

MICHIGAN FARMER

AND LIVE STOCK JOURNAL
PUBLISHED WEEKLY.
ESTABLISHED 1843.

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

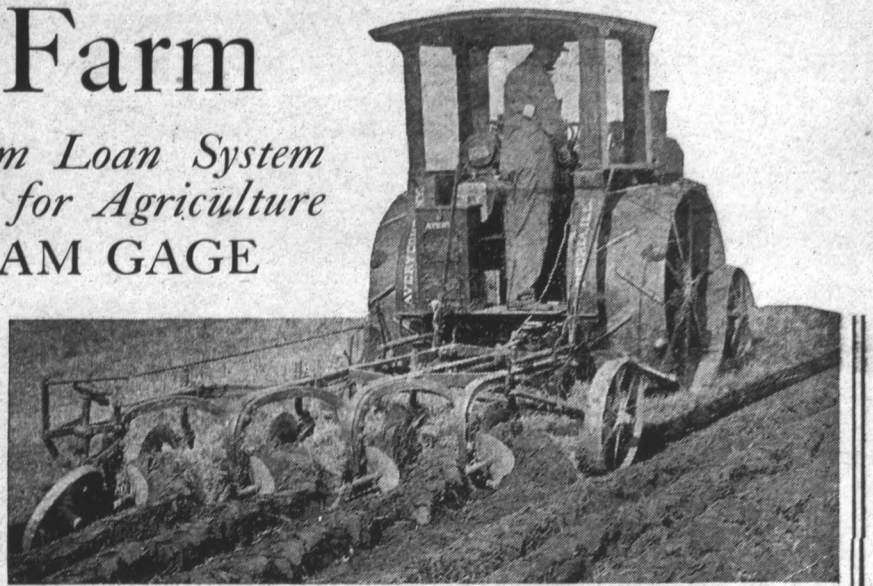
VOL. CLII. No. 10
Whole Number 4004

DETROIT, MICH., SATURDAY, SEPTEMBER 7, 1918

\$1.00 A YEAR
\$3.00 FOR 5 YEARS

Financing the Farm

*The Federal Farm Loan System
Provides Capital for Agriculture*
By E. WILLIAM GAGE



DID you ever ask yourself why it is that the United States is the only country in the world where the land-owning class is not the capitalistic class? In Germany, in Great Britain, in Denmark, in France, in Japan, to own land is tantamount to owning wealth, to be a farmer is to belong to the most powerful class in the country.

If you endeavor to answer that question you find yourself in the center of the most vexing problems confronting the country today, farm credits and farm markets. The farmer paid the highest rate of interest in the country, until the passage of the Federal Farm Act, and he receives barely forty-five per cent of the market price of his products.

In two lines, those are the sole reasons why the farmers of our country have not become capitalists. In two lines, they are the sole reason that two people live in the town for one who resides on the farm. They are also the sole reason why one man has to feed two men and receive but forty-five per cent of the market price for doing the work. Urban population has increased in the United States thirty-four per cent in ten years. Rural population has increased but eleven per cent. Ten per cent of the country's population today reside in three large American cities. Sixty per cent live in smaller cities and towns. But thirty per cent reside in the open country, on the farms, and are producers of food and clothing. Yet many cannot appreciate why America should have a food problem, with but thirty per cent of our population producing these urgently essential products, not alone for 110,000,000 Americans, but likewise for the starving and shivering of Europe and Russia; thousands cannot understand why we have such a thing as the high cost of living, nor why farmers should

not be fully content with forty-five per cent of the market price, when these facts face the soil tillers of this great nation.

Here are a few additional facts, fully strong to convince the most conservative individual of the agricultural problem of the United States. Of the 7,613 national banks, the book records of 1,247 showed extortionate rates charged farmers for loans. These same banks were charging the city merchant, manufacturer, store keeper, railroad operator and promoter from four to six per cent; at the same time they were charging the farmer from eighteen to sixty per cent interest. The highest rates charged were in Texas, Oklahoma, North Dakota, Georgia, Alabama, though twelve per cent was considered very moderate in the Rocky Mountain section. That is, if the farm boy desired to be a merchant, he could go to his banker and obtain desirable loans at from five to six per cent. But if he chose to be a farmer, his loans would have cost him from twelve per cent upward. These are not made-up figures, but are taken from the sworn oaths given national bank examiners. Can you wonder the American boy is perched on a high stool in the city skyscraper office, rather than following the trail of the cultivator? Is not such a state of affairs sufficient to wring

from the heart and soul of any class, the desire to become producers of the essential food products?

We have, according to the latest census report, 2,354,676 farmers living on rented lands because for all the time our country has stood, up to 1916, they were not able to borrow the adequate capital to purchase land of their own. Still, when the government took over the railroads, they found more than one-sixth of it in the hands of receivers.

After considering these facts for what they are worth, is it any wonder that the farmers of this country do not belong to the capitalistic class? Nevertheless, these same farmers constitute one-third of the population. The forty million people residing on our farms yearly add more than ten billion dollars to the country wealth. The seven million people engaged in manufacturing add twenty billion dollars to the nation's wealth; but they draw one-half of this wealth from the farmer, and get credit for all of it. Upon the factory output is based the farm production. The factory absolutely could not turn a wheel without the farmer.

The war aided the law-makers of Washington to see the urgent need of properly financing the farming class. In 1916, when they were considering various phases of national defense, our

purely munition exports totaled five hundred million dollars; motors, seventy-five million dollars, and farm produce exports the enormous sum of seven-hundred and fifty million dollars. It was because these law makers appreciated that our farmers were not one of the essential parts of a great machine whose products were essential to two continents, but the essential among all our industries.

Europe has worked out this farm finance problem so that her people would be fed. When a country the size of Texas has sixty million mouths to feed, she looks after the farmer, who does the feeding. The United States was the last great agricultural country in the world to work out a reasonable money credit system for her farmers; and she is the only country in the world where farmers' earnings average lower than do those of mechanics.

The Federal Farm Loan System came to the rescue of our farmers in a period of their history as food producers, when they faced the most dark crisis. Cities were calling for the ready fluid money; they also demanded men at two to five times the wages the farmer could afford to pay. The farmer's labor and capital were fast dwindling to the critical, disastrous point. Then, all at once congress passed the act, the President signed it, and the greatest financial aid for farmers ever known in the history of the world was available for our farmers over night. This system has passed from infancy to manhood in slightly more than a year of operation. All over the country, in even the remotest communities, are to be found apt illustrations of how this system has aided farmers to keep up their spirit, with resultant increased production. The day is dawning when our farmers will themselves own their own loan system. (Continued on page 216).



Good Buildings, Livestock and Machinery are Essential to Profitable Agriculture

The Michigan Farmer

Published Weekly Established 1843 Copyright 1918

The Lawrence Publishing Co.

Editors and Proprietors

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

NEW YORK OFFICE—381 Fourth Ave.
CHICAGO OFFICE—111 W. Washington Street.
CLEVELAND OFFICE—1011-1015 Oregon Ave., N.E.
PHILADELPHIA OFFICE—261-263 South Third St.

M. J. LAWRENCE..... President
F. H. NANCE..... Vice-President
P. T. LAWRENCE..... Treas.
J. F. CUNNINGHAM..... Secy.
I. R. WATERBURY.....
BURT WERMUTH.....
FRANK A. WILKEN..... } Associate
ALTA LAWSON LITTELL..... } Editors
LEROY W. SNELL.....
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

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

RATES OF ADVERTISING

45 cents per line agate type measurement, or \$6.30 per inch (14 agate lines per inch) per insertion. No advt. inserted for less than \$1.35 each insertion. No objectionable advertisements inserted at any price.

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 CLI.

NUMBER TEN

DETROIT, SEPTEMBER 7, 1918



CURRENT COMMENT.

The New Man-power Law. Under the new man-power act nearly 13,000,000 men between the ages of eighteen and forty-five years will register for military service on September 12. Under the operation of this law the government expects to have an army of nearly 4,000,000 men in France by next June, and about 1,000,000 more in training in this country.

There can be but one opinion among thinking Americans with regard to the necessity of prosecuting this war to a successful finish and at as early a date as is possible. The acceptance of peace terms dictated by the central powers cannot properly be even considered under present conditions. The final making of peace must be upon terms which will for all time make impossible the perpetration of world war by ambitious rulers. The further sacrifice of men and money which will be required to make America the decisive power in peace negotiations as she has already been the decisive factor in turning the tide of war against the Huns, will entail great personal sacrifice on the part of every loyal American. But every sacrifice necessary to this end will be as willingly borne by every loyal American as will the greater sacrifice upon the field of battle by the boys who are fighting their battles in France. We are in this war for the maintenance of a principle, in the establishment of which our forefathers endured greater personal sacrifice than we of this generation will be called upon to make.

The great enrollment under the new man-power act will enable a broad application of the selective service principle so that only those without dependents, in good health and otherwise qualified for the arduous duties of soldier life will need to be taken first. It is a matter for congratulation that boys in their eighteenth year are to be placed in a separate class to be subject to a special educational program instead of being called for immediate service. The necessity for calling them

at all is regrettable, but the present crisis is one in which half-way measures will not suffice. It is only by placing our great man-power resources wholly at the disposal of the government, as well as our great commercial and financial resources, that the war can be won in the shortest possible time, and with the minimum possible sacrifice of blood and treasure. Every other object, no matter how desirable, must be made subservient to the war program until this task is accomplished.

The State Fair. Great crowds, a wide variety of excellent exhibits and splendid entertainment features combined to make the 1918 State Fair at Detroit the best ever held by the Michigan State Agricultural Society. While the attendance during the first three days exceeded that of the corresponding days of last year's fair, the big crowd on Monday continued to grow until it reached the record-breaking total of 125,000 persons.

Visitors who have been regular attendants at other fairs held by the state society observed not only a general uniform improvement in the exhibits at this fair, but noted also many innovations about which they were generous in their words of praise. Among these innovations might be mentioned the interesting display of the United States government, the "Zoo" put up by the State Game Department, the rural school house with its interesting features, the newly erected poultry building which, despite its roomy floors, was well filled with excellent poultry and pet stock entries. Then the large part taken by the boys and girls in this big fair is worthy of attention, and is significant of the growing appreciation that is being given the juvenile club work in this state.

The entertainment features were numerous and showed much care in their selection. The vaudeville features, auto and horse races, athletic events, the excellent parts presented from the band stand, the fireworks, aeroplane manoeuvres, and the midway, all come in for due credit in making the fair patrons feel that the management had spared no expense in giving them their money's worth. And above all this, it is noted that despite the big crowds,

their time and thought to this proposition, and have perhaps to date reaped a greater degree of benefit from the activities of the Michigan Milk Producers' Association than have dairymen of other sections of the state on this account. Secretary Reed's communication is plainly directed to the latter class, the average dairyman outside the Detroit market milk zone. It is a general survey of the present situation in which every dairyman is vitally interested. As he has stated, it is only by thorough organization of milk producers that their interests can be best conserved in the present crisis.

In this connection, it should not be forgotten that by virtue of his office as Secretary of the Milk Producers' Association, Mr. Reed has been called to a constructive service, the importance and magnitude of which cannot be fully appreciated without a more

thorough investigation. The work of the organization is not the work of a day or a month or a year, but a work having for its purpose the placing of this great industry on a substantial commercial basis. For this service and this work Secretary Reed has sacrificed his home interests and his private business which would afford him a much more substantial recompense for his time.

Every dairyman should read his communication and take early steps to aid in this work of organization, to the end that the Michigan Milk Producers' Association may number in its membership every commercial dairyman within the state. The reward for public spirited work of this kind will be out of all proportion to the time and effort involved on the part of community leaders in the dairy sections of Michigan.

Recruiting America's Dairymen

By R. C. REED

Are You Enlisting to Make this Fundamental Industry a Permanent Part of Our Agriculture?

YOUR secretary has just returned from Washington where, during the past week, with representatives from every state in the dairy district of this nation, we have counselled and planned to make our effort enduring. We find that practically every other industry is organized and has a representative at the seat of our national government. The blacksmiths, the barbers, the manufacturers of gum and locomotives; every industry all along the line has a national organization and headquarters at Washington, where they may be in touch at all times with every influence that might arise to have a bearing upon their business.

The Milk Producers' Association. While we have a national organization, with a president who has given his time since a year ago last March, without pay; who has paid a large portion of his own expenses in the interests of your business; yet this great business has no headquarters at the seat of government; no representative there, only as they are called in from time to time to express the wish of the milk producers of the country.

ity, and we make this direct appeal to you at this time because:

This, we believe, is the greatest opportunity the condensary districts of the United States have ever had to stabilize this industry.

We, with the other dairy interests, have been working to bring about the movement across the water of the condensed milk product that has been piled up in this country during the past months, and which was such a menace to us last winter. We are happy now to announce that, from the most thorough investigation we have been able to make at Washington, we believe the surplus of condensed milk is practically exhausted and that the government is now buying milk for immediate shipment—not at a minimum or fixed price, but on the open market and fixing this price on the cost of production plus a profit. You will see at once the opportunity for the milk producers in the condensary districts to bring their pressure at the present time. We stand ready to help you to the limit of our ability and time, and an effort the like of which has never been known before in Michigan, should be set in motion at once to bring to the producers in those districts a price for their product that equals the cost of production plus a profit.

It is desired above all things that we should be patriotic; that we should give to this government, and the allied nations—and especially to our own boys across the water a sufficient quantity of this indispensable food product—milk. We claim that no class of people have ever in the past, or do now, show a greater degree of patriotism than do we milk producers. But here is another problem staring us in the face. There is in Michigan at the present time only a limited supply of animal feeds. Your secretary has been traveling over Michigan for the last fourteen years, in different capacities, and we are safe to say that never in that time has the condition of the live stock of the state of Michigan been as poor at this season of the year as it is today.

With these two problems—a very limited supply of feed, and cattle in a poor physical condition—the natural question comes before us: "What shall we do?" In our estimation the most reasonable action would be to keep such animals only as we are able to feed, and feed well, on the crops that we have in sight at the present time. There is no economy in keeping more animals than we can feed. We believe that unless some radical steps are taken, many of the animals in

(Continued on page 208).

Register for Service September 12

Under the President's proclamation, issued immediately after he had signed the Man Power Act, passed by Congress late last week, every man in the United States between the ages of eighteen and forty-six years, not now in the military or naval service, or previously enrolled for same, must register for such service on September 12.

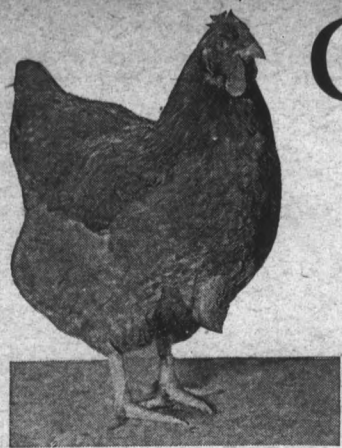
The Hours of Registration will be from 7:00 a. m. to 7:00 p. m. All men within the new ages of eighteen to twenty-one and thirty-one to forty-five, whether citizens of the United States or not, must register. In case of illness on registration day, arrangements can be made with the local board for the enrollment of the registrant. Provision can be made for registration by mail by those who expect to be absent from home on registration day, but the required record must reach the board by September 12. Men having no permanent residence, must register in the place where they are on September 12. Those out of the country on registration day must enroll within five days after their return.

Every man within the new military ages must register on September 12, or suffer a severe penalty.

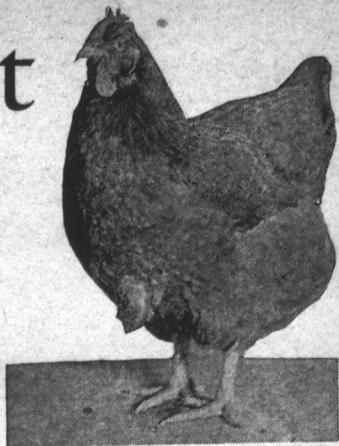
the order was such as to be specially commented upon. Details of the various lines of exhibits will be given in later numbers of the Michigan Farmer.

