds, Hastings, Mich.

DUROCS Bred sows all sold. A few choice fall boars for sale.
W. C. TAYLOR, Milan, Mich.

Duroc Jerseys Am booking orders for spring pigs. Few fall gilts.
E. D. HEYDENBERG, Wayland, Mich.

O. I. C. Swine Strictly Big Type with quality. A few gilts bred for last of April, and May farrow. A few Sept. and Oct. fall pigs either sex. Extra good ones. Of our State Fair prize winning blood lines. Will ship C. O. D. and record them free. **NEWMAN'S STOCK FARM, R. 1, Marlette, Mich.**

O. I. C. Gilts bred for April and May farrow. Shipped C. O. D.
H. W. MANN, Dansville, Mich.

O. I. C.'s Choice gilts for April and May farrow, also fall pigs. Booking orders for spring pigs.
A. J. BARKER & SON, Belmont, Mich.

We Are Offering at special low prices some of our choice O. I. C. fall pigs sired by State Fair winners.
WEBER BROS., Phone 408, Royal Oak, Mich.

O. I. C.'s Big Type Gilts, bred for Mar. and April farrow. Boars all ages. Write me for prices.
G. P. ANDREWS, Mason, Mich.

O. I. C.'s 8 last spring gilts due to farrow in Mar. and Apr. some tried sows service boars, and last fall pigs, not akin, big growthy stock. Registered free. Citz. Phone 124, Otto E. Schulze, Nashville, Mich.

O. I. C.'s 2 sows for May farrow. Orders booked for March pigs.
C. J. THOMPSON, Rockford, Mich.

Central Mich. O. I. C. Swine Breeders Ass'n.

Hogs of all ages of popular blood lines. Every sale guaranteed by association.

DR. H. W. NOBLES,
Sales Mgr. Coral, Mich.

Raise Chester Whites

Like This
the original big producers



I HAVE started thousands of breeders on the road to success. I can help you. I want to place one hog from my great herd in every community where I am not already represented by these fine early developers—ready for market at my months old. Write for my plan—More Money from Hogs.
G. A. BENJAMIN, R. F. D. 10, Portland, Michigan

Veterinary.

CONDUCTED BY DR. W. C. FAIR.

Advice through this column is given free to our subscribers. Letters should state fully the history and symptoms of each case and give name and address of the writer. Initials only are published. When a reply by mail is requested the service becomes private practice and \$1 must be enclosed.

Puffy Hock Joint.—Have a colt ten months old that is troubled with bog spavin and thoroughpin, but has never been lame. B. E. H., Vermontville, Mich.—Apply equal parts tincture of iodine and spirits of camphor daily.

Wheezing.—Can you give me a remedy for wheezing? When standing still this horse breathes without making any noise, but when exerted he makes a wheezing sound. E. H., Tennyville, Mich.—An obstruction in upper air passage is causing this noise, but by driving him with independent bit and over-check he will breathe free and perhaps make no noise. Giving or applying drugs will be wasting money for they will have no beneficial effect. A surgical operation might relieve him.

Emaciated Cow.—I have a cow three years old; came fresh January 1, eats well, gives nice mess of milk, but she is very thin and fails to come in heat. C. W. P., Milford, Mich.—Give her one dram of ground nux vomica and a teaspoonful of ginger in ground grain two or three times a day. As soon as she is properly nourished and warm weather sets in she will come in heat.

Abnormal Appetite.—Our heifer, ten months old, is inclined to eat the kind of food she should not eat, but refuses to eat food of good quality. J. S., Spring Lake, Mich.—She has a depraved appetite. Feed her clover and plenty of roots, also let her have grass as soon as it grows. Give her a dessert-spoonful of powdered gentian and two tablespoonfuls of powdered wood charcoal in ground feed two or three times a day. Don't forget to let her have salt.

Barrenness.—Heifer two years old comes in heat every three weeks; is bred, but fails to get with calf. H. A. P., Applegate, Mich.—Doubtless she is barren and should be sold for beef.

Scours.—Please tell me what is good for a calf that has scours, caused from being fed sweet separator milk. F. S., Comstock Park, Mich.—Give calf five grains of salol at a dose three times a day.

Feeding Soy-beans.—For cow feed I have corn, oats, soy beans, silage, and mixed hay, but would like to know how to mix the beans with the other feed. C. D., Cassopolis, Mich.—Grinding equal parts by weight of corn, oats and soy beans and adding one-quarter weight of wheat bran will make a fairly good feed for dairy cows.

Sunflower.—A year ago my neighbor had three acres of sunflowers and corn together. I helped put it in silo. He fed it to cows, one died at calving time. He laid it to the sunflower silage. He said it weakened their kidneys. They were fed marsh hay, straw and silage. Were the sunflowers to blame? Does the sunflower affect the cows' kidneys? I. W., Lake City, Mich.—Nelanthus Annus (Sunflower) fed to cattle in quantity will have a mild action on the kidneys, but I do not believe it ever proves fatal. It has a good effect in air passage ailments in cattle.

Lame Shoats.—I have some shoats that will weigh about one hundred pounds each that are stiff. Some of them have trouble in getting up, others have bunches on hind legs. L. J. C., Owosso, Mich.—Feed less corn, more tankage, oil meal and roots. Keep the pigs dry and give them more exercise.

Psoroptic and Symbiotic Mange in Rabbits.—Several of my neighbors and myself keep rabbits, but for some time we have been troubled with a disease which starts in their ears and spreads over the body and the sores seem to dip deep into the inner ear. Whatever the disease is it causes the animal great annoyance and pain. What can be done for them? J. W., Jr., Bay City, Mich.—The ear flap and external ear should be cleaned by slowly dropping peroxide of hydrogen on the discharge and scabs, then apply sulphur ointment; later, dust on boric acid. Chronic mange in rabbits is very often incurable, or rather, it will not pay to treat them.