A Plea to Dairymen. In another column of this issue appears a communication from Sec'd Reed, of the Michigan Milk Producers' Association which should be carefully read by every dairyman in the state. This plea is not directed so much to the milk producers in the Detroit market milk area, who are better organized, have given more freely of

One of the questions that is uppermost before us at this time, and must command our immediate attention, is the establishment at Washington of an office and headquarters, and we must give some compensation to a man who represents our interests; who is competent to go before congress, the Food Administrator, and the President of the United States, to bring proper recognition to the demands of this industry. Not only this, but we must have our organization solidified. This can be greatly stimulated and helped by earnest work of the men in each local



Coaxing Hens to Eat



Have You the Kinds of Feed Required by Hens that Produce a Maximum Number of Eggs During the Winter Months? If not, Read What Prof. E. C. Foreman of M. A. C. Writes Regarding the Latest Methods of Mixing Feeds for the Farm Flock. Grit, Shells and Green Feeds will Make Farm-Grown Feeds More Efficient and Maintain a High Degree of Health in the Flock.

THE question is repeatedly asked, "Can we produce eggs at a profit with the present high-priced grains?" While the price of grains has increased so much during the past year, we also find an increased price in poultry products. In arriving at a comparative profit, the relative cost of feed and price of poultry products must be considered in relation to the actual total increase rather than the percentage increase. For example, Leg-horn pullets averaging to produce one hundred and forty-four eggs in one year which sold at thirty cents a dozen, gave a value of eggs over feed cost of \$2.70 when the feed cost was ninety cents per bird. Now if the feed cost has increased seventy-five per cent, making a total of \$1.57, while the value of the eggs has increased fifty per cent, making a total of \$5.40, the value of eggs over feed cost would be \$3.83, or \$1.13 greater than it was before the price of grain began to go up so rapidly. The price of eggs should only have had to increase twenty per cent while the feed cost increased seventy-five per cent to show the same original profit over feed cost.

The average farm flock carefully handled should give an average egg production of one hundred and forty eggs per year where scientific culling and feeding is applied. Higher aver-

ages than this can be secured by paying a little attention to selection of the breeding stock. The 1910 census report states that the average American hen produced only seventy eggs per year, which is doing little better than breaking even on the feed bill. The reason for such low production is not altogether a question of breeding, but also a question of feeding. It is not a very difficult matter to bring a flock production from seventy to one hundred and forty egg average by scientific feeding, but to increase the average egg production above this point, it is necessary to use pedigreed stock. A flock that can average one hundred and forty eggs per year are paying big dividends on the investment. All that "Biddy" requires is a chance to make good. Why not give her a chance and

compare the profit with other branches of live stock kept on the farm?

A Farm Proposition.

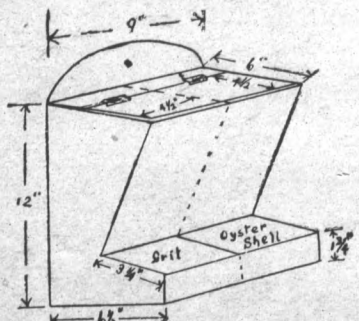
Poultry raising is essentially a farm proposition. Ninety per cent of all the eggs produced in this country come from the farm. The farmer has every advantage over the commercial man in that he can produce eggs cheaper by utilizing waste grain and allowing the hens free range, but, until the present time most farmers consider the hen a necessary evil and that their care comes under the specific realm of the already overtaxed farmer's wife. This system, or lack of system, of neglectfulness results in feast and famine methods of feeding and unsanitary conditions in the poultry house. As a rule the hen's ration is limited to a dish of oats, morning and night, and if

there is a surplus of skim-milk beyond that which the pigs require, this is also given them and constitutes the ration that "Biddy" is to lay profitably upon. We could not expect the greatest milk production from cows fed solely on hay, neither can we expect the greatest egg production from fowls fed on whole oats. By this we are not condemning oats as a feed, but they do not contain sufficient nutrients for the hen to manufacture eggs rapidly. If we would stop for a moment and consider the contents or nutrients in an egg, we would see the futility in the individual method of grain feeding.

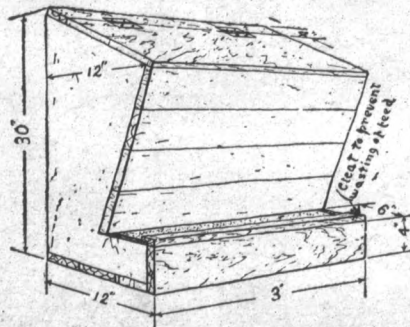
Production Depends Upon Heredity and Environment.

Heredity includes that which is transmitted from the parent to the offspring, whereas environment takes into consideration conditions favorable to, or against, the comfort and happiness of the hen and includes feeding, watering, housing, weather care and so forth. Under environment, we may rightly classify feeding as a most important factor. The machinery of a hen is analogous to that of a gas engine, while some may have more efficiency than others to begin with, it requires the proper mixture or fuel or food and in sufficient quantities for amounts of the mash mixture. If over-

(Continued on page 219).



Practical Grit and Shell Hopper.



Dry Mash Here at All Hours.

A Pot of Money In a Farm Cellar

Every Cellar and Storage House Has Hidden Treasure for Farm Families Who Will Store Fruit and Vegetable Crops in it for Winter—By C. B. Ford

THE problem of storing fruit and vegetable crops so as to insure an abundant supply for winter is a problem of particular interest during the present shortage of food products. To get the full benefit of fruit and vegetable crops, winter storage is necessary. Many products may be kept until next spring; others will keep only a few weeks. The farmer usually cannot hope for the same results obtained in the large cold storage plants, but he will be repaid for the time and effort spent in utilizing such facilities as may be had on the farm.

Farmers who have an abundant supply of fruit and vegetable crops during the late summer and early autumn are hardly ever prepared when the time comes, with facilities for winter storage. As a result the portion of their crops that is not put on an already overloaded market, is dumped in some ordinary house cellar which is merely a catch-all for fuel, lumber, tools, crates and the like, and where dampness and bad odors compete.

A good storage cellar, involving all that is needed by ordinary farmers in the way of winter storage may be constructed at a moderate cost. An ideal site for a cellar is on sloping ground so that the side walls will be about five feet under the ground and three feet above. It should be furnished with windows to give it plenty of light. Facilities should also be provided to make the cellar dark. The windows may be kept open all summer, but as

soon as it is used for storage close them tightly and do not open them until spring. A concrete floor, made so that rats and other vermin cannot gain entrance is preferable. Such a storage cellar need not be absolutely dry. A little moisture is necessary to keep the fruits and vegetables in a prime condition. Moldy odors result from dampness caused by lack of ventilation rather than too much moisture.

A stone wall eighteen inches thick will keep out ordinary cold, but it is always safer to build a twenty-four-inch wall and have sides well pointed with plaster or concrete. Such a wall will keep out frost even when the temperature is down to twenty degrees below zero.

If stones are not available at comparatively low cost an equally satisfactory

wall can be made of concrete. If concrete is used and proper insulation space provided less material will be required. Many farmers, who have had experience with concrete work, find it more economical than having a skilled mason to lay the stone wall. In case concrete is used it is always preferable to write to some of the concrete manufacturers for detailed plans and specifications for storage houses. This service is free and it greatly simplifies the problem of building if one has such plans for insulation and reinforcement at hand.

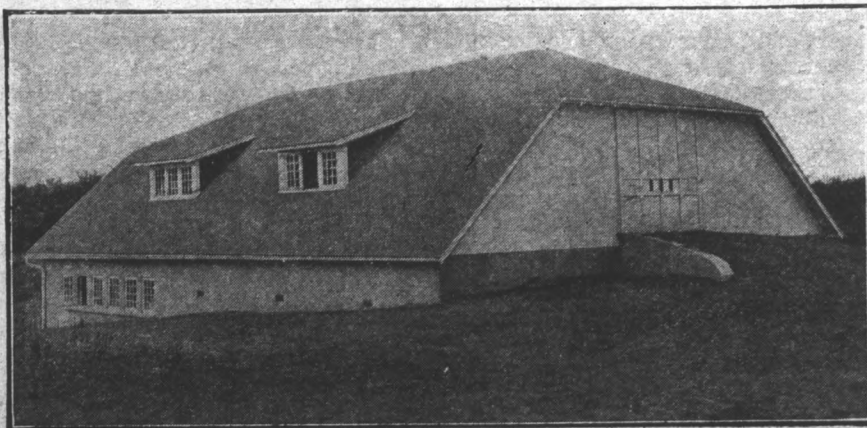
As a rule such a cellar should be built under the tool house or some part of the barn where it can be kept free from stable odors.

A case is in mind where a barn basement has been successfully used as a

storage. In this instance the barn was built on the southeastern slope of a hill which gave protection against western and northern winds. The owner arranged the storage in the center of the basement with tight partitions between it and stables on either end. Above the storage is a mow and between the bins and the front wall an alley.

In either case it is well to cover the floor above with finely cut straw or leaves to prevent the frost from entering from that direction. The windows may be made double, or may be packed with cut straw, sawdust or leaves during the winter. The outside door should be double and sufficiently large to allow barrels to be rolled in, and when closed for winter should be freely banked with leaves or straw. Nothing is to be gained by opening such a storage cellar during cold weather. If there is occasion to open the cellar during the winter do it cautiously, closing the doors as quickly as possible and on no account opening windows.

A storage cellar must be kept free from all bad odors. Never use it to store meats, dairy products and such vegetables as cabbages that emit odors. The bulk of fruit and vegetable crops that go to market from the farm cellar in the spring carry with them a mongrel flavor suggestive of all sorts of foods, including more or less dust and mold. Therefore a cellar, if to be used for storing products calculated for the market, must be sweet and clean.



A Modern Fruit and Vegetable Storage Cellar.

Mr. Automobile Owner:

When you go to the State Fair, do not leave your car upon the public street; put it in a garage.

Do not drive in a cloud of dust. Slow down at all intersections, and keep your car under proper control.

Drive slowly on congested streets and where the traffic is heavy, for many pedestrians are careless; they may step in front of your car. Careful driving saves human life.

THE CITIZENS MUTUAL AUTOMOBILE INSURANCE COMPANY

of Howell, is known as the largest, mutual automobile insurance company in the world. It has paid out over \$150,000 to those who suffered losses.

**1050 Claims Paid
41,000 Policies Issued**

The company owns its own fire-proof building and equipment, carrying a surplus of over \$70,000.

The wise man will use care in the operation of his car, and keep it insured in the above company, as quantity insurance produces a very low rate.

Cost \$1.00 for policy fee and 25c per horsepower to cover fire, theft, and liability. Collision insurance, or damage to a man's own car in case of colliding with another automobile, street car, or moving object, costs an extra charge of from \$6.00 to \$10.

PAINT, VARNISH, KALSOMINE, ETC.

will not adhere fixedly if applied in any way which does not rub them into the pores of the surface covered, so as to permanently bind them. Throwing paint, etc., at a surface is a cheap, make-shift method, gives only a skim coat, which too often brings trouble.

Rub in good Paint, Varnish, Kalsomine, etc., with

**WHITING-ADAMS
BRUSHES**

and they never let go. Crawling, cracking, peeling and other devilries are sinful as well as expensive, and can be avoided. SEND FOR ILLUSTRATED LITERATURE Dept. A

John L. Whiting-J. J. Adams Co., Boston, U.S.A.

Brush Manufacturers for Over 100 Years

Whiting-Adams Brushes Awarded Gold Medal and Official Blue Ribbon, Highest Award at Panama-Pacific Exp'n, 1915

**THE TRAP
THAT
HOLDS**

For
Muskrat
[Skunk
and
Mink

"TRIPLE CLUTCH"
High Grip—Wonderful Holding Power.

Guaranteed for one year.

Send Today for the

FREE Booklet No. 66

"Modern Trapping

Methods". Tells How to

Trap for Muskrat, Skunk,

Mink and Coon.

Triumph Trap Co., Inc.

66 W. Elm St.,

Oneida, N. Y.



When writing to advertisers please mention the Michigan Farmer.

Such a cellar may be used to good advantage in storing peas, early apples, peaches, tomatoes, cucumbers, berries and grapes during the summer and fall. Peas and grapes can be kept in fine condition for a number of weeks longer than is possible in a fruit house.

It is always desirable to have a window or some outside opening enter the storage cellar in order that it may be properly ventilated and the temperature regulated.

With a good storage cellar the farmer is made independent of the middleman. He is prepared to listen to buyers and accept them or not. He is also insured of an abundant supply of the best things his farm produces, throughout the winter. The loss in storage is reduced to a minimum and the saving will soon pay for the cellar, especially if one grows a considerable quantity of these products.

The inside of the storage house should be arranged so that shelves made of slats may be provided to allow circulation of air at all times. Plan to have the bottom shelf a few inches above the floor, for the same purpose. The shelves may be from twelve to twenty inches apart and may have sides to keep the fruits and vegetables from falling out. The layers of fruit or vegetables should not be more than from six to twelve inches deep. The fewer specimens that touch the others the better, although it is hardly practicable to carry this idea to extremes in arranging the bins in the cellar.

Before one can make a complete suc-

cess of storing fruit and vegetable crops it is important to know the natural keeping qualities of the different kinds and varieties. Some kinds of fruit and vegetables do not keep well in storage and different varieties of fruit and vegetable crops must be handled differently to insure the best results.

Apples have their natural seasons for ripening. Even the best cold storage system will not keep a Spitzenburg until May, but only until the last of January. In Michigan a Northern Spy will naturally become fit for eating during January and February. Greenings and Baldwins will keep well until late in March. Among the apples that can be depended on to keep until spring are the Winesap, Russet, Wagener, Ben Davis and Seek-no-Further. Hubbardstones ripen along about New Years and keep well for seven or eight weeks. Some varieties are fit for eating and cooking all winter, but others, like the Winesaps and Russets, do not get really ripe until March and April.

Apples intended for storage should be carefully packed, properly cooled and placed in the bins without the slightest bruise, for there is no use putting into storage fruit that has been grabbed off the trees or tumbled about in the orchard. A single cell bruised in packing or storing starts decay, and in consequence an apple that will keep three or four months will keep only as many weeks.

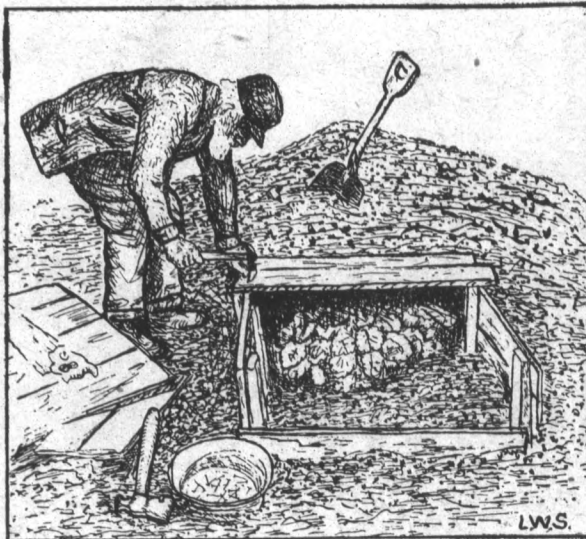
Quinces and winter pears should be stored in the same way as apples. Some varieties will keep until well along toward spring if wrapped in paper and carefully handled.

One of the crops that may be greatly improved by proper methods of handling and storage is potatoes. Many persons haul them directly to the storage cellar, which is probably the best method where one has a large quantity to handle. Care must be taken to sort out all of the tubers that show signs of decay, and any that have been cut in digging should be laid aside for immediate use. If blight has affected the crop and the tubers show indications of rot, sprinkle air-slaked lime over the piles in the bins. This tends to prevent the rot from spreading and is nearly as effective as the use of poisonous remedies.