Unthrifty Horses.—I wish you would tell me what to do for two of our horses that are not thriving. We feed them some grain, hay and straw. J. J. D., Gagetown, Mich.—Mix equal parts of powdered sulphate of iron, powdered gentian, fenugreek and salt together. Give each horse a tablespoonful in feed two or three times daily.



This Trademark is Your Protection

Prevention plus Protection

Common sense keeps the thinking farmer alert to the unforeseen dangers of fire because he knows what havoc this demon plays each year. But this same farmer goes further than just taking every possible precaution against fire. He insists upon present-day inventories of his house, house-hold goods, barns and other buildings, to determine their values for basing full protection.

He knows that the average farmer is five miles from adequate fire protection and that, as a result, 98% of farm barn fires have proven total losses—losses that subject him to double the risk of the city owner.

You, no doubt, carry some fire insurance but do you actually know the present value of your buildings? Have you based your insurance accordingly?

Peninsular Protection

Peninsular policies have always interested business farmers and saved many of them from disastrous loss and remorse. These policies will protect you on a city property basis, with your buildings appraised according to location, condition and general improvement, and do not interfere with your other insurance.

Write our Farm Department today and learn all about the Peninsular Way. This will not obligate you and includes expert advice on CROP protection.

PENINSULAR

Fire Insurance Company

OF AMERICA

Capital \$1,000,000.00

GRAND RAPIDS,

COLON C. LILLIE,
President

MICHIGAN

J. FLOYD IRISH,
Sec'y and Managing Underwriter

55 REG. HOLSTEINS

T. B. Tested 60 Day Guarantee

Second Eaton County Consignment Sale. A 30 lb. cow and a 30 lb. yearling bull and many others with good records will be sold.

Thurs., Apr. 21st, 1921

Sale at 12 M.

Fair Grounds, Charlotte, Mich. 18 mi. from Lansing on G.T.R.R. 35 mi. from Jackson on M. C. R.R. For information and catalog, write.

A. N. Loucks, Sec'y.,

Charlotte, Mich.

Saginaw Valley Herd. Prize winning O. I. C's. Jan. and Feb. pigs, priced reasonably. J. Gibson, Fosters, Mich.

O. I. C.'s choice boars and spring pigs at farmers prices.
CLOVER LEAF STOCK FARM, Monroe, Mich.

Advanced Type P. C. Boar

"Buster" son of Giant Buster, 20 months old, a big out-standing, proven sire; very prepotent and right in every way. The best pure bred buy ever offered; a wonderful herd header.
G. S. EASTON, Buchanan, Michigan

Big Type Polands. Some very choice fall boars, ready for spring service for sale. They are sired by The Clansman; dam, the \$1025 Miss Columbia, a littermate to the \$40,000 The Yankee. Also a few choice boars by The Clansman, son of The Clansman.
WESLEY HILL, Ionia, Mich.

Big Type Polands. Bred sows all sold, but have some good herd boar prospects. Fall boars weighing 175 lbs. Sired by the Arctic. Call or write
PORUS HOVER, Akron, Mich.

P. C. Bred sows. Fall pigs singly or in pairs. Also S. C. Minorca cockerels all big type of the best of breeding. Satisfaction guar. R. W. Mills, Saline, Mich.

L. T. P. C.

70 head of Poland Chinas at private sale. Am offering spring boars from \$40 to \$50 and gilts the same price. Summer and fall pigs \$25 each. The first check will bring you the first choice. HART, FULCHER & CLINE, Address F. T. Hart, St. Louis, Mich.

Francisco Farm Poland Chinas

Offering a dozen choice gilts and a few tried sows bred to such boars as Michigan Mastodon and Michigan Clansman.
P. P. POPE, Mt. Pleasant, Mich.

L. S. P. C. a few choice boars at farmers prices. Bred gilts all sold. Also a grandson of The Clansman and Harrison Big Bob.
H. O. SWARTZ, Schoolcraft, Mich.

Big Type P. C. some very choice boars double imbrune, out 1100 lb. sire and mammoth sows from Iowa's greatest herds. E. J. Mathewson, Burr Oak, Mich.

Big Type Poland Chinas at lowest prices. Both sex, all ages, and bred.
G. A. BAUMGARDNER, R. 2, Middleville, Mich.

Large Type Poland Chinas. Nothing for sale at present.
A. A. FELDKAMP, R. 2, Manchester, Mich.

L. I. P. C. If you are looking for something good, in bred gilts at a right price. Write
W. J. HAGELSHAW, Augusta, Mich.

POLAND China Bred Sows and Gilts at bargain prices, also spring boars and fall pigs, either sex.
CLYDE FISHER, R. 3, St. Louis, Michigan

Leonard's Big Type P. C. Sows bred to weigh 175 lbs. Real herd boar prospects. Call or write. E. R. Leonard, R. 3, St. Louis, Mich.

PINE GROVE HAMPSHIRE

We are offering a few tried sows bred for March and April farrow. These sows are all closely related to our winning show herd and of popular blood lines, and the price! Way Down!
Geo. Coupar & Sons, Marlette, Mich.

Hampshires Bred gilts all sold. Spring and fall boar pigs at a bargain.
JOHN W. SNYDER, R. 4, St. Johns, Mich.

SHEEP.

Wool-Mutton Shropshire Rams. Good strong individuals, royally bred, priced right. A. H. FOSTER, Allegan, Mich.

400 Breeding Ewes For Sale, with lambs by sides, mostly black faced.
ALMOND B. CHAPMAN, South Rockwood, Mich.

HORSES

Stallion for sale. Registered Percheron 10 yrs. old. Coal black, weight 1700 lbs., sound in every way, broke to work, sure stock getter.
Maplewood Farm, Elmira, Michigan.

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

LATEST MARKET REPORTS

GRAIN QUOTATIONS

Tuesday, April 5.

Wheat.

Detroit.—Cash No. 2 red \$1.48; May \$1.43; No. 2 white and No. 2 mixed \$1.46.

Chicago.—No. 2 red \$1.46½@1.50; May \$1.36¼.

Corn.

Detroit.—Cash No. 3 yellow 63c; No. 4 yellow 60c.

Chicago.—No. 2 yellow 59½c; No. 1 mixed 60½c.

Oats.

Detroit.—Cash No. 2 white 43c; No. 3 white 41½c; No. 4 white 38½c.

Chicago.—No. 2 white 37½@39¼c; No. 3 white 37@37¼c.

Beans.

Detroit.—Immediate and prompt are lower at \$3.35 per cwt.

Chicago.—Market is easy and lower. Hand-picked beans choice to fancy at \$4.25@4.50; red kidney beans \$8.50@9 per cwt.

New York.—Market is dull. Choice pea \$4.75; do medium at \$5.50; red kidney \$9.50.

Rye.

Detroit.—Cash No. 2 rye \$1.47.

Seeds.

Detroit.—Prime red clover, cash at \$12.25; April \$9.75; alsike \$14.25; timothy at \$3.00 per bushel.

Hay.

No. 1 timothy \$20@21; standard and light mixed \$19@20; No. 2 timothy \$18@19; No. 1 clover mixed \$17@18; No. 1 clover \$15@16; rye straw \$13@14; wheat and oat straw \$12@13 per ton in carlots at Detroit.

WHEAT

Wheat growers have been selling more freely during the past week apparently discouraged with the outlook. Speculative selling of coarse grains due to a similar change in belief has also been conspicuous and all grains have been carried down to new low figures on the crop. A slow demand for cash grain, excellent prospects for the new crop, and world-wide economic conditions were other adverse factors in the market. Cash wheat has held about 50 or 60 per cent higher than the pre-war average at this season as a result of its strong statistical position. Export sales during the past week were nearly 10,000,000 bushels as foreign buyers took advantage of the decline. Total sales abroad during March were not far from 25,000,000 bushels. Crop conditions are mostly favorable. Minneapolis mills continue to buy Canadian wheat freely and up to March 1 around 46,000,000 bushels of Canadian wheat had been imported into the United States since July 1. The visible supply in primary markets is extremely small for the season.

CORN

Prices for corn appear very close to rock bottom levels. When high freights are subtracted present values leave so little for the grower that there is less disposition to sell than in the case of wheat. Demand shows signs of increasing but both feeders and industrial users are buying less than usual at this season in recent years. Export buying is of small volume.

OATS

With the reopening of navigation Canadian oats are being offered at prices below the market in this country and have been responsible for a marked weakness in that cereal. Although the freeze a week ago caused some injury to oats in the more southern sections, crop conditions on the whole are favorable. The south will increase oat production as a result of the strong efforts being made by banks to reduce the cotton acreage and bring about an upturn in the price of old cotton on hand.

FEEDS

Mill feeds declined throughout the past week, bran falling to \$17 a ton wholesale at Minneapolis and Kansas City. Minneapolis middlings reached \$16, a new low for the season. The availability of grass and an increase in the operation of flour mills were factors. Oil meal and cottonseed meal are quoted relatively higher than cereal by-products.

SEEDS

The spring demand for clover seed is declining except from the northern third of the country and prices have

been easier during the past week. Another large importation of red clover seed has been reported. Timothy trade is dull, with prices showing but little change. Prices are as follows: Toledo.—Per bushel, prime red clover \$12; prime alsike clover \$14.15; 1919 prime timothy \$2.50; 1920 prime timothy \$2.65. Chicago.—Per 100 pounds, clover \$12@16; timothy \$4@5.50.

WOOL

Wool markets fluctuate largely with changes in the prospect for the passage of the tariff. During the past week the chance of an early tariff was less encouraging and wool buyers purchased less heavily than during the preceding week when a tariff measure of some kind seemed imminent. In spite of this influence upon buyers it is not to be expected that the tariff will bring about a high level of prices in the immediate future. The total supply in the country is large and imports of wool and tops since January 1 at Boston are reported equal to 167,000,000 pounds of grease wool and large entries have also been made at New York, Seattle, Philadelphia and San Francisco. Consumption during January and February, 1921, totaled 60,000,000 pounds, compared with 136,000,000 during the same two months a year ago when manufacturing was at its height. Prices show little change for the week. The Boston market is quoted as follows: Michigan and New York fleeces: Delaine unwashed 36@

38c; fine unwashed 30@31c; one-half blood unwashed 31@32c; three-eighths blood unwashed 28@29c. Ohio and Pennsylvania fleeces: Delaine unwashed 38@40c; fine unwashed 32@33c; one-half blood combing 32@34c; three-eighths blood combing 29@30c.

POTATOES

Potato markets have been comparatively stable during the past week under normal shipments. Some points displayed weakness because of heavy local supplies which were not moving readily. Prices are quoted as follows on Northern Round Whites, U. S. Grade No. 1: Chicago \$1@1.20 per 100 lbs; Philadelphia \$1.10@1.25 per 100 lbs; Pittsburgh \$1.85@1.90 per 150 lbs; Minneapolis and St. Paul 95c@1.05 per 100 lbs.

HAY

Hay markets have reflected the decrease in demand due to the rise of grass, especially in the southern half of the country. The south is buying much less than usual during the cotton planting season. Receipts are light and include a large percentage of low grades.

BUTTER

The influence of Danish butter arrivals was discounted in advance and the trend of markets was higher after this butter actually arrived. Consumptive demand is broad and is limited to fresh butter, stocks of which were

fairly well cleaned up during the preceding week. The volume of production is gradually increasing but a temporary shortage period very often develops around this time of the year. No new Danish butter shipments have been reported and the shortage in distributing markets is unusually acute, but the condition is not expected to last more than a week or two. Prices for 92-score fresh butter as quoted by the bureau of markets April 2 were: Chicago 47c; New York 49½c; Boston 50c; Philadelphia 50½c.