Potatoes should always be stored in a dark place. Light has a very deteriorating effect upon the quality of potatoes. A few days' exposure to light frequently renders otherwise perfect tubers unfit for human consumption.

Beets, carrots and turnips keep best when stored in sand. For this purpose provide a bin with a tight bottom and sides about twenty inches high. Fill this with clean, sandy soil and bury the beets, carrots and turnips in it.

Celery is one of the most hardy winter vegetables and can be kept indoors or out. It soon becomes tasteless and is liable to decay if kept in a cellar that is too warm or improperly ventilated. Some of the most successful



Storing Celery for Winter.

celery growers store the crops outside by packing the plants inside of boxes and covering the boxes with straw and loose soil. An opening is left at each end of these covered, boxed-in trenches to provide ventilation. This opening is kept closed during cold weather. The celery may be easily taken out by removing the covering and boards when needed for use. Care must be taken to put the cover back in place and replace the end boards to prevent frost entering. Celery may be kept in prime condition until well along toward spring in these outside covered trenches.

Cabbage should remain in the garden rows until it has had a good freezing; this improves the flavor. In selecting the heads for storage reject those that show signs of disease or that have not properly developed. Cut off the head, allowing about two inches of the stump to remain. Then if rot develops in the cut end of the stalk it will not reach the head for several weeks. If the cabbage is taken into the cellar for storage wash the soil from the roots and pack in moist sand.

Pears, grapes, peppers and tomatoes may be kept for several weeks by wrapping in tissue paper and putting them in boxes in a cool, dry cellar, with a temperature just above freezing point. Care must be taken to rigidly sort out all of the imperfect specimens and handle the fruits as careful-

ly as possible. Pears, grapes and tomatoes may be kept in good condition until the holidays if packed and stored in this manner.

Squashes and pumpkins should be stored in a warm and very dry place with a temperature around fifty-five degrees. As a rule some unused room or garret is preferable to a storage cellar.

Onions are one of the hardest crops to keep successfully through the winter. For this reason many farmers prefer to dispose of the crop as soon as the harvest is over, even though reasonably sure of higher prices in the spring. But if harvested carefully and some special pains is taken in storing the crop can be kept in good condition for family use during the winter and spring. The manner of harvesting onions has a great deal to do with their keeping qualities. The onions must be pulled promptly and the tops cut away, and the bulbs allowed to dry thoroughly in the sun before they are stored. The cellar is probably the best place to store them, for there is more or less risk when they are allowed to freeze and thaw out.

**RECRUITING AMERICA'S DAIRY-
MEN.**

(Continued from page 202).

Michigan now will dwindle and die for lack of proper food this winter. We believe it is not only the part of patriotism but of good business judgment to eliminate from your herds all unprofitable animals and in this way you will not only be able to carry along your own stock but will be able to provide your neighbor with feed to carry his profitable cows through the winter. This we conceive not to be the lack of patriotism but the essence of patriotism.

**Profits Thus Far from the Organized
Movement.**

It is conceded by conservative men, who are in a position to know best about this problem, that there has been at least a ten per cent increase in the price of dairy products in the state of Michigan, as a result of the organized movement in the state. Your secretary holds in his hands at the present time contracts with the Detroit distributors that amount to practically nine million dollars for the year 1918. A ten per cent profit on this means nine hundred thousand dollars to the milk producers of the Detroit area. When we consider the production according to the recent census figures, which gives us, in the state of Michigan, 928,980 cows and a monthly income of \$9,289,800, this would make the grand total of dairy products for the year \$111,477,600, and ten per cent on this would be \$11,147,760. You can get something of an idea of the magnitude of this business, and the advantage of this organized movement, by comparing these figures. You can also get an idea of the benefit of this movement to yourself if you allow a \$10 profit for each cow you own, which is a very safe and conservative estimate.

With these facts before us we cannot feel that the milk producers of Michigan are slackers to that extent that they want to shirk their share of the responsibility of carrying on this organized movement to save the insignificant sum that it would require from each one to give this great industry a proper financial standing and influence before the lawmakers of our land.

We appeal to you most earnestly. Read this article over. If you think you see flaws in this argument, show us where they are; but get busy, take the time to arrange meetings, organize your communities, and give this Michigan Milk Producers' Association, that is receiving the commendation of thinking men all over the United States, your most earnest endorsement and support.

Stretching the Barn

By J. H. BROWN

A FEW days ago a reader of the Michigan Farmer asked the writer if he had seen any good plan of making an old farm barn longer, economizing in lumber and expensive carpenter work, putting in a basement section or extension and leaving the barn on the same old basement, which is of stone and a good one. The reader added: "You travel a great deal over our Michigan roads and may have noticed all sorts of ways of doing a job of this kind. I wish to build this extension as soon as I get my corn cut and would appreciate an early reply through my favorite farm paper."

We have pictures showing various construction plans, and herewith show a picture of the way one Michigan farmer added an extra bent of twenty-eight feet to his old barn. The picture illustrates so clearly how the farmer performed the trick that even he who runs may read as he passes by.

In some ways this is an excellent plan to add an extension to an old barn. There are thousands of farm barns in Michigan that have been made longer because of the need of more room for cows in the basement and storage for hay and other proven-der above.

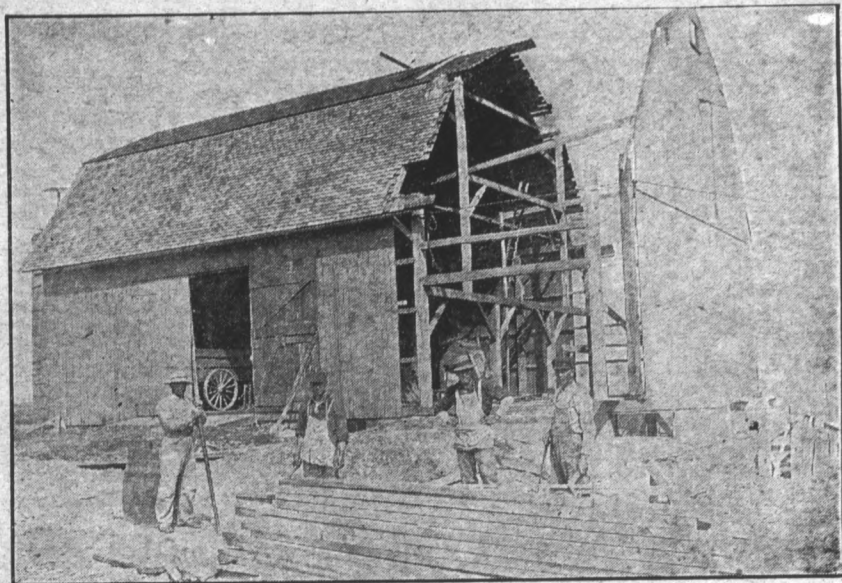
In the case illustrated a dairy farm-

section was kept stayed, in addition to using the guy ropes, so that the four men in the picture easily handled the job in short order.

The end sill of the detached bent was raised to allow heavy planking to be fastened underneath with plank ends protruding to rest on the side sills while moving. This made easy work in shoving the thing along a little at a time with the pinch-bar.

To make the moving job perfectly safe the guy ropes were securely tied to the highest nail or girt in the gable. Other ropes were tied to the top of each corner post. One set of ropes went north and were hitched to handy posts, beams and girts in the barn. The south-bound ropes were tied to trees and fence posts, so that there was not the least trouble to control the end of the barn, whether standing or moving, until it reached the end of its journey. Then beams, girts, purlins and braces were inserted and pinned securely. Rafters were put in and in a very few days the roof boards, shingles and siding were on and the barn was completed. When finished it made a fine barn for the dairy farmer and furnished plenty of room for cattle and feed storage.

We do not remember of ever seeing



How to Make Both Ends Meet.

er found that he must either build a new cow stable to shelter his increasing herd or sell off some of his cows. The old stone basement was in good condition, sanitary and conveniently arranged for keeping two rows of cows. He had need of stalls for a half dozen more.

Finally he worked out a plan of adding an extra long bent to the south end of the barn. The basement extension was constructed of concrete with provision for plenty of windows. Then the farmer, with two or three carpenters, in less than a week, had detached the entire south end of the barn and moved it into position on the edge of the concrete basement wall.

Jack-screws, pinch bars, and guy ropes, as shown, kept the entire end of the barn in a vertical position while taking a ride farther south. This plan saved tearing off the siding and pulling the end timbers apart. Many of the boards would have been split and spoiled in tearing off the frame.

Before detaching the end from the barn, new cross beams, posts, sills, purlins and girts were made ready to insert. The sills were laid on the concrete side walls and stayed. New corner posts were fitted as the barn end was detached. When we took the picture the end had been moved about two-thirds of the way out. Before detaching, the last pair of rafters in the gable was trussed as shown. The end

this illustrated plan of an old barn extension printed in the Michigan Farmer. It is a good one and has been tried out in several farm neighborhoods since we took this picture.

THREE MEN IN A CORN FIELD.

With a corn binder and three horses in corn that is standing well, three men, one to drive and two to shock, can harvest about twice as much as when cutting by hand. From seven to nine acres can be cut in a ten-hour day with a binder. The same three men could scarcely cover more than four acres in the same length of time when cutting by hand. With the binder they can cut and shock a forty-acre field of corn in a week or less, effecting a big saving in time, though perhaps none in expense. The binder delivers the corn in bundles, which makes it considerably easier to handle both in loading on wagons and at the ensilage cutter. If your acreage in corn is not large enough to justify an investment in a modern corn harvester, join with one or two of your neighbors and purchase one cooperatively. If this can not be done rent a binder—it will take the place of one hired man in cutting and shocking, or two in cutting corn for ensilage.

There is often a great difference between a "live" dairyman and a living one.



Unless it bears this mark—CURTIS
it is not CURTIS Woodwork

AFTER a piece of our woodwork has passed close inspection of both material and workmanship, it is stamped plainly with this mark—CURTIS. Every piece is so marked.

This mark serves a double purpose. It is the connecting link between the pictures of CURTIS Woodwork shown in our plan books and catalogs and the actual woodwork that goes into your home. It is our guarantee to you that each piece is of Curtis design, material and workmanship.

1866 CURTIS WOODWORK

"The Permanent Furniture for Your Home"

Vital as the furnishing of good woodwork is to the convenience and comfort of your home, there are other ways in which we and your lumber dealer can help you.

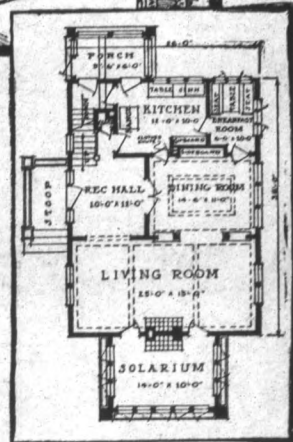
If you want a new home we can help you from the very beginning of your plans.

If you remodel your present home you can select designs that suit your taste or need, from the dealer's stock or from his big Curtis Catalog.

For the utmost in prompt service, in quality of design, material and workmanship, we recommend standard sizes and designs.

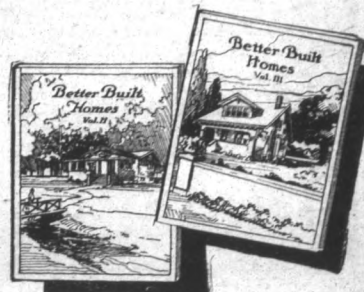
THE CURTIS COMPANIES, SERVICE BUREAU

1721-1821 S. Second St., Clinton, Iowa
Manufacturing and Distributing Plants at
Oklahoma City, Sioux City, Iowa, Detroit
Clinton, Iowa, Lincoln, Neb., Minneapolis
Wausau, Wis., Topeka, Kansas
Chicago, Dayton, Ohio
Eastern Offices at Pittsburgh and Washington.
The makers of CURTIS Woodwork guarantee complete satisfaction to its users. "We're not satisfied unless you are."



Save Fuel!

Fit your home with CURTIS Storm Doors and Sash. They will save fuel for the nation and money for you. Any Curtis dealer will gladly quote you prices.



Your Choice Free

These books each contain floor plans, exterior and interior views of thirty well-planned homes finished with CURTIS Woodwork. They team with ideas for prospective home builders. "Better Built Homes," Vol. II, range lower than \$3,150. More expensive homes are shown in Vol. III. Tell us which book you want.

Silver's "Ohio"

2 or 3 Man Machines

Produce your own cheap feed—Silverized Silage—fine, even cut, mold-proof silage. Get an "Ohio" for your own work—variety of sizes from 4 h.p. up to 300 tons daily capacity. Big features—beater feed—spring-proof knives, friction reverse, direct drive, 64 years' leadership.

Write for Catalog
Silver Mfg. Co.
Box 390
Salem, Ohio
"Modern Silage
Methods," 324
pages, 25 cents.



SEED WHEAT QUICK SERVICE
WHOLESALE PRICES
PROFITS DIVIDED
Kharkov, Red Rock, Harvest Queen and other high yielding varieties. Have Rosen Rye, Timothy, Alfalfa, Clover and all Field and Grass Seeds. Sold direct to you under our strong Money Back Guarantee. Buy your seed in Chicago where you get low prices and quick service. Write today for Free Bulletin and samples of the seed you need.
AMERICAN MUTUAL SEED CO., Dept. 431 CHICAGO

Get Cash

For Your Empty Bags

Don't throw away a single bag—they're worth money to you. Prices are "way up now." Cash in on all you have. But be sure you get our prices before you sell a single one. We guarantee most liberal grading. Over 20 years in business is your assurance of a square deal every time. We buy any quantity. Freight paid on all shipments to Werthan. Find out what real satisfaction is. Write, stating what you have.
WERTHAN BAG CO.
61 Dock St. St. Louis, Mo.
Branch Offices: Houston and Nashville

**WERTHAN
PAYS
HIGHEST
PRICES
FOR
EMPTY
BAGS**



The SHAW Motorbicycle

A dependable, easy running, speedy, high power motorbicycle at low cost. Chain drive. 50 to 125 miles on a gallon of gasoline. Absolutely guaranteed. Write at once for full information, also about the Shaw Attachment—makes your old bike a motorcycle.
SHAW MFG. CO., Dept. 225, GALESBURG, KANSAS

Mention The Michigan Farmer When Writing Advertisers

**"It certainly
is handy, when you
can use the whole top
of your range,
and not heat your oven!"**



THE Hot-All-Over Top is a patented device, found only on the JOY ECLIPSE range, which forces the flames to pass under all six lids before escaping. You save time in preparing meals; save fuel by keeping the flames from being sucked out the chimney too soon, and can have a comfortable kitchen in summer.

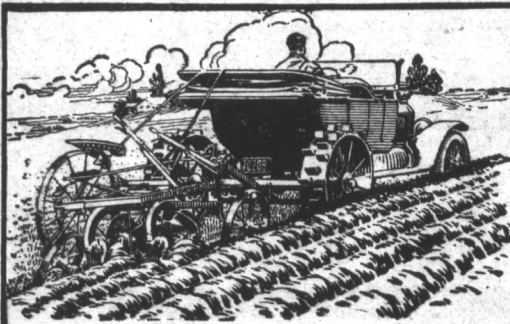
ECLIPSE

Write us for name of the Eclipse dealer near you. Ask him about our cast-iron range—wears a life-time; guaranteed never to rust out; always looks well; gives perfect satisfaction. He will gladly show you the Eclipse Adjustable Damper, by which you can control the oven temperature.

Send for large, free, illustrated booklet showing Eclipse ranges and heaters. It will help

Send for large, free, illustrated booklet showing Eclipse ranges and heaters. It will help you choose the right stove for your requirements. Write today.

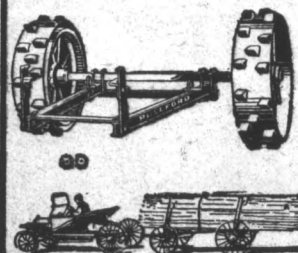
THE ECLIPSE STOVE CO.
MANSFIELD, OHIO



Plow and Pull

With Your FORD Or Most Other Cars
Pullford \$155 F. O. B. Quincy, Ill.