EGGS AND POULTRY

Receipts of eggs at all markets are much heavier than in previous years at this season and there is some fear that unduly large reserves may be accumulated, but it seems reasonable to anticipate, however, that the spring period of heavy production will wane earlier than usual. Low prices for eggs have discouraged producers and hens are being marketed more rapidly than usual. Quotations at Detroit are as follows: Eggs, fresh current receipts 25c. Live poultry, spring chickens 32@33c; heavy hens 32@34c; roosters 20c; geese 20@27c; ducks at 35@40c; turkeys 40@45c.

NEWS OF THE WEEK.

(Continued from page 464).

planes was announced by the war department.—Chilean editor says American goods are poor, badly packed and prices high.—Madam Adrienne Bolland, French air woman, is the first of her sex to cross the Alps in a plane.—The Ionia County Farm Bureau reports that farm labor will be scarce this summer.—Ten are lost in crash between steamers West Hartland and Governor, off Point Wilson, Washington; the latter steamer was sunk.

Sunday, April 3.

REPRESENTATIVES of the American Legion accepted the \$221,000 remaining in the Michigan patriotic rendered homeless by a fire in Manila; 3,000 houses were destroyed.—For la; 3,000 houses were destroyed.—For the second time a group of Detroit Russians has finished a special tractor course at M. A. C., with the idea of helping their native country agriculturally.—Great numbers of the laboring classes of both England and France want to emigrate to the United States, but lack money to do so.—Both freight and passenger rates on the lakes will be lower this year, according to the manager of the Graham & Morton Steamship Company.

Monday, April 4.

FORMER Emperor Charles of Hungary leaves Steinamanger for Switzerland.—Ex-soldiers make plea for bonus by a large parade in Detroit on Saturday.—French Premier Viviana has abandoned hope of the United States ratifying the Versailles peace treaty; he expects America to make separate peace with Germany.—Thousands of Russians are leaving the United States by way of Detroit; it is thought that they are leaving to either help or oppose the Bolshevik government.—United States Steel Company denies published reports of wage cuts.—President Harding calls railway union heads for conference on railroad problems.

Tuesday, April 5.

RUSSIA pledges her armies against Allies and Greece if those powers attacks the Turks.—American army of occupation in Germany will not be reduced until July 1.—Republicans capture state offices, with light voting reported.—Five executions end Gardenas Brothers' revolt in Mexico.—Sunday was a record-breaker for this time of the year, when the thermometer registered 75 degrees. The previous high mark was on April 3, 1892, when the 72 degree mark was reached.—Five million dollars have been sent from this country for relief of the starving in China.

COMING LIVE STOCK SALES.

Holsteins.—April 21, Eaton County Consignment Sale, A. N. Loucks, Secretary, Charlotte, Mich.
Guernseys.—May 10, F. E. Fox, Sales Manager, Eau Claire, Mich.
Holsteins.—May 18, F. J. Fishbeck, Howell, Mich.

Live Stock Market Service

Wednesday, April 6.

DETROIT

Cattle.

Receipts 716. Canners and bulls are steady; other grades 25@50c lower. Best heavy steers \$ 8.75@ 9.25
Best handy wt bu steers 8.00@ 8.50
Mixed steers and heifers 7.00@ 8.00
Butchers 6.00@ 6.50
Best cows 6.25@ 6.50
Butcher cows 4.50@ 5.75
Common cows 3.00@ 3.75
Canners 2.50@ 3.00
Best light weight bulls.. 4.75@ 5.50
Bologna bulls 4.50@ 4.75
Stock bulls 7.00@ 7.50
Feeders 6.00@ 6.75
Stockers 45@ 95
Milkers and springers.. \$ 45@ 95

Veal Calves.

Receipts 574. Market opened steady and closing lower. Best \$10.00@11.00
Culls and common 5.00@ 8.00

Hogs.

Receipts 2,238. Market dull. Mixed \$ 9.75@10.00
Pigs 10.50@10.75
Heavy 8.75@ 9.00

Sheep and Lambs.

Receipts 569. Market 25@50c higher. Quotations are for clipped stock. Best lambs \$ 8.50@ 9.00
Fair lambs 6.50@ 8.00
Light to common 5.00@ 6.50
Clipped lambs 7.50@ 8.50
Fair to good sheep..... 4.00@ 4.50
Culls and common 1.50@ 3.00

BUFFALO

Heavy hogs are selling today at \$10 @10.25; mixed \$10.75@11; yorkers at \$11@11.35; pigs \$11.50@11.75; lambs \$11; calves \$12.

CHICAGO

Hogs.

Estimated receipts today are 16,000; holdover 3,413. Market active, mostly

steady. Bulk of sales \$8.75@10; tops \$10.20; heavy 250 lbs up medium, good and choice \$8.80@9.25; medium 200 to 250 lbs medium, good and choice \$9.15 @9.90; light 150 to 200 lbs common, medium, good and choice \$9.75@10.20; light lights 130 to 150 lbs common, medium, good and choice \$9.85@10.20; heavy packing sows 250 lbs up smooth \$7.75@8.75; packing sows 200 lbs up rough \$7.50@7.75; pigs 130 lbs down medium, good and choice \$9.50@10.20.

Cattle.

Estimated receipts today are 12,000. Market slow and unevenly lower. Beef steers medium and heavy weight 1100 lbs up choice and prime \$9.35@9.90; do medium and good \$8@9.35; do common \$7.25@8; light weight 1100 lbs down good and choice \$8.90@9.75; do common and medium \$7@8.90; butcher cattle heifers, common, medium, good and choice \$5.25@9; cows common, medium, good and choice at \$4.75@8; bulls bologna and beef \$4@6.75; canners and cutters cows and heifers at \$2.50@4.75; do canner steers \$3.25@5; veal calves light and handyweight medium, good and choice \$7@9.50; feeder steers common, medium, good and choice \$7.25@9; stocker steers common, medium, good and choice at \$6@8.40; stocker cows and heifers common, medium, good and choice \$4.50 @6.25.

Sheep and Lambs.