MAKES a practical tractor out of a Ford or most any other car. Easily attached to or removed from the car in thirty minutes. No holes to drill, no springs to remove. **Practical, Durable, Reliable.**



New FAN DEVICE Prevents Heating
Hundreds WORKING NOW for Satisfied
and Enthusiastic Owners

Pulls plows, harrows, drills, mowers, binders, hay loaders, road graders, wagons, trucks, etc. Steel wheels with roller bearings and tires 10 inches wide, two pairs of hardened Vanadium steel pinions, one for plowing and one for hauling speed. A tractor with the reliability and durability of the Ford car. Prompt shipment. Write for catalog.

It was the Pullford attached to Ford cars pulling two 12-inch plows running in a Kerosene, equipped with a new device, that made a most successful demonstration at the Nebraska State Fair.

PULLFORD COMPANY, Box 35C
Telephone No. 84 Walton Heights, QUINCY, ILLINOIS



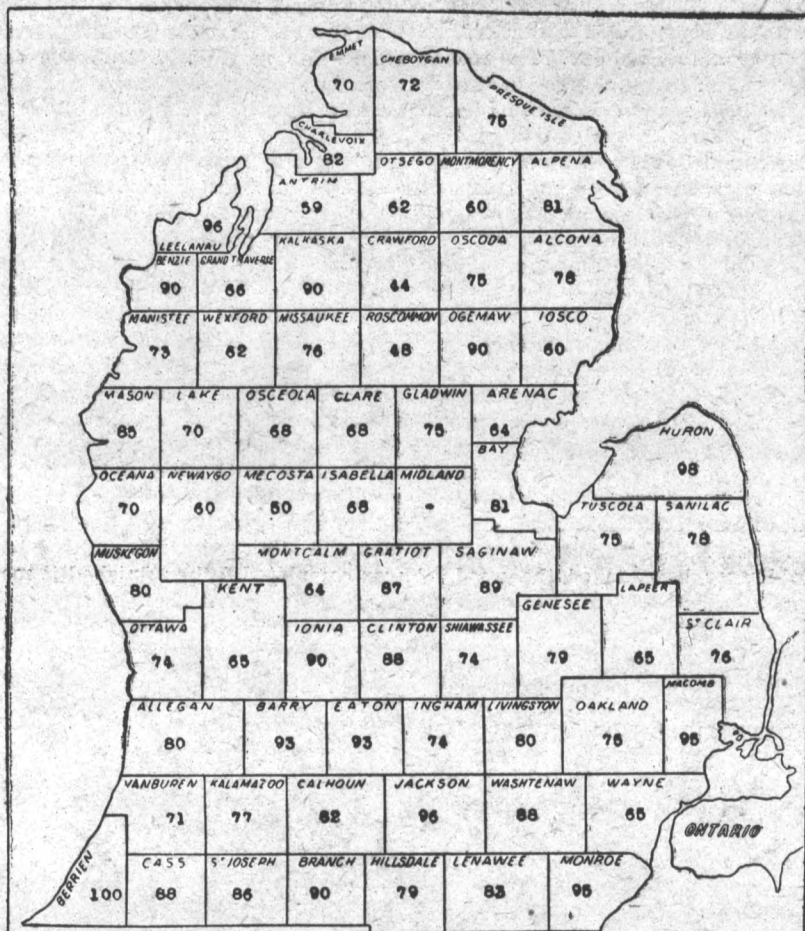
Tix-Ton-Mix with salt the year around keeps flock healthy and free from stomach worms and ticks. A \$5.00 box makes \$60.00 worth of medicated salt—saves you big money—A \$1.00 trial box of "TIX-TON MIX" by parcel post will medicate a barrel of salt.

Write for club offer—booklet on "Nature and Care of Sheep"

PARSONS TIX-TON CO., Grand Ledge, Mich.

Is This Estimate Too High?

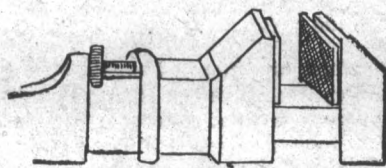
ALTHOUGH the acreage of the total hay crop of the state compares well with the crop of a year ago, and with the five-year average, production will be far below what it was in the other periods mentioned. This is particularly true of timothy hay. The estimated yield for 1918 is 2,494,000 tons, against 3,760,000 tons for 1917, and 3,309,000 tons as the average for the five years from 1912-1916 inclusive. The rapid advance in prices for hay in the principal markets during the past month and prospects for still further advances will compensate our farmers in part for the reduced production.



Federal Estimates on the Yield of Hay in the Counties of Lower Michigan.

A Few Practical Suggestions

EVERY farmer, sooner or later, will have use for a pipe wrench, but not everyone feels able to own one. The makeshifts you have been describing will be found of little real value in actual use. Everyone has a good-sized monkey wrench. Take a large-sized old flat file or fine rasp and break a two-inch piece out of the best portion



take out the verge and flies. Then, with the wheels in rapid motion, pour naphtha or gasoline over the works, or immerse them in a dish of gasoline. Finish by wiping dry with a linen rag, and oiling with best clock oil. This method is especially good for clocks that have been treated with kerosene, as the gasoline quickly removes the gummed kerosene residue, which has often accumulated to a surprising degree.

TEST THE COW'S PULSE.

of it; then put this into your wrench beside your work, and you will have a much better substitute for a pipe wrench than any strap arrangement possibly can be. And if you want about as good an article as the most costly make, get the pipe jaw attachment, costing but a few cents, to use with your monkey wrench. I have used them for years with perfect satisfaction.—J. Chandler.

HOW I MADE MY COW DRINK WATER.

FOR a week my cow would not drink water. I changed her food and did all I could to coax her to drink, but without success. Finally I went to an aged farmer near by and he told me to rub salt on her back and sides, this would cause her to lick herself, at the same time she got the salt, which made her thirsty. The plan worked, and I have had no trouble since.—F. G. B.

CLEANING CLOCKS.

CLOCKS that need no general overhauling may be put in condition to keep good time without taking the works apart. Remove the works and

ACCORDING to tests made by the Canadian government, milking machines to operate well, should take into account heart beats of the cow. Examinations have shown that there is a relatively small amount of milk in a cow's udder at any one time. Many times that amount can be obtained in a milking because nature secretes the milk from the glands to which blood is supplied, as fast as the udder is emptied. The investigators making the tests referred to maintain that a milking machine should create a vacuum about forty-two times a minute, tallying with the heart beats of the cow.

STORING GRAIN BAGS.

ON the majority of farms it is very hard to keep sacks or grain bags free from the ravages of mice and rats. Several years ago they could be bought for about one-third the present prices. Hence it pays to guard them. A very good way is to secure a can similar to the tin cracker cans, which can be secured at grocery stores. A can should be eighteen or twenty-four inches in diameter and three or four feet high. Put in your sacks, put on the lid. Mice and rats will not gnaw through, and your problem is solved.—
Warner E. Farmer.

When Writing to advertisers please mention The Michigan Farmer.

Farmers' Questions Answered

WATER FOR FATTENING HOGS.

I am feeding out a bunch of thirty spring pigs. How much water should these pigs have in order to make the best use of their grain feeds? I am feeding a mixture of ground oats, middlings and corn. Some feeders claim that too much water has a tendency to waste grain feeds.

R. A. B.

Any animal under heavy feeding of grain of any kind needs enough water taken into the stomach to help in the process of digestion. Digestion does not begin until dry, hard food begins to soften from the action of the saliva and other fluids normally found in the animal, or by the help of water the animal craves, or will take as needed when the supply is available. The average hog grower fails to appreciate the high value of clean, fresh water always ready to meet the cravings of the animal subsisting on dry feed.

Water is necessary for the complete digestion of all solid foods. It aids in the assimilation of feeds and besides there cannot be for any considerable length of time a complete elimination of the unassimilated or undigested foods from the digestive tract without enough water to make the masticated food soft enough to pass freely through and out of the animal. Scientists tell us that the reason why constipation is so frequently followed by scours is because the feverish condition of the bowels caused by a lack of water causes an abnormal flow of liquids to be turned from other parts of the body into the digestive tract to aid in the elimination of the undigested and unassimilated foods. The result is a loss of appetite and weight and a weak and unthrifty hog. Such ailments may easily be avoided by keeping plenty of clean, fresh water where the hogs may have access to it at all times.

Pigs that are kept in pastures where they have access to green, succulent grasses and forage crops do not suffer from a water shortage as much as those that are fed in dry feed yards and on dry feeds. If the dry feed needs considerable water to further the work of digestion the more succulent green feed will be taken after the dry feed of grain. Many feeders find that withholding water tends to induce fattening hogs to eat more forage. This extra use of forage and grass crops helps to balance the ration, so far as shortage of protein in corn goes, also the shortage of water, because such green feed contains from eighty to ninety per cent of water, whereas the grain carries but ten to twelve per cent of water. But for breeding hogs and growing pigs one cannot go far wrong in allowing the animal to decide when he wants water and how much. Even if he drinks heavily enough to wash out of his system a little of the excess of undigested and unassimilated feed he is wisely following the promptings of nature.

The pig's appetite is a safe guide to follow to determine how much feed he can eat and digest and how much water will be needed to eliminate it before it will begin to ferment and cause a disordered digestion. There is no feeder who can intelligently limit the amount of water the pig may need to promote the most complete digestion and assimilation of food. He can tell how much water the pig will drink if he has it before him, but by withholding water he is only guessing that the hog can be made to utilize more of the feed eaten if water is withheld, and he loses sight entirely of the importance of proper elimination of the unassimilated and improperly digested feed that should pass away to insure the health of the pig. Neither hunger nor thirst favor health or economical gains. Those feeders who assume that

water which makes up more than half the weight of the carcass of the fat hog is less necessary than the dry feed in the fattening process will find that in the long run, the delay in the digestive tract by reducing the water supply will cause disorders that sooner or later will end in loss.

W. M. K.

DOORWAYS IN SILOS.

Do you know of anyone who has used a continuous doorway in a lath-and-plaster silo? I am wondering how they tie the silo together when using a door frame and doors such as is used on other silos.

Eaton Co.

C. F. O.

The frame work of a continuous doorway in a silo can be tied together and the silo kept in permanent shape by passing three-quarter-inch iron rods through the upright pieces of the doorway, having them also extend through the studding on either side of the silo, back three or four studding. Put big washers on the end of the rod with the nut tight against the studding on either end of the rod, then wooden braces can be put between the studding and also a wooden brace between the sides of the door frame. These give a good, long pull on the silo, making the uprights solid and allows space for a continuous door. These iron rods can be placed a little to the outer edge of the door frame and can be used as a part of the ladder for silo.

My present lath-and-plaster silos do not have a continuous doorway. The doors are three feet high and then a space between each door is sheathed on the outside and lathed and plastered on the inside. In making the doors three feet apart, this makes the silo proposition a little more solid and substantial than the other way of fastening the door frame with iron rods, but, of course, it is a little handier in getting out the ensilage than to have the continuous doorway, using the double braces, as in that case one does not have to pitch the ensilage up three feet or more before you can get out the next lower door.

SPREADING FARM MANURES.

It takes as long to load a manure spreader as it does a wagon box, but the spreader will unload and spread the manure in a third of the time. Hauling manure in a wagon box and spreading it on the field with a hand-fork is hard and disagreeable work. It can be done much easier with a spreader and the material is more evenly distributed. The spreader is a useful implement to have at any time when manure is to be spread, but particularly so now when labor is scarce and the need for increased crops demands that not a pound of fertility be wasted. Save time and avoid waste—buy a spreader. If the amount of hauling is not sufficient to justify the investment, it may be worth while to rent or borrow your neighbor's.

LIVE STOCK NEWS.

A craze to load up with feeding lambs from northern ranges, regardless of cost, led to Iowa farmers making recent purchases as high as \$17.90 per cwt. in the Omaha market, while the best killing lambs were selling at \$17.90. Colorado lamb feeders have made no contracts yet, but are waiting for the September runs. The mutton end of the lamb crop is inadequate, and feeders expect to come out ahead by finishing off range flocks carefully, but there is great danger of paying too high prices at the start for thin flocks to fatten.

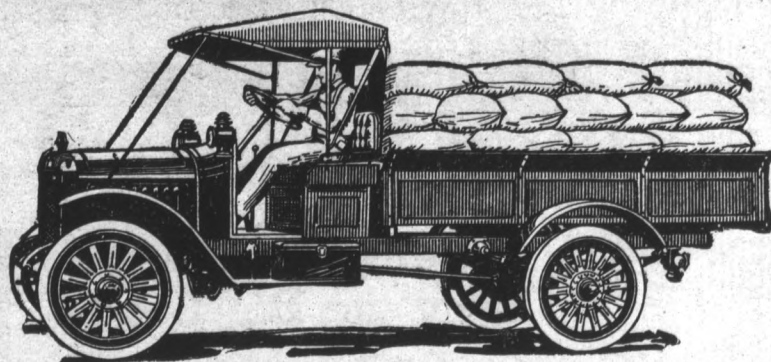
There are many advantages to a single pitch roof on the poultry house. This type is most easily built. It gives the highest vertical front exposed to the sun's rays and throws all of the rain water to the rear.

REPUBLIC

Internal Gear Drive

MOTOR TRUCKS

Built by the Largest Manufacturers of Motor Trucks in the World



Republic Trucks on the Farm

Republic Trucks are particularly adapted to the special requirements of farm work.

Republic Trucks have an Internal Gear Drive with I-beam load-carrying axle of solid forged steel. The driving mechanism is entirely separate from this axle and has nothing to do but drive the truck.

The power is applied near the rim of the wheel, gaining greater leverage for hard pulls. And this Internal Gear Drive permits 45% greater load clearance, a big advantage for country roads.

There is less unsprung weight which means important savings in tires, gasoline and all upkeep expenses. Every part is simple in construction, easy to get at and easy to adjust when necessary. 1300 Service Stations, distributed all over the United States, stand back of Republic Trucks to see that they give continuously satisfactory service.

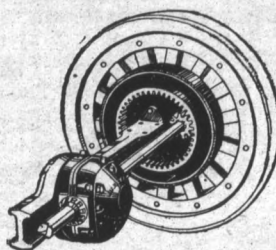
Dependable — Economical Trouble Proof

Republics are easy riding and easy to drive. And they have proved so dependable and given such superior service to owners that it has been necessary to build more than twice as many of them as any other motor truck in order to supply the demand.

There are seven different Republic Models — 3/4 ton to 5 ton. One of these models will exactly fill your requirements.

See the nearest Republic dealer and send for latest booklet.

Republic Motor Truck Co., Inc.
Alma, Michigan



The Internal Gear Drive gets extra power for pulling over bad roads and up hard grades by applying power near the rim of the wheel.

The ONLY Milker With Positive Squeeze

Means faster milking; greater milk yield; healthier condition of teats. Write for "Dairying for Dollars Without Drudgery."

SHARPLES MILKER

THE SHARPLES SEPARATOR CO., West Chester, Pa.

WEST MICHIGAN FAIR

GRAND RAPIDS
SEPT 16-20

Only \$2 DOWN ONE YEAR TO PAY

Buy the New Butterfly Junior No. 2 1/2. Light running, easy cleaning, close skimming, durable. Guaranteed a lifetime against defects in material and workmanship. Made also in four larger sizes up to No. 8 shown here. 30 DAYS' FREE TRIAL. Earns its own cost and more by what it saves in cream. Postal brings Free catalog folder and "direct-from-factory" offer. Buy from the manufacturer and save money. ALBAUGH-DOVER CO., 2105 Marshall Blvd., CHICAGO





Strong Enough to Carry the Big Loads

The reason why so many owners of farm machinery never stop to think of the Hyatt Bearings in their tractors, separators, etc., is because these Bearings serve for the lifetime of the machine without requiring any attention but occasional oiling.

Hyatt Bearings are always installed big enough and strong enough to carry the severest loads under all conditions without wear on the rolling parts. They never require adjustment. They are built on the fundamentally correct principle of true rolling action.

Hyatt Bearings are used in 90 per cent of the best tractors built.

We have some very interesting information in regard to this subject; write for it—address the Hyatt Roller Bearing Co., Chicago, Ill.

HYATT

ROLLER BEARINGS

UNCLE SAM WANTS MORE RYE

from Michigan. Plant every available acre to Rosen Rye this fall. Get the pure seed grown under inspection. We obtained a yield of 45 bu. per acre this year indicates that our efforts to keep the strain pure have been successful. Same field in 1915 yielded 35 bu. per acre. Field was prepared each time by discing corn ground once over and drilling with disc drill one and a half bu. per acre together with 200 lbs. acid phosphate about Sept. 25th. Our rye has been inspected and passed by the Mich. Crop Imp. Assn. Prices for seed recleaned and delivered to either P. M. or G. R. & I. R. R. 1 to 10 bu. \$3.25, 10 to 50 bu. \$3.00. Over 50 bu. \$2.75. Either seed sacks or new ones furnished @ 65c each. Orders filled same day received.

Maple Grove Farm, Breeders of Holstein Cattle, O. I. O. Swine, Shropshire Sheep, and pedigreed field seeds. ROSSMAN BROS., Lakeview, Mich.

EVERLASTING SILO

Ironstone Blocks

Under our special proposition, you can save \$25 to \$50 on an EVERLASTING SILO, guaranteed for the life of the purchaser. Blocks of ironstone, vitrified glass tile, triple wall design, self reinforced and interlocking, with double lock cement mortar joints. Extra steel reinforcing. Built for service.

Write for complete information and prices.

LEWIS McNUTT,
23 S. Walnut St., Brazil, Ind.

Lump Jaw

The farmer's old reliable treatment for Lump Jaw in cattle.

Fleming's Actinoform

Sold for \$2.50 a bottle under a positive guarantee since 1896—your money refunded if it fails. Write today for FLEMING'S VEST-POCKET VETERINARY ADVISER. A book of 197 pages and 67 illustrations. It is FREE.

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

FOR SALE

Traction engine 20 horse double steam. Front tank and two platform tanks. Nichols and Shepard Co. make. 15 barrel water tank with pump and hose and one set of four bottoms stone dodger. Oliver plows; this outfit has been used less than one month, will sell for \$1300.00. Apply J. C. McGREGOR, Alta Vista Farm, R. 4, St. Clair, Mich.

ROSEN RYE

The only Rosen Rye raised in Barry Co. this year that passed inspection by the Mich. Crop Improvement Association. E. F. NICHOLS, Hastings, Mich.

Hotel and restaurant in So. Michigan. Brick building, modern, good condition throughout and furnished. Main auto route, good business year round. \$40 sub rentals, 35 rooms. Part cash. Only hotel. Box Q. care Michigan Farmer, Detroit, Mich.

TRACTORS

And OTHER ENGINES

For Sale Cheap

1--New 30 H.P. Oil Tractor and Plows

Will be sold at once. Tractor weighs 8,500 pounds. Will operate on kerosene equally as well as gasoline. Is a mighty good machine to operate big ensilage cutter as well as other heavy machinery. Will Plow from 12 to 14 Acres per day and won't pack the ground.

1--Used 16 H. P. Tractor and Plows

This machine has been used a very little. It has been carefully looked over, painted and striped and has the appearance of new. It will operate a 6-roll corn husker, plow from 6 to 7 Acres per day and cut 10-ton of ensilage per hour. It is guaranteed to operate on kerosene equally as well as gasoline and give as good service as a new machine.

1--1½ H. P. Pumping Engine

In first class condition

1--Used 40 H. P. Stationary Oil Engine

In first class condition and operates on kerosene. This engine is of a standard make and heavy duty type. Is an extra bargain. The above machinery will be sold within the next 20 days.

Address Box 275, Lansing, Mich.

When writing to advertisers please mention the Michigan Farmer.

Wheat vs. Rye

I have a field which I am anxious to have put into wheat. It is a little rolling, with a black sandy top soil with a gravelly subsoil. The question has arisen as to which would be the best to grow on this, wheat or rye, and also as to which of the two takes the most out of the ground? What is the usual depth to which wheat roots penetrate the ground? The ground is a little rolling, and my man wanted to spread his manure, while I prefer top-dressing. What are the relative merits of spreading before plowing and after plowing? This field had a crop of oats this season.

Illinois.

W. J. V.

So far as the amount of fertility taken from the soil by a crop of wheat or rye is concerned, there would be little difference. A twenty-bushel crop of wheat would take from the soil about the same amount as a twenty-bushel crop of rye. But rye is a hardier plant than wheat, consequently it has the necessary vitality to do better and produce better crops on poor land than wheat. Again, rye will grow better than wheat on soil that is slightly acid. Very much of our sandy loam soil has acid and that is one reason why rye does better than wheat; you should take this into consideration.

Both wheat and rye are shallow rooted plants. They do not send their roots down into the subsoil like clover and alfalfa, or even corn. But, of course, much would depend upon the nature of the soil, as to how deep the roots would go. On gravelly soil roots of all kinds of plants penetrate deeper than in clay. But in clay soil a majority of the roots of wheat and rye do not penetrate through the upper surface part of the soil down below the part plowed.

I am of the opinion that it is always better to spread the manure on top of the ground rather than plow under, provided that the manure is not so coarse that it will clog the tillage implements in preparing the soil. Gravel subsoil is inclined to leach during a rainy season. Where the manure is plowed down the plant food may get below the depth of the root zone.

COLON C. LILLIE.

POINT ROT ON TOMATOES.

"Point rot," a disease of tomatoes is appearing with much frequency on the Michigan crop this season, the Department of Botany at M. A. C. has been advised. The trouble is characterized by the presence of black rotted spots on the tomato at the blossom end of the fruit. It makes its appearance commonly following periods of extremely dry and extremely wet weather.

"So far as is known," Dr. G. H. Coons, of M. A. C., declares, "nothing can be done with a crop that is already injured. By cultivation it may be possible to bring about an adjustment of water supply, so that tomatoes produced later in the season following an attack will be sound."

"For the next year the selection of a well-drained location, with a moderate nitrogen supply and planting of selected varieties should give a crop comparatively free from this trouble, providing the weather is more favorable than it has been. If one is growing plants in the greenhouse, or if he can use some irrigation system, it may be possible to prevent extreme conditions of moisture and so control this trouble."

More detailed information about the nature of the disease and the best methods of dealing with it can be obtained by writing to the Department of Botany, M. A. C., East Lansing, Michigan.

Water the work horses often, but avoid letting them drink too much after being fed, or when over heated.

What the Cow Would Say

We need a period of rest after we have worked for you all of the year, so that we may properly nourish our calves and build up our energies for another season's work.

Our food should be well balanced, but we hope that the time may come when you dairymen will not value a pound of protein from one source with a pound from another. Some of the protein feeds you give us are simply awful for us to eat and digest.

THE breeder of registered live stock has no strings tied to him by middlemen. The thirty-five cent dollar does not affect him. He comes as nearly as may be to getting the full and final price for everything he sells.

What will work out in the chemist's laboratory will not always work out the same in our stomachs. You sometimes seem to forget that we like succulent and palatable foods.

The greatest records being made by some of our sisters are made at the expense of their vitality, and when we see veterinary surgeons visiting their homes with tuberculosis, hypodermic syringes, and other dope and instruments, we don't wonder that they need the treatment.

We sometimes feel as though we were all out of whack. We can only lay this feeling to the way in which our owners have interfered with nature's laws.



Companions.

You have bred us so that it is our very nature to put our fat into the pail, and when we get short rations we put the flesh of our own bodies into your milk. The drain on our systems is awful.

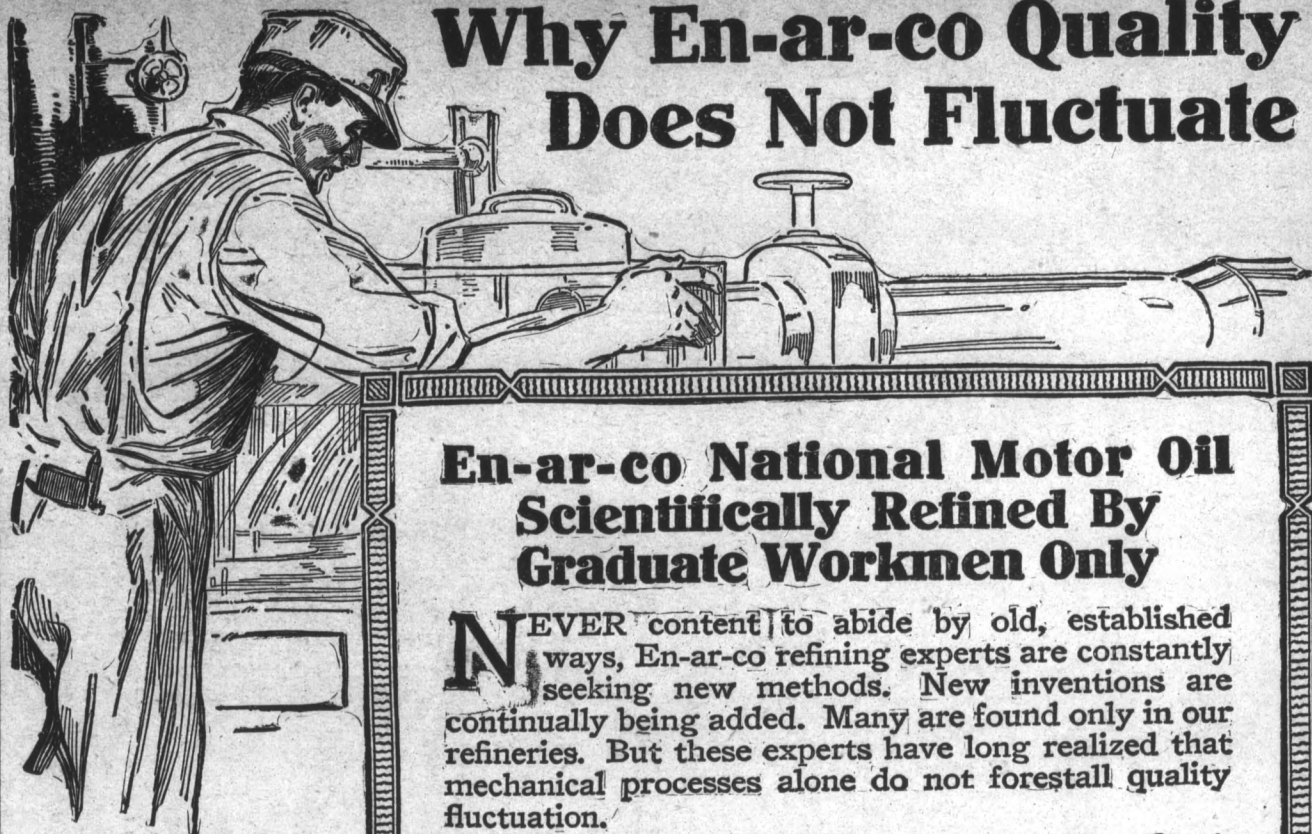
It seems as though you thought of nothing except buying more protein, making more milk, and forcing us to our very limit. Do you wonder we get tuberculosis, garget, and that we play out under such care and treatment?

When you confine us to such narrow rations as many of you dairy farmers do, we cannot use our instinctive preferences in the choice of our foods and when you choose our food for us, you should do it wisely.

We need some succulent food to keep our bowels in condition and assist us in the digestion and assimilation of the heavy grain foods we are compelled to eat.

If you would feed us a little more of the good things that you grow here on the farm, and not so much of those boughten feeds, we should make better milk, and we should have better calves to take our places when we are sent to the shambles.

One of the most difficult tasks confronting well-meaning farmers is that of doing their share toward creating and maintaining rural conditions which will attract American-born men and their families.



Why En-ar-co Quality Does Not Fluctuate

En-ar-co National Motor Oil Scientifically Refined By Graduate Workmen Only

NEVER content to abide by old, established ways, En-ar-co refining experts are constantly seeking new methods. New inventions are continually being added. Many are found only in our refineries. But these experts have long realized that mechanical processes alone do not forestall quality fluctuation.

Oil scientists say that *quality must not fluctuate*. Lubricants must be uniform in order to give the greatest service and assure complete satisfaction.

Accurately Trained Workmen Produce Accurate Products

Having supplied the best materials, newest modern equipment, exact formulas and rigid tests, quality then depends upon the degree of training each workman receives.

Thus it is to your advantage to use En-ar-co National Motor Oil and other En-ar-co products. All En-ar-co brands are made by graduate workmen only—men who have passed through the several grades of En-ar-co scientific training. Each man must qualify for his master degree before he is assigned to responsible duties.

Your Satisfaction Guaranteed

Tractors, Automobiles, Aeroplanes, Trucks, Gas Engines and Motor Boats give better service and last longer when lubricated with En-ar-co National Motor Oil. And there's equal satisfaction in White Rose Gasoline and other En-ar-co products. The best is none too good for your motor. Here, then, is your assurance of maximum service and satisfaction. Try En-ar-co National Motor Oil now—made by men who know.

Send for This FREE Handy Oil Can

Sign and send the coupon today. We will send a long-spouted can that enables you to oil the hard-to-reach places.

(96)

Sent FREE

The National Refining Co., 1670 Rose Bldg., Cleveland, Ohio

I own automobile or tractor and enclose two 3-cent stamps. Send me Handy Oil Can Free. Please give nearest shipping point in state and quote prices on items I have marked. I will be in the market about (Give date above)

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

My name is R. F. D. Postoffice County State

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

"Scientific Refining"



The National Refining Company

Branch Offices in 77 Cities

General Offices: Cleveland, Ohio



Model 20

SOLD ON 10 DAYS TRIAL

THE Martin FARM DITCHER Terracer & Grader

All-steel, reversible, lasts a lifetime. Cuts V-shaped farm ditch, open drain, tile or irrigation, down to 4 ft. deep; cleans old ditches; grades roads; builds farm terraces, dikes and levees; works in any soil, wet or dry. 2, 4 and 6 horse sizes; large size fine for tractor. Does work of 100 men. Solves all dirt-moving problems. Write and find out how to make big crops sure. New, free book on drainage, irrigation and terracing. Address

OWENSBORO DITCHER & GRADER CO., Inc. Box 815 OWENSBORO, KENTUCKY

Drain Before Winter Rains

Get ready for ditching and terracing your farm NOW. Don't delay. Water standing on your land during the winter will smother the soil, kills big crop chances for next year. You can solve the open ditch or tile ditch problem at low cost. You can make sure that your land will be in finest condition for early spring work. Seed will germinate much quicker and be healthier in well-drained soil. Write for new book that tells how to do it with

Use Your Ford!

to GRIND YOUR FEED FILL YOUR SILO SAW YOUR WOOD SHELL YOUR CORN PUMP YOUR WATER ELEVATE YOUR GRAIN



Ward Work-a-Ford

Gives you a 12 h. p. engine for less than the cost of a 2 h. p. Ford builds the best engine in the world—it will outlast the car—and you might as well save your money and use it to do all your farm work. No wear on tires or transmission. Hooks up in 3 minutes. No permanent attachment to car. Cannot injure car or engine. May also be used on other cars. Friction Clutch Pulley on end of shaft. Ward Governor, run by fan belt, gives perfect control. Money back if not satisfied. Agents wanted. Send for circular. WARD TRACTOR CO., 2038 N St., Lincoln, Neb.

Please Mention The Michigan Farmer When Writing to Advertisers

Save Fuel and Help Win
the War -- The Caloric
Saves 35 to 50% Fuel.