Estimated receipts today are 17,000. Market steady. Lambs 84 lbs down, medium, good, choice and prime \$8.75 @10; do 85 lbs up medium, good, choice and prime \$7.75@9.75; do culls and common \$7@8.25; spring lambs, medium, good, choice and prime \$7.25 @9; ewes medium, good and choice at \$5@6.75; ewes cull and common \$2@4.50; yearling wethers medium, good and choice \$7.50@8.75.

Little Journeys to the Market

Milkers and Springers.

MILKERS and springers constitute a market class on most of the live stock markets but they are especially prominent at South St. Paul. Minnesota dairymen buy large cows usually carrying considerable flesh and already in milk known as "Milkers;" or cows due to freshen soon which are known as "springers," and take them to their farms, where they are milked as long as they are producing heavily and then returned to market. The same practice is followed to some extent by eastern dairymen. Sometimes cows showing considerable dairy breeding are also used in this way. Springers are divided into two groups, one known as "forward" springers and the other, known as "backward" springers.

MARKET OUTLOOK FOR MICHIGAN'S POTATO HOLDINGS.

WITH an estimated crop of 38,000,000 bushels for 1920, or an increase of twenty-five per cent in production from 1919, the potato crop from Michigan until the middle of March were 7,800 cars compared with 7,300 cars to the corresponding time last year. Recent shipments have continued light at about thirty-five cars per day in spite of the fact that the market strengthened during the first part of the month.

Stocks in the hands of shippers are much smaller than at the same date during past seasons. The roads have been in poor condition and often prevented heavy hauling by growers. Continued holding by producers has been the feature of the season, and no doubt has been the principal reason for the small number of cars shipped recently.

While remaining stocks of potatoes in Michigan are considered to be considerably in excess of holdings a year ago, it is the general opinion of those in touch with the potato deal that the shipping season will be extended this year through June, or four to six weeks longer than usual, and that the late market demand this year will be more stable than for some years past. It is pointed out that Florida shipments will be lighter than last year, and that with barrels for Florida potatoes costing one dollar each and with freight rates from southern producing sections to Ohio Valley points and points north, increased about one-third over last year's rate, Michigan should be able to compete with the new southern crop on a more favorable basis and for a longer time this spring than for several years.

THE CONDENSED MILK MARKET.

THE month of March witnessed a marked revival of interest in the condensed and evaporated milk industry. The one encouraging feature to the milk producer was the opening of more of the plants that had been temporarily closed. A report of the bureau of markets states that the number of plants reporting as being in operation in March was 211, as compared to 171 for February. The entire situation is more satisfactory than for several months as accumulated stocks have become materially reduced, unfilled orders are much more abundant and no factories are handling milk for patrons' accounts.

The improved condition in the market is due more to domestic demand than foreign orders. While some foreign orders are being booked to some extent, the demand is less than one-third of that of one year ago. Evaporated milk is more in demand in foreign countries than the sweetened varieties. Fully fifty per cent of the evaporated milk that is going abroad is received in Germany. Cuba was the heaviest user of condensed milk during the past two months of any foreign country.

Prices have changed very little during the past month. There is some tendency for sweetened varieties to sell higher because of higher sugar prices, bulk goods in particular being sold at advanced prices. Plain unsweetened condensed milk in bulk has shown a downward price tendency. On the contrary, prices of powdered skim-milk have advanced slightly.—L.

TO ORGANIZE HOLSTEIN BREEDERS' ASSOCIATION.

A MEETING for the purpose of organizing the Holstein breeders of Oakland and adjoining counties to better dispose of surplus stock and promote the general interests of the breeders, has been called for one o'clock, Monday, April 11, at Rochester, Michigan. Among the speakers will be Hon. D. D. Aitken, president of the National Holstein-Friesian Association. C. W. Melick, of Rochester, is secretary.

THE HORSE MARKET.

AS a result of the advanced season the spring demand for farm chunks which usually remains strong until late in April is already beginning to wane. Industrial demand for big horses for city use shows slight improvement and ice companies have been reported in the market at some points. Light horses, formerly going to the southern trade, and rough-haired kinds are a drug on the market. Prices quoted as follows: Chicago.—Good and choice heavy drafters \$200@300; common and medium drafters \$135@185; farm mares \$100@150; farm chunks \$125@175; wagon horses \$135@175.

DURING the past year County Agent Walker, of Marquette, established eighteen local farmers' organizations, five of which are incorporated under Act 171 of 1903, as is also the county bureau. The program of work of the bureau and its locals comprises live stock improvement, standardization and improvement of potatoes, which are an important crop in this county; standardization and improvement of grain crops; soil improvement, marketing, boys' and girls' clubs, farm economics and home betterment, with other activities as they arise. The year was closed with 553 farm bureau members in the county, which was eighty-six per cent of the farmers solicited.

Nearly all the farmers of the county, reports Mr. Walker, are growing Swedish Select oats and Oderbrucker barley. These oats, from report and observation, are considered the best variety under our conditions. Numbers of farmers have begun to treat oats for smut with excellent results. Mr. Walker does not take a favorable view of the county as a corn producer, and instead has promoted the growing of barley to the point where half the farmers are believed to have grown this crop last year. Red Rock wheat was tried by nine farmers for the first time, but success is related to early planting—as early as the first week in September, Mr. Walker states, and some others are known to place the planting date even earlier. Ten farmers planted Rosen rye, and its success here has already been proven. For silage in lieu of corn the growing of sunflowers has been encouraged, and five farmers grew sixteen acres last season, with yields running as high as twenty-one and a half tons per acre. Mr. Walker reports that every farmer who grew sunflowers is highly pleased with the results, both as to tonnage and feeding qualities. It is expected that the success of this new forage crop will greatly promote the erection of silos in the county.

Nearly all farmers of Marquette county have standardized on the Green Mountain potato, Mr. Walker reports. Five years of educational work has brought about much greater care on the part of many farmers in the selection and treatment of seed potatoes. Few farmers were growing clover hay in this county five years ago, Mr. Walker states, while most farmers are doing so now. The county agent has control over two five-acre demonstration plots in the county, upon which experimental work for four years has been carried on. During the past year, the dairy herds of the county have been improved by the addition of twenty pure-bred sires; twelve Guernsey, seven Holsteins and one Jersey. There were only five pure-bred bulis in the county five years ago, and sixty-six have been purchased by farmers of the county in the interval. A number of farmers have been persuaded to weigh their milk, and seventeen farmers were supplied with account-books.

The agent reports that the two farm loan associations of the county have loans approximating one hundred thousand dollars. All county-grown wheat is taken care of locally by a cooperative mill, which grinds barley and oats for feed.—C.

BEST KINDS Black Raspberry, 5,000; 2,000 \$28, 1000 \$15. Strawberry, 10,000 \$29. Best Red Currant, The New Pres. Wilder, \$1.95 dz. Grapevines, all colors, \$1.95 dz. Gobleville, Mich. Nurseries.

Wanted An experienced farmer and wife no children to work on modern dairy farm near Ann Arbor. Wife to assist with house work. Will appreciate a couple with Christian principles. Man must be a good horse man and must like to milk. Good wages to right party. Hour 4 a. m. to 6 p. m. G. E. EMSTROM, The Meadows, Ann Arbor, Mich.

Choice Strawberry Plants \$3.75 per 1,000 varieties at St. Guaranteed first class or money refunded. Catalog. EILENA WOOLF, Allegan, Mich.

HAY Apples, Potatoes Wanted Highest prices paid. E. L. RICHMOND CO., Detroit, Mich.



\$300 Prize Contest Closes April 15

We want you to write an advertisement for Hirth-Krause shoes. You know what kind of shoes they are. Shoes with a More Mileage Guarantee. Contest closes April 15. All replies must be in by midnight of that date. Write for free descriptive circular giving all the details.

\$300.00 in prizes for advertising letter; 1st prize \$100.00, 2nd \$25.00, 3rd \$10.00, next 33 prizes one \$5 pair of Hirth-Krause More Mileage Shoes.

Hirth-Krause
Shoemakers for three Generations
Shoes

Grand Rapids,

Michigan

Auto-Owners Ins. Co.



New Policies Issued

for years	
1916	338
1917	2,720
1918	5,443
1919	10,100
1920	17,873

GROWTH

Current Assets

at end of	
1916	\$173.76
1917	\$5,714.29
1918	\$7,832.79
1919	\$37,459.73
1920	\$104,039.42

Losses Paid During

1916	\$186.13
1917	\$2,157.50
1918	\$27,469.39
1919	\$52,583.61
1920	\$165,324.83

Holmes, Stowe Co., 2429 Riopelle St.

Commission Merchants. Dressed Beef, Hogs, calves, Poultry, Live & Dressed, Provisions, etc. Correspondence Solicited. Ref. Wayne County & Home Savings Bank. Bradstreet. Detroit, Mich. Cad. 2857

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

FARMS AND FARM LANDS

Choice Farm Lands

I have the best proposition on earth for the man who is tired of being a renter, of working for others or who desires a larger farm than he now owns.

I own lands in the famous clover seed belt near Onaway, choice heavy clay loam soil underlaid with limestone at \$10 to \$30 per acre.

The lands were beech and maple lands from which all of the timber has been removed.

A reasonable cash payment is required after which the clover and alfalfa seed will take care of your future payments.

While getting started and your home built I will, if necessary, stand behind you.

This is one of the chances of a life time if you like farming and are a worker.

Paying for a farm in Clover Seed Belt where Seed Crops average \$100.00 per acre, entails no hardship for the dairyman or stockman—as the hay and chaff crops more than pay the expense, leaving the seed Crops as the mortgage lifter.

Write today for full particulars and booklet.

THAD. B. PRESTON
ONAWAY, MICH.

GEORGIA FARMS 40 acres there equals 160 in Michigan, stock need no cover, two crops yearly, any size farm with buildings, all cleaned for cultivation. Price \$35.00 to \$75.00 per acre immediate possession. Rennie 323 1/2 Genesee, Saginaw, Mich. Bell 5531 Fl. Residence 5531F2, Valley 630 B.

Wanted to Hear from owner of land for sale. O. E. HAWLEY, Baldwin, Wisconsin.

118 A. "Prosperity Producer" Horse, 9 Cows and

Heifers, swine, poultry, machinery, vehicles, wood, crops included; convenient RR town; machine-worked fields; spring watered pasture; abundance wood and timber; 50 apples, other fruit; 8 room house, overlooking village, 50-ft. barn, water in buildings. Owner forced to sell. \$3300 takes all, easy terms. Details page 11 Spring Catalog 1100 Bargains. FREE. Strout Agency, 84BC, Ford Bldg., Detroit, Mich.

All or Part of 120 A. tract of land Missaukee Co. Mich. two thirds muck, \$25 per acre. J. G. Cavanagh, Chargin Falls, Ohio.

POULTRY

BABY CHICKS of Superior Quality

Hot from the Hatchery, right to your door safely, by prepaid parcel post. BIG Strong, fluffy fellows hatched from eggs of selected flocks, and under our own supervision. ROCKS. LEGHORNS. ANCONAS. REDS and MINORCAS. Chicks that live and grow into money. Bred for EGG PRODUCTION and the SHOW ROOM. Save money by sending for our catalogue NOW. THE SUPERIOR CHICK HATCHERY, Lock Box 197, Prairie Depot, Ohio.

White Wyandottes Am offering some sturdy, strong in potency, good breeding Cockerels at \$5.00; \$7.50 and \$10.00, bred from Chicago Coliseum winners of Best Display and Hogan tested layers. Eggs \$3.00; \$5.00 and \$10.00 per 15. Catalog free. H. J. RILEY, Box M, Hillsdale, Mich.

100,000 CHIX 14c UP.

Best selected utility trapnested exhibition stock ever produced. Always 2,000 chix on hand 5 to 15 days old. 18 varieties. Hatching eggs. Hens, ducks. Early bookings, avoids disappointment. Catalog. Beckman Hatchery, 28 E. Lyon, Grand Rapids, Mich.