Comfortable in all kinds of weather



Six and a half tons of coal

hard coal for the heater and two of Pocahontas for the range. With the heater we warmed three rooms fairly well, and the fourth was chilly unless we had fire in the range.

"Last winter we used six and one-half tons of Pocahontas in our Caloric Pipeless, and the Michigan spring was a long time in making its appearance. In fact, we kept a fire 'till pretty well along toward June. We heated five rooms all of the time and more when occasion demanded and the thermometer stood at seventy-five degrees to eighty degrees during the day. We used a kerosene stove to cook with as we did not need the range for heat.

A Wonder For Neatness

"The Caloric is a wonder for neatness. I have taken care to watch, on a sunny day at that, for any dust that might come up through the register when the grate was being cleaned out and always watched in vain. There is no dirt or ashes to be cleaned up in the living room each morning as is always the case with a stove. It consumes any sort of fuel in a gratifying manner with immediate results. Certainly the farmer can enjoy warm winter evenings as well as his city friends if he will but install a Caloric Pipeless Furnace."

Many thousands of the more than 50,000 satisfied Caloric users have written like letters. The guarantee of satisfaction upon which they bought has been met fully.

You may have the same comfort in your home. Take the first step by writing us for our book explaining the principles of Caloric heating. With it we will send the names of people in your section who can show you this wonderful furnace in operation. See the Caloric dealer.

Burns coal, coke, wood, lignite or gas.

The Monitor Stove Company

Established 1819-99 Years of Service

243 Woodrow St.

Cincinnati, Ohio

Morley Bros., Saginaw, Mich.

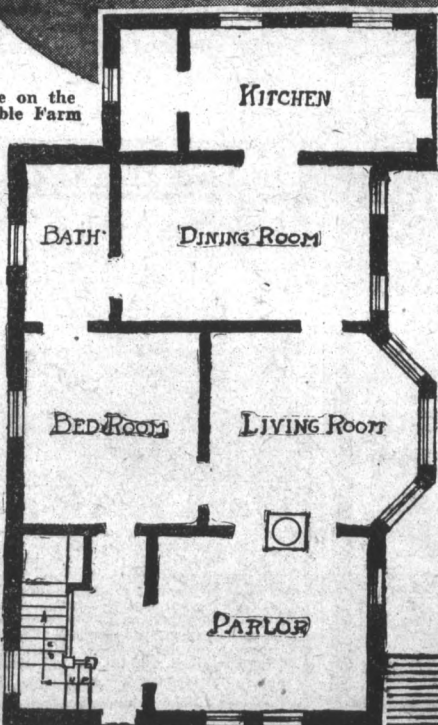
**PIPELESS
CALORIC
FURNACE**

The Original Patented Pipeless Furnace

THE MONITOR STOVE COMPANY
243 Woodrow Street
Cincinnati, Ohio
You may send me your catalog and names of
people who use the Caloric, without any
obligation on my part.

Name _____
Address _____

Scene on the
Snobble Farm



First
Floor
Plan

Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION

MICHIGAN FARMER
AND *LIVE STOCK* JOURNAL
PUBLISHED WEEKLY. ESTABLISHED 1843.

The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

WORLD EVENTS IN PICTURES



English women invade another profession in effort to release every available man for service. These women are veterinarians for the horses of the British army.



Mrs. Stewart, private secretary to Secretary Redfield, of the Department of Commerce, first woman to act in this capacity, proves invaluable in this important position.



Woman ambulance driver receiving a military medal for bravery under fire. These women are in constant danger, as the Hun shows no regard for Red Cross flag or emblem.



Would You Like to do This? These are not two movie heroes doing a "thriller" before the camera but National Army cavalymen training on the Texas border at Fort Sam Houston, Texas.



Floyd Gibbons, American War Correspondent, returns from France, where he lost an eye in going to the aid of an American officer.



Hansom cab found in ruined French village. However, these Tommies will not depend on it to carry them to Berlin, but will fight hard for every foot of ground. (British Official Photo).



Major General Duncan, front row, center, and his staff. General Duncan led the first National Army unit into battle, and was the first American officer to receive the French Croix de Guerre for courage under fire. He has been in active service in France for a year; now on way home for a rest.



Here are shown some of the "Greys" of the British cavalry which have been repeatedly cited for their remarkable work in driving back Hun hordes. Their efficiency is only one of the many surprises the Allies are giving Fritz, these days.—(British Official Photo).

"High Grade"—a new one—
President Suspenders
 for comfort

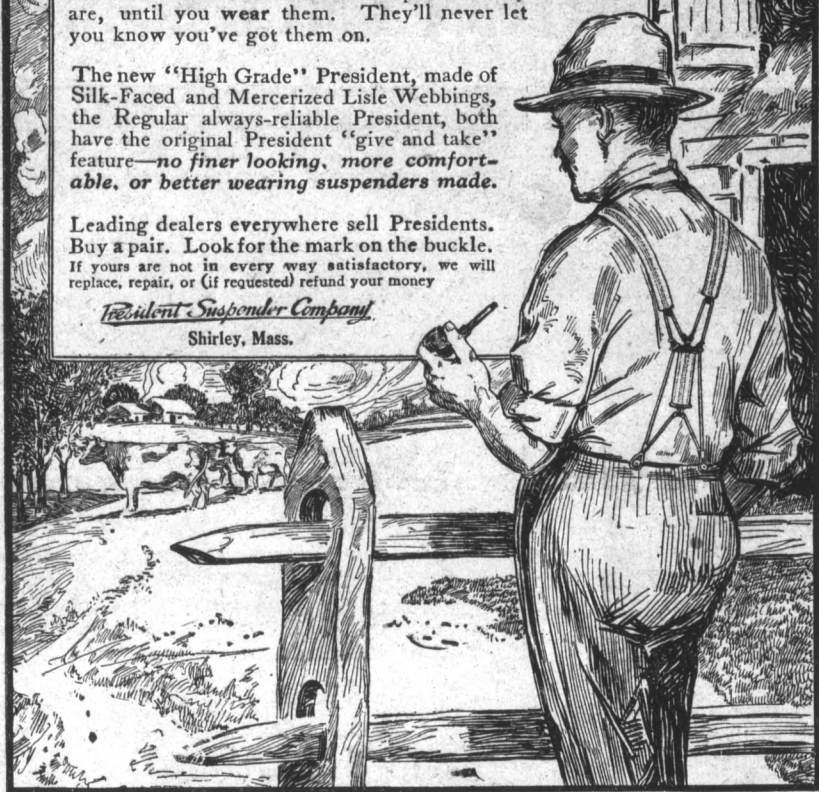
YOU can be sure before you buy that President Suspenders will afford you a lot of wear. They are guaranteed—satisfactory—or money back. But you can never realize how wonderfully comfortable, and how different from other suspenders they are, until you wear them. They'll never let you know you've got them on.

The new "High Grade" President, made of Silk-Faced and Mercerized Lisle Webbing, the Regular always-reliable President, both have the original President "give and take" feature—no finer looking, more comfortable, or better wearing suspenders made.

Leading dealers everywhere sell Presidents. Buy a pair. Look for the mark on the buckle. If yours are not in every way satisfactory, we will replace, repair, or (if requested) refund your money

President Suspender Company

Shirley, Mass.



TRACTOR FOR SALE

Moline Universal, Model "C". Almost new. Used only on 40 acres this spring. Price.....\$800.00

GEO. S. BIGELOW,
 Breedsville, Michigan

Bates Amazing Value Men's Army \$3.95 Type Shoes



BATES BOOTS, Lansing, Mich.

Michigan Farmer Club Rates

By getting your neighbors to subscribe you can get your subscription at a reduced rate. We will accept yearly subscriptions on the basis of our two, three and five-year rates as follows:

- 2 yearly subscriptions....\$1.50
- 3 yearly subscriptions.....2.00
- 5 yearly subscriptions..... 3.00

You will find it easy to interest your neighbors in the Michigan Farmer. Send all orders direct to

The Michigan Farmer,
 Detroit, Michigan

"Pumps for Every Service"

is the title of our very latest book on farm pumps. Describes pumps for farm and water supply, irrigation, mechanical milking system and many other uses—one for every purpose and for every kind of power. Send for it. And ask our Service Dept. —free—to help you select the pump for your needs from the 300 styles and sizes of

GOULDS PUMPS

Guaranteed. Backed by 69 years' pump-making experience. Write today to Department 12.

The Goulds Mfg. Co.
 Main Office & Wks.
 Seneca Falls, N.Y.
 BRANCHES:
 New York
 Boston
 Philadelphia
 Chicago
 Pittsburgh
 Houston
 Atlanta



It isn't too late to get a silo. We still have material for Saginaw silos and can make prompt deliveries. But our supply is going fast. If you want to be sure that your silo is up when the corn must be gathered, order today. Ask about the Liberty silo—New Saginaw construction.

The McClure Company
 Saginaw, Mich. 15 Cairo, Ill.

FOR SALE

Fix 22 Columbia—Ann Arbor wood frame belt-power hay baler in good running order. For particulars address FRED M. SHAW, Eickford, Mich.

Angora Goats. 35 head of Angora goats for sale. Excellent for clearing up brush land. They have cleared my farm. Prices reasonable. JAMES OVERBEELS, Hamilton, Mich.

A FLYING FIGHTER

by L. T. EMERSON, R.F.C.

Copyright by Harper & Brothers



I went up once to an elevation of 14,500 feet. I was up there an hour and a half, and, being above the clouds had no idea where I was. Of a sudden my revolution counter broke and the air pressure in the gasoline tanks gave out. I shut off the engine and started towards the ground. The machine I was in had a flying speed of about seventy miles per hour. That meant that I would have to keep up good speed all the way down. The first stratum of cloud I went through was so wet that a lot of it froze to the machine. It was enormously thick, and for all I knew it might hang only a few hundred feet above the ground. There was the chance that I would emerge from it and find myself over the very center of London, which is as poor a landing field as anybody would care to have. As I was going down, the thought of finding a convenient landing spot plagued my mind constantly.

I had plunged down 5,000 feet, so far as my instrument showed me, and was still in that cloud. I had given up all hope of ever getting out of it when suddenly I dived into clear air and saw the ground. The machine I was flying had a small gliding angle, and I would have to find a landing spot quickly. Having ascertained now that I was not going to drop in the city of London, I was much relieved, but I had some trouble, nevertheless, in discovering a reasonably level space. The machine was plunging towards earth at a terrific speed and I had little time to pick a convenient spot. Nothing upon which my eyes lit seemed to

serve the purpose. But finally I found an open space and decided to settle down upon it. I was sure that a good landing could be made, but such was not the case. In striking the ground the machine turned turtle and was rather badly damaged.

While the machine was turning over I had presence of mind enough to throw myself out of the cockpit. I landed on my head but suffered no injury. To my mind came then a remark made to me by the doctor of the hospital to which I was taken after I had been shot in the heat in France.

"It is a lucky thing," said the doctor "that your head is of solid ivory, and seventeen inches thick; otherwise you would have been killed."

There is no doubt that had it not been for the cast iron constitution which I enjoyed prior to enlisting I would have died long ago.

Old Ham also was working on this aerodrome. One day he took up a big bus for a test and while he was up the engine gave out. He came down suddenly and landed on a railroad track. At the aerodrome a gang of German prisoners were employed to level off the ground surface. They would laugh and jeer every time there was a crash. They did so on this occasion; in fact, they never lost a good chance to let us know that their enmity towards us was real enough.

On the day Ham crashed I flew down the coast with a bus to be delivered in France. I made a fine trip, but on getting over the station at which I was to land I shut off power and started to spiral down. Unfortunately, the wind



Wednesday, August 28.

Germans fighting before Bapaume brace their lines by adding fresh units. Fighting extends over a seventy-mile front. French advance beyond Roye. British are fighting hard to the north of Cambrai.—Fuel Administration asks American public to eliminate pleasure motoring on Sunday to save gasoline for war needs.—Both democratic and republican state conventions in Missouri urge action on the federal dry bill.—Secretary of War Baker announces that John D. Ryan has been made minister of munitions and aviation.—Rice riots in Japan in which a quarter of a million people participated resulted in 290 casualties.

Thursday, August 29.

Germans are retreating on a 100-mile line. Croiselles and Chavigny have fallen to the Allies. Americans force the German center along Ailette river. French recapture forty villages in a seven-mile gain in Picardy. Haig is nearing the Somme river and St. Quentin, the chief base of the enemy lines, is now being menaced by the Allies.—Border fighting along the Mexican line is reported.—Governor Goodrich, of Indiana, is seriously injured in an auto collision.—Sixty thousand men working in sixty-six munition plants in Bridgeport, Conn., are granted a substantial advance in wages.

Friday, August 30.

Germans continue to retreat from Bapaume southward. British reach the west bank of the Somme opposite Peronne and Brie. Canadians and Scottish troops are in a fierce battle along the Arras-Douai railway. Americans are holding the Germans who are fighting desperately to protect their lines before Soissons.—United States Senate adopts national prohibition measure to become effective June 30, 1919, and to continue until the American army is demobilized.—Judge Landis of the United States court sentences one hundred I. W. W. men.—All changes in telephone rates must be submitted

to Postmaster-General for approval.—All men who must register under the new draft law must be able to prove their exact ages.—The flour substitute rule is amended so that during the month of September four pounds of flour may be sold to one pound of other cereals.

Saturday, August 31.

French are within 300 yards of the famous Drocourt-Queant switch line to the east of Lens and upon which the Germans are depending to stop the Allied advance in the north. At the southern end of the Hindenburg line French and American troops are pushing north out of Soissons to weaken the center of the German defense. The foe is in full retreat in Flanders. Bailleur and Comblès are taken.—Serious strikes involving 200,000 workmen are on in Bochum, Germany.—Mexican government has modified its tax laws on the oil interests of the country.—President Wilson makes September 12 the date for registration of men between eighteen and forty-five years of age under the new draft bill.

Sunday, September 1.

Germans are reported to be preparing a line of trenches along the Rhine river all the way from Cologne to Switzerland. Belgians are being used to do this work. Allies are smashing through foe reinforcements. French break down the strong German resistance along the Nord canal and to the north of Soissons. Mount St. Quentin dominating Peronne, is taken by the Australians. In this operation more than 1,500 prisoners were taken. British take Mount Kemmel and are regaining much territory lost to the Germans during the latter's drive toward the Channel ports last spring.—In a trolley crash at Anchorville, Mich., seventeen persons are injured. Yaqui Indians in Sinaloa, Mexico, have revolted.

Monday, September 2.

Haig forces enemy to retire along (Continued on page 222).

Here's the Way to Add Dollars to Your Dairying Profits!

"It isn't what you make—it's what you **save** that makes you rich," is an old proverb.

Maybe the reason why your dairy cows are not paying you as much hard cash net profits is because you are, without knowing it, wasting the real profits that they **are** giving you. If you are still using the old-fashioned gravity or shallow-pan method of cream separation, you certainly are wasting a big percentage of the high-priced cream your herd yields daily. If you are trying to "get along" with an old separator, or a cheap, inferior machine, you are also robbing yourself of profits that your herd is trying to give you.

Millions of Dollars Are Lost Every Year by American Farmers Through Wasteful Cream Separators

Swedish farmers don't waste any cream. They can't afford to. They have to make every penny of profit possible. That's why the cream separator industry was born in Sweden. And—today—the most popular, the most efficient Swedish separator is the **Viking**. Here is the record-maker in close skimming. It is guaranteed to skim down

to three one-hundredths of one per cent. As a rule it skims as close as one one-hundredth of one per cent! Everywhere it is used it proves itself a profit maker for the farmer. It will pay you to investigate it. Drop in on your local **Viking** dealer the next time you go to town.

These two books embrace the greatest amount of practical, **proven** profit-making facts and plans and methods that any dairy farmer can follow, than any other two books I have ever heard of! I believe every farmer would benefit by reading both of them.

Stop This Waste *Forever* on Your Farm by Using a

VIKING CREAM SEPARATOR

It "Gets" All the Cream You Get All the Profit

And you do it with **less work**. The **Viking** is marvelously easy running. It has less gears than most other separators, and is more scientifically constructed. Its simple construction is the secret of its easy running. And its easy running is one of the reasons why it "gets" all the cream.

A hard-running separator will always waste cream. The vibration and trembling caused by the jerky, hard-running separator causes the cream to mix with the milk—with the result that good cream goes out the skim-milk spout.

The smooth, easy-running **Viking** lessens work and increases butter-fat profits. It is your duty to your pocketbook to learn more about the **Viking**. Get

These 2 Books—Both FREE—Show Exactly How to Multiply Milk Profits—Write For Them

These two volumes contain the most practical kind of advice and pointers. Not a word of theory. Just proven facts, plans and methods that other highly successful dairy farmers have tried out and **proved** out to their great profit. Write for both **RIGHT NOW!**

SWEDISH SEPARATOR COMPANY, Dept. BG, 507 S. Wells St., Chicago, Ill.

Give Us Your Name and Address—We Will Give You the Books



SWEDISH SEPARATOR COMPANY, Dept. BG, 507 So. Wells Street, Chicago, Illinois

Send me your 2 FREE books at once.

Name _____

R. R. No. _____

Post Office _____

State _____

My Dealer's Name Is _____

One Man Does All The Work With WATERLOO BOY

The Original Kerosene Tractor

Farm labor shortage is no bug-bear to Waterloo Boy operators. This one-man, three-plow outfit does more work with less expense than any three of your drafted farm hands. Distinctively simple, strong construction, with automatic trouble-preventing features wherever feasible, gives you assurance that

You Can Place Your Trust In Waterloo Boy Guaranteed Power

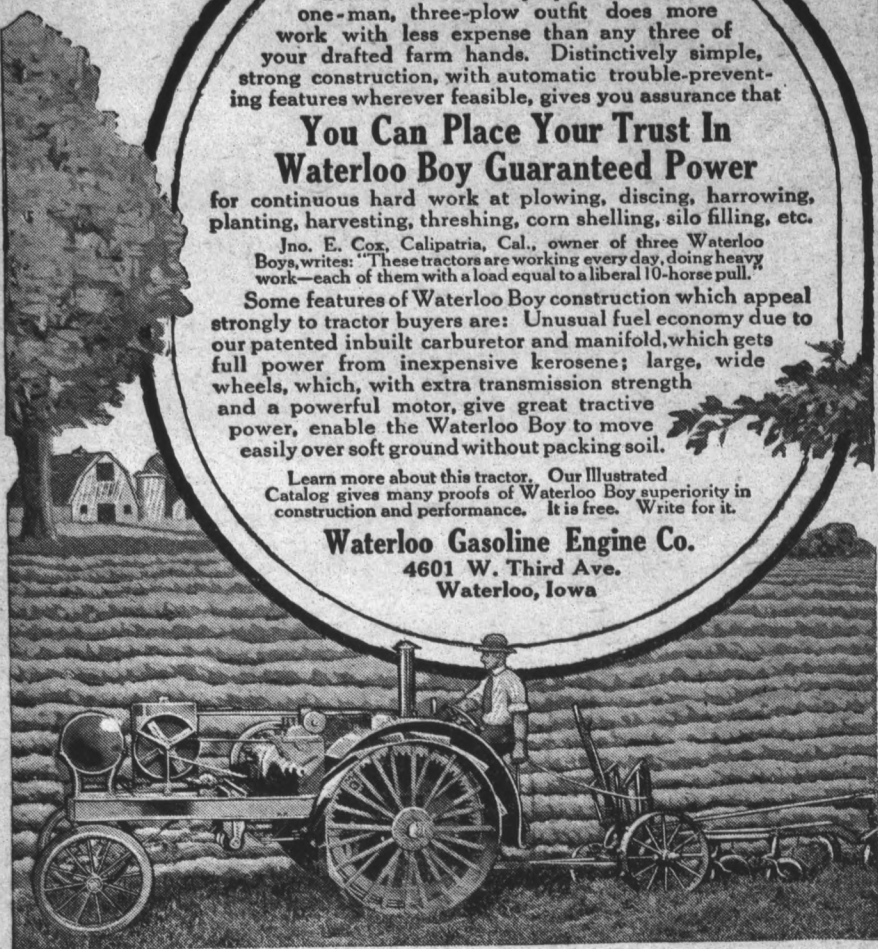
for continuous hard work at plowing, discing, harrowing, planting, harvesting, threshing, corn shelling, silo filling, etc.

Jno. E. Cox, Calipatria, Cal., owner of three Waterloo Boys, writes: "These tractors are working every day, doing heavy work—each of them with a load equal to a liberal 10-horse pull."

Some features of Waterloo Boy construction which appeal strongly to tractor buyers are: Unusual fuel economy due to our patented inbuilt carburetor and manifold, which gets full power from inexpensive kerosene; large, wide wheels, which, with extra transmission strength and a powerful motor, give great tractive power, enable the Waterloo Boy to move easily over soft ground without packing soil.

Learn more about this tractor. Our Illustrated Catalog gives many proofs of Waterloo Boy superiority in construction and performance. It is free. Write for it.

Waterloo Gasoline Engine Co.
4601 W. Third Ave.
Waterloo, Iowa



Power Shortage is Fuel Waste

Don't think you're saving by letting your engine, tractor or automobile motor run along short of power. The shortage is probably due to gas escaping through leaky piston rings—and you have to pay for it anyhow.

The surest way to get—and keep—maximum power and save fuel is to install a set of

McQUAY-NORRIS LEAK-PROOF PISTON RINGS

The piston ring which is properly designed and constructed to give perfect bearing on the cylinder walls—save friction and undue wear on cylinders. Your dealer can get you any size or over-size quickly. Over 300 jobbing and supply houses in all parts of the country carry complete size assortments. If you have any difficulty getting them, write us.

McQUAY-NORRIS Superoyl RINGS

A special ring for engines that pump oil. Used in top groove only of pistons to control excess oil, with McQuay-Norris LEAK-PROOF Rings in lower grooves to insure maximum compression and fuel economy.

SEND FOR FREE BOOKLET

"To Have and to Hold Power"—a simple, clear explanation of piston rings, their construction and operation.

Mfd. by McQuay-Norris Mfg. Co.
2877 Locust St., St. Louis, Mo.
Copyright 1917, McQuay-Norris Mfg. Co.



Free Catalog in colors explains how you can save money on Farm Truck or Road Wagons, also steel or wood wheels to fit any running gear. Send for it today.
Electric Wheel Co.
35 Elm St., Quincy, Ill.

DOGS

Scotch Collie Pups For Sale. Pure bred stock. O. E. Hawley, R. 3, Ludington, Mich.

Mention The Michigan Farmer When Writing Advertisers

"GET A WITTE" SILO ENGINE

Cash, Payments or No Money Down. Power on the farm saves feed, saves crops, helps shorten the war.

Burn KEROSENE

Save gasoline—save money—get more power at half the cost—save \$15 to \$200. Buy Direct From Factory. My new factory book, "How to Judge Engines", sent FREE fully explains. Write for it today.—ED H. WITTE, Pres.

Witte Engine Works 2197 Oakland Ave., Kansas City, Mo.
2197 Empire Bldg., Pittsburgh, Pa.

A Flying Fighter

(Continued from page 212).

drifted me off, and when I came out of my spiral, at the height of about five hundred feet, my engine would not start again.

I tried everything possible to get that motor spinning, but it was no use. I did not have height enough to get over the road, on the other side of which the aerodrome was located. On this side of the road stood some small pine trees and I settled down upon them. Luckily, the trees were small, and their tops formed a gentle cushion for me to land on. The propeller of the machine was slightly damaged, but that was all.

I climbed out of the machine with my bag, stick and log books, and reported at the headquarters of the aerodrome. The commanding officer happened to be in.

"I have brought you down a DH5, sir," I said.

"Is it any good?" he inquired.

"It's perfectly all right except the engine," I answered.

"Where is it?" asked the officer.

"It's over on the pine trees," I replied. "I cut out the engine when I was away up and then it refused to start again, so I landed the machine in the trees."

For a moment the officer did not know what to say, then he smiled and asked me if I were hurt and offered me a cigarette. After that he signed my log book and gave me a receipt for the machine. I had lunch with him and then returned to my squadron.

Ten days later I had another weird trip. I was up in the air a good many thousand feet and the fog and haze were so thick that I could see very little. Above me there was another layer of cloud, so I decided to get to the top of that and then fly by compass and speed.

Before I reached the top of that cloud stratum I had ascended to thirteen thousand feet. Then I headed for my destination, which I knew was about forty minutes distant, if I kept up ordinary speed. I allowed for the time I had taken by going up so high, and after forty minutes flight on the level I started to descend. I had dived a good ways but could see no ground. The thing began to worry me. I looked at my instrument, and that showed me that I had gone twelve thousand feet. Since I had gone up to thirteen thousand feet I could be no more than one thousand feet above the earth. But no ground could be seen, and yet when I had gone up the weather had not been thick enough to make it impossible for a man to see that far.

But the weather in England is a most unreliable and treacherous thing. I got down to three hundred feet and then the first thing upon which my eyes hit was a building which in another instant I recognized as the town hall of A—. I pulled on the throttle, but the engine did not respond. At that height there is no time for manœuvring, and in this case there was also no room. So I made up my mind to trust to luck and then let the bus have her way. I was just about to land in a street, as things looked, when the motor suddenly kicked four or five times and started off. I literally swallowed my heart and sat back in the seat, glad to get that thing out in the open country. I noticed that in some places the clouds were hanging as low as fifty feet above the ground; a young gale was coming from off the sea. But my troubles were not yet over.

There is a regulation which restrains pilots from flying over certain prohibited areas, such as sites occupied by munition plants and works which manufacture high explosives. There are so many of these prohibited areas that it is impossible to remem-

ber them all. The man who does not remember them is likely to get shot at by the English "Archies," or reprimanded if caught, and I had to find an aerodrome as soon as possible to avoid these, which I did, and I was very thankful after I was once more on Mother Earth. The same fate may befall the flyer while going over to France. We were required to leave our own coast at an elevation of five thousand feet and the French had a similar regulation.

On one of my first trips to France, made in company with eleven others, we were heading for the Channel at an elevation of nine thousand feet. That caused the English "Archies" to shell us. They were under the impression that we were Huns. But we made ourselves known by coming down to the prescribed level.

As a rule, we returned to England from our trips to France by the Channel boats. But often old machines had to be flown back from the parks in France, and in that case we made our return journey in the air.

We used to do our best to make sure that the machines were in proper shape before starting on a trip. It is not pleasant to land in the middle of the English Channel and float around for an hour or more before a patrol boat picks you up. But it is quite a common occurrence to make forced landings in that body of water. The number of machines turned out in England increased rapidly, and many men were engaged in ferrying them across to France. Though proportionately accidents were few, once in a while the ferry flyers and their machines would never be heard from again.

We had to fly when ordered, and there were times when it made no difference at all what sort of weather prevailed. That depended somewhat on the demand for machines at the front. As the aviation training schools in England multiplied, our work increased by leaps and bounds.

There was also much testing to do. There were days on which the testing pilots, of whom I was one, had to be up continually, and to our commander it made no difference what the state of the weather was. It might rain pitchforks and hammer handles and still our work had to go on. We used to take turns at testing and ferrying, and very often faults of the machine that had not developed during the test would show themselves while we were taking it to its destination. Our measure of experience was getting fuller every day, and some of the things that happened to us were queer indeed; yet it was all in the day's work.

While I was on ferry work between England and France I had a very good chance to observe what the naval flyers had to deal with. In the first place I could see the bottom of the channel the biggest part of the way across. From an altitude of several thousand feet the bed showed up in brownish grey, except for the large deep holes, which appeared blue. It seemed queer that one should be able to see the bottom where big steamships were traveling, and I could easily understand now how the naval airmen could see a submarine when submerged.

This particular search is quite interesting. The patrols, keeping a sharp lookout for hostile craft of that kind, would cruise about until they had spotted one of the "tin fishes." Then they would go down and drop aerial torpedoes on it. If they saw other hostile ships, they would call up the naval station and notify it. A destroyer would be ordered to the scene, and then the naval airmen would help with the bombing. At other times they would watch for hostile aerial coast patrols and raiders bound for various

points in France and England. The naval men have become so efficient that it is very seldom that enemy craft of any kind, either on water or in the air, go on reconnaissance without being fought by them. In many instances they have been able to inflict heavy losses upon the Huns.

Besides meeting the difficulties of flying over water, the naval men have to train themselves to land on water, which is quite a ticklish thing to do, for the reason that for the last few feet there is nothing to show what the distance between the machine and the water's surface is, and many a spill occurs in learning. Water is as hard as land to fall on, and not soft, as many seem to think. It will smash a plane as quickly as if it had landed on the ground.

Men who fly on the ground cannot necessarily fly over water. Some men seem to lose their sense of equilibrium when out of sight of land, and, as the sea is such a tremendous body, that is not to be wondered at. Conditions vary a great deal over water and when correcting bumps or small erratic air currents one has often to resort to his inclinometer and other instruments to keep right side up; for the fact that the water is level and of the same color when one looks ahead, has a disconcerting effect upon the vision. While flying over the clouds, which are generally of more level formation over the water than they are over land, the horizon is harder to judge, making aerial navigation very difficult at times. This has resulted in the use of several mechanical contrivances such as the artificial horizon, already installed on destroyers.

On a beautiful day in May I left for France—that is to say, it was a beautiful day in England. A little further south the weather was only about half decent.

Providing the bus behaves well the trip from station to station can be made in an hour and ten minutes. That is rather a long time to be in the air without landing underneath, and for that reason and the long delays and trouble caused by forced landings, we used to take a careful look at the weather before we left. On this occasion a squall set in while I was half across the Channel, and I had great trouble keeping the pitching bus out of the water.

On another day I had picked a new route around the northern part of London. The weather was fine and I had gone about sixty miles when the thought occurred to me that I would look up some of the boys at H., who were on home defense work. I had tea with them; then, at about five o'clock in the afternoon, I was ready to continue my trip to France. I said good-bye to the gang and got into my bus. From where I was I had to go due south and across the Thames River. I was not flying very high when on looking into the cockpit, I noticed that gasoline was spilling on the floor. I was unable to tell where the leak was, and rather than run chances I turned off my pressure. The motor stopped, and, as it did, I began to look around for a field in which I could land. I managed to get to earth all right, and then walked a mile to borrow a wrench, which I needed to replace the pipe that feeds the gasoline into the motor. Then I discovered that the tank was nearly empty. That meant that I would have to go in search of "juice."

I managed to get two gallons, and since I was consuming gas at the rate of eight gallons an hour, it was hardly enough to start with. But I had to get away soon, because a rain storm was coming up and I did not intend being caught in it in the open field.

(Continued next week.)



Copyright 1918
Henry Sonneborn
& Co., Inc.



Trade Mark
Registered

The nation's standard in clothes of moderate price

Styleplus are the only clothes in America identified each season at nationally known prices.

Each Styleplus grade is one price the nation over.

We center our volume on a few grades—cut down the expense of manufacturing—this is the reason behind the famous Styleplus quality.

No matter where,—no matter when—you buy Styleplus Clothes you know they are right in style, in wear, and in price.

Go to the Styleplus Store and see for yourself. Try on the clothes. Get exactly the kind that suits your build and your taste—that fit right and look well.

When you see your clothes before you buy them you know what you are getting. Buy Styleplus and you will always be sure of the big value at a moderate price.

Two grades in Styleplus suits: \$25 and \$30.

Three grades in Styleplus overcoats: \$25, \$30 and \$35.

Sold by one leading clothing merchant in most cities and towns. Write us (Dept. H) for Styleplus booklet and name of local dealer.

HENRY SONNEBORN & CO., INC.
Founded 1849 Baltimore, Md.