Day-Old-Chicks Heavy laying strain S. G. W. Leghorns, \$7.50 per 50, \$14.00 per 100. Also R. I. Reds and Anconas at \$9.50 per 50, \$18.00 per 100. Order direct from this ad. Parcel post prepaid. Send for circular telling how to make home made brooder. Write today. Roy L. Drukker, R. R. 6, Grand Rapids, Michigan.

Baby Chicks Rose and Single Comb Reds. May, June at \$18 per 100. Order now. GORET BROS., Route 1, Corvallis, Mich.

Additional Poultry Ads. on Next Page

Soy Beans in Corn

J. L. JUSTICE.

IN the past six or seven years that we have been growing soy-beans in corn we have had varied experiences and have heard the stories of those who came to buy seeds. Many who want to know how many soy-beans to plant with corn for silage or hogging down said they have been disappointed when they followed the generally recommended plan of planting at the rate of one bushel to six acres. We were disappointed once or twice by having a thinner stand of soy-beans than we desired, and of recent years have avoided the disappointment by following two simple precautions.

The first of these is to find the per cent of germination of the seed. If the seed tests only seventy or eighty per cent it stands to reason that an extra good stand will not be secured if we follow the plan of sowing one bushel to six acres. It is not uncommon to find soy-bean seed testing as low as that. I have tested many samples and I have never yet found a one hundred per cent test, very few test out as good as ninety-five to ninety-eight per cent. It is a great deal commoner to find them testing between ninety and ninety-five per cent.

The per cent of germination depends a great deal on the success in harvesting and the method of storing. Beans that are stored slightly damp depreciate rather rapidly unless they are stored where they can dry readily in thin layers on a floor. Soy-beans of low germination per cent lack the luster of a good soy-bean. Good seed ought to be free of any mold and have a bright color and rattle when poured from one hand to the other.

Seed older than one year loses its vitality rapidly, and after two years of age I have found the test so low that it was unsafe and inadvisable to sow it, yet it was rather bright and had the appearance of fairly good seed. I was really surprised in the low tests of old seed which had been stored dry and kept in good quarters until the tests were made.

The best plan I know of to gauge the planting is to drop so many soy-beans to a hill of corn and ignore the pounds per acre plan. We use seed of better than ninety per cent germination and drop from three to four grains to the hill with the corn. Of late years we practice the plan of planting soy-beans in most of the corn, for all that are not used in filling the silo and hogging and lambing down will be salvaged by the steers and hogs that go into the stalk fields after the corn has been husked. If three to four grains are planted we will be pretty sure to have at least two soy-bean vines to a hill.

The second precaution is to not put the soy beans down too deep. If they are planted rather shallow and germinate quickly they will push up through the top crust a great deal quicker and easier than if they are put down deep. Moisture in a good seed-bed will be found pretty close to the surface in an extremely dry spring. Soy-beans put in shallow will stand considerable bad treatment from the weather in the way of cold muggy weather before they come up. The top soil warms first so they will get the benefit of the first warm days if they are not planted deep. Since the wheels of the planter tend to pack the soil about the seed and firm it all below, the moisture will rise and start germination of the seed in a short while. Harrowing the soil a few days after planting is very effective in breaking and crust that forms on the surface.

Washington State Farm Bureau is pushing its organization work with a \$10 basis. The annual meeting will be held this month.

Now That Coupon is Worth \$2 on a Famous New Butterfly



—But You Must Act NOW!
We will accept the coupon below the same as cash for full payment of \$2 on any 1921 model New Butterfly Cream Separator. Don't send a single penny in advance. Just fill out the coupon telling us which size machine you want (see list below) and we will ship it for you to try 30 days in your own home. Then you can find out for yourself just how much a New Butterfly Cream Separator will save and make for you. You can see for yourself before you pay a cent how easily this great labor-saving money-making machine will save enough extra cream to meet all the monthly payments before they are due.

In this way you won't feel the cost at all. You will have the Separator to use on your farm and your money in your pocket.

If at the end of 30 days' trial, you are not pleased just send the machine back at our expense. We will pay the freight both ways. You don't risk a single penny.

How the COUPON Saves You \$2
By ordering direct from this advertisement you save all expense of catalogs, postage, letters and time. And we give you the benefit of this saving if you send the coupon now. Furthermore, isn't it better to have one of these big money-making machines to use instead of a catalog to read? Wouldn't you like to compare the New Butterfly with other Separators in your neighborhood regardless of price? Wouldn't you like to see just how much more cream you would save if you owned a Separator? We believe you would, so we send you a machine from our factory to try 30 days. Then if you decide you want to keep it the coupon counts the same as a \$2 payment. You take that much right off from our factory price on any size Separator you select. For example, if you choose a \$44 machine you have only \$42 left to pay in 12 easy payments of only \$3.50 a month. If you select the \$56 machine you will have only \$54 left to pay in 12 easy payments of only \$4.50 a month—and so on.

The Coupon Makes First Payment And the Separator Itself Pays the Rest
You get the benefit of the great saving in time and work while the Separator is paying for itself. After that the profit is all yours, and you own one of the best Separators made—a steady profit producer the year 'round—a machine guaranteed a lifetime against all defects in material and workmanship, and you won't feel the cost at all. If you decide to keep the Separator we send you, you can pay by the month, or you can pay in full at any time and get a discount for cash. The coupon will count as \$2 just the same. The important thing to do now is to **send the coupon**, whether you want to buy for cash or on the easy payment plan. We have shipped thousands of New Butterfly Cream Separators direct from our factory to other farmers in your State on this liberal plan.

Send No Money—Just The Coupon—Save \$200

No Discs to Clean
The New Butterfly is the easiest cleaned of all Cream Separators. It uses no discs—there are only 3 parts inside the bowl, all easy to wash. It is also very light running with bearings continually bathed in oil. Free circular tells all about these and many other improved features.

Pick Out Size You Need

Order from this Advertisement on 30 Days' Trial. Use Coupon

No. 2½—Machine illustrated at left. Capacity up to 250 lbs. or 116 qts. of milk per hour.
Price, \$44.00
TERMS: Free \$2.00 coupon with order. Balance, \$3.50 a month for 12 months.

No. 3½—Machine shown at left. Capacity up to 400 lbs. or 195 qts. of milk per hour.
Price, \$56.00
TERMS: Free \$2.00 coupon with order. Balance, \$4.50 a month for twelve months.

No. 4½—Machine shown here. Capacity up to 500 lbs. or 250 qts. of milk per hour. Price \$65.00
TERMS: Free \$2.00 coupon with order. Balance \$5.25 a month for 12 months.

No. 5½—Machine shown here. Capacity 600 lbs. or 300 qts. of milk per hour. Price \$74.00
TERMS: Free \$2.00 coupon with order. Balance \$6.00 a month for 12 months.

No. 8—Machine shown here. Capacity up to 850 lbs. or 425 qts. of milk per hour. Price, \$78.80
TERMS: Free \$2.00 coupon with order. Balance \$6.40 a month for 12 months.

It is Always Best—
to select a larger machine than you need. Later on you may want to keep more cows. Another thing also, remember, the larger capacity the less time it will take to do the work.

ALBAUGH-DOVER CO., MANUFACTURERS
2340 Marshall Blvd., Chicago

POULTRY

Useful Anconas Are you interested in results? Hogan tested, layers of large white eggs winter and summer, beauty and utility combined hatching eggs of real quality at prices that will surprise you. Specialty breeder of S. C. Mottled Anconas. Write for booklet. (Useful facts about Useful Anconas) it is free. College View Farm, Hillsdale, Mich.

Buff Orpington eggs from excellent laying 15. CLYDE GODFREY, Jonesville, Mich.

Hill's Barred Rocks hatching eggs from heavy-laying, Hogan tested, well barred flock, 15-\$2.50; 50-\$6.00; 100-\$10. Circular free. Lucian Hill, Tekonsha, Mich.

Barron's S. C. W. Leghorns, Sheppard's Anconas. Eggs, chicks, 8 week old pullets. Leghorns from M.A.C. with records from 200 to 275 eggs. Anconas from Sheppard eggs \$5 per 100; chicks \$16 per 100. Byron Center Poultry Farm, Byron Center, Mich.

Barred Rock Eggs for hatching, selected quality, \$2.00 for 15, \$8.00 for 50; \$12.00 for 100. Prepaid Parcel Post. MR. H. HUNT, R. 1, Dearborn, Mich.

Barred Rock Chicks 100% safe delivery. Reduced Prices. Write for circular. H. H. PIERCE, Jerome, Mich.

BEST Breeds Chickens, Ducks, Geese, Turkeys, Guinea Hens, Dogs, Stock and eggs. Write your wants. Catalog free. H. A. Souder, Box 94, Sellersville, Pa.

Chicks, for May and later delivery. Leghorns 13¢; S. C. W. 15¢; Reds 12¢; Buffs 10¢. Circular FREEPORT HATCHERY, Box 12, Freeport, Mich.

Officially Certified Pedigreed
S. C. Buff Leghorns chicks and eggs from 215 to 281 record stock. Money makers priced right. HENRY DePREE, R. 8, Box 127, Holland, Mich.

RHODE ISLAND WHITES win over all breeds at the egg laying contest. 30 eggs \$5; 50 \$8; 100 \$15 order from this ad. Some chicks. H. H. JUMP, R. 5, Jackson, Mich.

S. C. Brown Leghorns Barron S. C. White Leghorns—232-278 strains. Eggs 15¢; 50 \$3.75; 50 \$5; 100 \$9 prepaid. Miss V. Fulton, Gallipolis, O.

S. C. Black Minorca cockerels exhibition and utility. S. C. Northrup Strain Exclusively. Hatching eggs single settings or quantity. C. J. Deedrick, Vassar, Mich.

S. C. W. Leghorn Eggs Barron Strain stock from Lady Victory 304 eggs hen \$2.00 per 15, \$3.00 for 50. V. O. YORK, Box 408, East Lansing, Mich.

Whittaker's R. I. Red Chicks and Eggs. Both Combs. Michigan's Color and Egg strain. Prepaid and safe delivery guaranteed. Send for free catalog. INTERLAKES FARM, Box 39, Lawrence, Mich.

White Wyandottes: 207 egg average. Hatching eggs, \$2.00 per 15. Baby chicks 28 cents each. Cockerels, hens and pullets. FRANK DeLONG, R. 3, Three Rivers, Mich.

Van's White Rocks Best in state of Missouri. Cockerels and eggs for sale from high record females. L. R. Van AKEN, West Plains, Mo.

Chicks S. C. W. English Leghorns, reduced price on 1000 lots by parcel post delivered. HENRY WATERWAY, R. 4, Holland, Mich.

Single Comb BLACK MINORCAS. Large Birds. white egg. \$1.50 per 15. Great Layers of large Mrs. W. H. MORRISON, JONESVILLE, MICH.

W. F. B. Spanish Hatching eggs. Heavy layers. Price winners \$3 per 15 eggs. S. C. M. Anconas Lawrence Lahaie, Cheloygan, Mich.

60 BREEDS chickens, ducks, geese, turkeys, guineas, pigeons, hares, dogs. Fine illus. and descriptions only 10c. Edwin A. Souder, Sellersville, Pa.

White Wyandottes Official records, five hens 1074 eggs. Eggs for hatching at reduced prices. Catalog free. G. W. SCHOTTSMANN, Montrose, Ill.

White Wyandottes BARRED ROCKS bred-to-lay winners \$2.50 per 15; \$4.50, 30. Baby Chicks. HOWARD GRANT, Marshall, Mich.

Mammoth Bronze Turkeys, Toulouse Geese and Pekin ducks. Either sex and eggs! CHASE STOCK FARM, Marlette, Mich.