Styleplus Clothes
\$25 AND \$30

Each grade one price the nation over

America's only known-priced clothes

The American

Double Cylinder

Bean and Pea Threshers

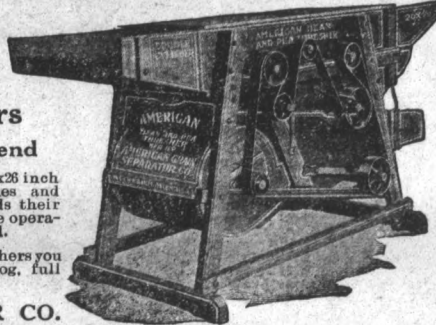
The Bean and Pea Farmer's Friend

Built in three sizes—14x14 inch, 20x20 inch and 26x26 inch cylinders, to meet the demands of all. Threshes and cleans all varieties of beans and peas, and shreds their vines, as they come direct from the field, in one operation. Capacity and perfect separation guaranteed.

PRICE When you learn the price of these threshers you will be surprised. Write today for catalog, full particulars and prices. Just drop us a card.

AMERICAN GRAIN SEPARATOR CO.
1017 Essex St. S. E. Minneapolis, Minn.

"THE BEAN and PEA FARMER'S FRIEND"



"Does the Work of a Crew of Men"

DRAIN TILE--AGRICULTURAL LIME

Anticipate your requirements. Order now to avoid delays on account of railroad and labor conditions.

Porous or vitrified drain tile. Bulk or sacked lime.

THE CADILLAC CLAY COMPANY

Nicholas L. Engel, Sec. & Treas.

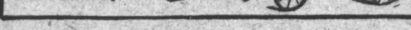
710 Penobscot Bldg.,

Detroit, Mich.

FREE FARMER'S ACCOUNT BOOK

Get this book free today. Hundreds of farmers use it for keeping their daily records. Also ask for catalog on Rosenthal Corn Huskers and Shredders. Known for their great speed and clean husking. Easy to feed. Many exclusive features. Own your own husker, save money and avoid delays. Five sizes—two for individual use, three for custom work. Sold on trial. State H.P. of your engine.

ROSENTHAL
CORN HUSKER CO.
Box 2
Milwaukee, Wis.



Ontario Veterinary College

110 University Ave., Toronto, Can.

Under the control of the Department of Agriculture of Ontario Affiliated with the University of Toronto.

College Reopens Tuesday, October 1st, 1918

Calendar sent on application

E. A. A. Grange, V.S., M.S.C., Principal

MINERAL HEAVE-COMPOUND CURES HEAVES

Booklet Free \$3 Package guaranteed to give satisfaction or money back. \$1 Package sufficient for ordinary cases.

MINERAL HEAVE REMEDY CO., 468 Fourth Ave., Pittsburgh, Pa.

I will condition a Horse or Cow in twelve days.

Put flesh on its bones. Give it life and vigor. Can add 50% to looks and value. Satisfaction guaranteed or no pay. Send postal for free offer.

P. M. FAUST, BRYN MAWR, PA.

Farmers' Elev. & Pro. Company, Bad Axe, Mich.

BUYERS

Beans, Grain, Cloverseed

INSYDE TYRES Inner Armor

for Auto Tires. Double mileage, prevent blowouts and punctures. Easily applied in any tire. Used over and over in several tires. Thousands sold. Details free. Agents wanted.

American Accessories Co., Dept. 712 Cincinnati, O.

Farms and Farm Lands For Sale

215 Acre Farm \$3000 with 7 Cows, Pr. Horses and

Hens, wagons, machinery, tools and crops included if taken soon by owner unable to work longer, near neighbors, mail delivered, 3 miles railroad town. Loamy tillage, brook-watered pasture, estimated 500 cords wood, 300,000 ft. timber, 150 apple trees, other fruit, 7-room house, barn, stable, poultry house, etc. \$3000 takes everything, part cash. Details page 3 Strout's Catalogue of this and other bargains, many with stock, tools, crops; mailed free.

E. A. STROUT FARM AGENCY, Dept. 101, Ford Building, Detroit, Mich.

Big Money-Making Farm \$3650 14 Cows, Pr. Horses,

Calf, wagons, harnesses, plows, harrows, mowing machine, complete machinery, tools. Aged owner of this 180-acre farm in fine section, near schools, stores, depot, for immediate sale includes everything for \$3650, \$1000 down. Rich tillage, splendid hay meadows, 20-cow, spring-watered pasture, woodland, fruit, Good 11-room house, stock barn, wagon barn, poultry, milk houses etc. Details page 15 Strout's Catalogue of this and other big mid-summer bargains, many with stock, tools, crops; copy free.

E. A. STROUT FARM AGENCY, Dept. 101, 814 Ford Building, Detroit, Mich.

McClure Stevens Land Co.

We have for sale: 15000 acres of fine unimproved lands, well located, joining well settled locality, on easy terms. A tract of 160 acres, 5 miles from Gladwin, on daily mail route, all fenced with woven wire, 20 acres under fine state of cultivation, 6 acres in fruit. A Sheep Ranch of 310 acres, all fenced, well grassed over, living water, 700 acres cleared, 30 acres under fine state of cultivation with fruit, good buildings, 250 head of sheep, 4 stock ranches well grassed, fenced and watered with living water.

McCLURE STEVENS LAND CO. Gladwin, Mich.

Beautiful Home and block (8 lots) of land a block and a half from Central Michigan Normal School, all kinds of fruit, shrubbery, shade, will sell or trade for good farm.

Cooper, Gower and Francis, Mt. Pleasant, Mich.

FOR Sale to close an Estate 180 A. Good buildings, well fenced, plenty of water and timber. Also 36 head fancy Angus feeding steers. For particulars address W. S. Cady, Litchfield, Mich.

HORSES

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

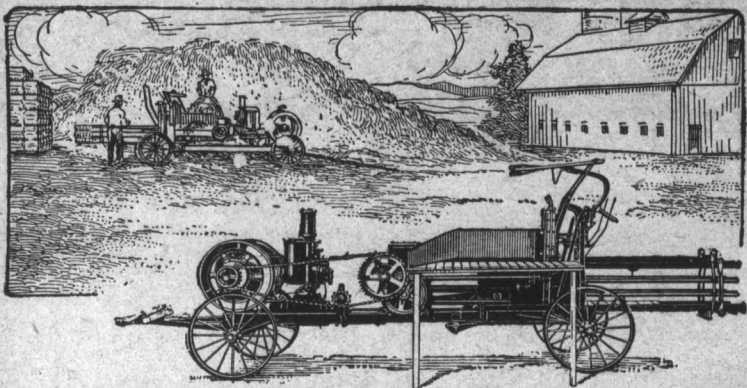
Percheron Stallions and mares of reasonable F. L. KING & SON, Charlotte, Mich.

For Sale Registered Percherons, Shorthorn cattle and Jersey Hogs. J. M. HICKS & SONS, R. 2, Williamston, Mich.

Percheron Stallion six and one three; your choice E. J. ALDRICH, Tekonsha, Mich.

Please Mention The Michigan Farmer When Writing to Advertisers

Use an International Press



EXTRA hay profit is to be found in the line of **International Hay Presses**. Hay, in the smooth, uniform bales turned out by an **International** baler, brings market prices enough higher to allow a good profit on the work of baling. Baled hay can be shipped quickly to points where prices are highest. Baled hay takes up little storage space and is easily handled.

In the **International** line there are one-horse and two-horse presses for farmers who have no other power; motor presses for those who want the work done in a hurry, and have other uses for a high-grade portable engine; belt power presses for baling large crops or for doing custom work. The **International** hay press line is complete. Bale chamber sizes are standard, 14 x 18, 16 x 18, and 17 x 22. The capacity of the different styles ranges from 6 to 35 tons of baled hay per day.

It's no trouble to find out all about this handy, clean working line of hay presses, nor does it cost more than the price of a postage stamp. Drop us a line asking for information on **International** hay presses, and we'll send it without delay.

International Harvester Company of America



CHICAGO

(Incorporated)

U S A

Champion

Deering

McCormick

Milwaukee

Osborne



Pure Rosen Rye AND Red Rock Wheat

Developed at the Michigan Agricultural College, inspected and certified by the Michigan Crop Improvement Association. For list of growers write the Secretary, J. W. NICOLSON, East Lansing, Michigan

Seeds Wanted

Red Rock Wheat
Sand or Winter Vetch
Red Clover Seed (Both kinds)

Edw. E. Evans, West Branch, Mich.

ROSEN RYE, a new variety originated by Michigan Experiment Station has been heavily outyielding almost all other varieties of winter rye. \$2.50 per bu. new 16 oz. bags 70c.

YOUNG-RANDOLPH SEED CO., Owosso, Mich.

We are in the market for Seed Wheat. **CARLOTS MAIL SAMPLES** Farmers Elev. & Pro. Company, Bad Axe, Mich.

Red Rock Wheat 500 bushel certified seed Regis try number 8016. For sale by **W. B. STICKLE**, Three Oaks, Mich.

Seed Wheat, No. 1 Red Champion and Red Rock the greatest yielding varieties. For sale by **W. J. MERRIAM**, Almont, Mich.

LIME Pulverized lime rock for "sour" soils. WE SELL YOU DIRECT. Shipment from our Muskegon, Mich. yard. Write for sample literature, analysis and price. **LAKE SHORE STONE COMPANY**, P. O. Box 175, Milwaukee, Wis.

Agricultural Lime
Hollow Building Tile
Drain Tile
J. W. ROLLINSON, 716 Penobscot Bldg., Detroit, Mich.

FOR SALE
Second-hand 9-18 gas tractor complete with two bottom gangs, in excellent condition; thoroughly overhauled; bargain for quick sale.
J. B. MASON, R. 3, Kalamazoo, Mich.

Honey Wanted
Comb and extracted honey wanted in quantities of 500 pounds and upwards. State quantity and source **M. H. HUNT & SON**, Box 525, Lansing, Mich.

50 good Belgian Hares, and other large Rabbits, also some fox and Rabbit hounds, enclose stamp. **W. E. Lecky**, Holmesville, O.

Profitable Employment

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

Big
Cut In
Prices On
Pipeless
Furnaces



DEL DANE, "The Old Stove Master"
has clipped the wings of high flying prices. Let me prove that I can save you \$25.00 to \$75.00 on the price and installation of the finest quality Pipeless Furnace—one that will heat your home "warm as toast" through one register. I challenge you to give me a chance to prove that!

Just Get My Book! See for Yourself
what low wholesale prices I quote on Stoves, Ranges, Furnaces, Gas Ranges, Oil Ranges and Kitchen Cabinets. Don't wait until tomorrow. Write right away. Ask for Catalog No. 909 **Kalamazoo Stove Company, Mfrs. Kalamazoo, Mich.**

A Kalamazoo Direct to You

Red Rock The Hardest and Heaviest Yielding Winter Wheat

For Michigan and the northern states. Has yielded 37 bushels average per acre at the Michigan Experimental Station. Record yield of nearly fifty bushels per acre.

Rosen Rye
Is a new variety that will pay you well to grow. Out-yields common Rye 10 to 20 bushels per acre. Nice long heads well filled with large kernels. Ordinary yield 30 to 40 bushels. **Clover, Timothy, Vetch**, and all dependable seeds for fall planting. **Write for free samples and fair price list.**

Fall Bulbs
Beautiful new Darwin Tulips, Hyacinths, Narcissus, Lilies, Crocus, etc. Plant these bulbs this fall for winter and spring blooming. **Isbell's Fall Catalog Free** gives full information. Write for it today.

S. M. ISBELL & CO.
Box 10 Jackson, Mich.

Red Rock Seed Wheat

\$3.00 per bu. new 16 oz. bags 70c each. **YOUNG-RANDOLPH SEED CO., Owosso, Mich.**

For Sale Mich. Winter Barley, certified by Mich. Crop Improvement Association. **YOUNG BROS.**, Niles, Mich.

Financing the Farm

(Continued from first page.)

tem, and when they will be entirely independent of any other source of finance with which to operate theirs, the greatest of American industries.

And just what does it mean to extend credit to the farmers of this country? First, a very material saving in interest rates, with payments so reasonable that any farmer fit to be classed as such, can readily meet them out of the proceeds of the farm, and not as of old, out of his own pocket. Second, a long-term mortgage system, permitting the farmer to exercise all his energy in productive lines, rather than chasing money lenders every little while, in an endeavor to secure a new loan. Third, putting more money into the hands of our farmers, because of a system which saves money for the security a first mortgage upon his farm and buildings. His credit is based upon fifty per cent of a reasonable land valuation, and twenty per cent of a reasonable valuation of his improvements (buildings).

His term of loan will be for thirty-five years, under the amortization plan. This plan permits the payment of \$65 per \$1,000 borrowed, as his annual obligation; five and a half per cent interest is charged and one per cent principal payment. The accompanying table is a quick reference for the farmer to the credits as divided under the amortization plan of payment, used by the Federal Farm Loan System.

Not only does this system give the farmers of all sections loans at a lower rate of interest than prevails in the

A payable in thirtat five and a half per cent interest, re-
LOAN of \$1,000y-five years by means of annual install-
ments of \$65.00 which include interest and part of principal
(Approved by the Federal Farm Loan Board).

Payment Number.	Installment	Interest.	Applied on Principal.	Principal Still Unpaid.
1.	\$65.00	\$55.00	\$10.00	\$990.00
2.	65.00	54.45	10.55	979.00
3.	65.00	53.87	11.13	968.32
4.	65.00	53.26	11.74	956.58
5.	65.00	52.61	12.39	944.19
6.	65.00	51.93	13.07	931.12
7.	65.00	51.21	13.79	917.33
8.	65.00	50.45	14.55	902.78
9.	65.00	49.65	15.35	887.43
10.	65.00	48.81	16.19	871.24
11.	65.00	47.92	17.08	854.16
12.	65.00	46.98	18.02	836.14
13.	65.00	45.99	19.01	817.13
14.	65.00	44.84	20.16	795.91
15.	65.00	43.68	21.32	773.59
16.	65.00	42.49	22.51	750.07
17.	65.00	41.25	23.75	725.04
18.	65.00	40.05	25.05	705.19
19.	65.00	38.79	26.21	678.98
20.	65.00	37.42	27.58	651.36
21.	65.00	35.82	29.18	623.14
22.	65.00	34.22	30.78	591.36
23.	65.00	32.52	32.48	558.88
24.	65.00	30.74	34.26	524.62
25.	65.00	28.85	36.15	488.47
26.	65.00	26.87	38.13	450.34
27.	65.00	24.77	40.23	410.11
28.	65.00	22.56	42.44	367.67
29.	65.00	20.22	44.78	322.89
30.	65.00	17.76	47.24	275.65
31.	65.00	15.16	49.84	225.81
32.	65.00	12.42	52.58	173.23
33.	65.00	9.53	55.47	117.76
34.	65.00	6.48	58.52	59.24
35.	62.50	3.26	59.24	
		\$2,272.50	\$1,272.50	\$1,000.00

farmer, really making it profitable to various communities, but it also provides the kind of principal payment upon which agriculture can prosper.

The system of operation of the Federal Farm Loan System is along the same lines as the Federal Reserves for commerce. There are twelve district Federal Land Banks, caring for the farmers of the states of the district.

Over each of these district banks presides a president, secretary and treasurer, together with a board of directors, and a staff of organizers and land appraisers. It is through the national farm loan association—the local, community, cooperative loan organizations, that the district bank comes in contact with the farmers.

To organize such an association in a given community, chartered to transact a cooperative loan business either in a neighborhood, township or county or counties, it is necessary that ten farmers cooperate in their desires to secure adequate finance, and that their total applications approximate not less than \$20,000. They then apply to the Federal Land Bank of their district for a charter, electing first a board of directors consisting of from six to nine members; a president, a vice-president and a secretary-treasurer, as well as a loan committee, whose duties it will be to investigate the merits of the various applications filed for loans, reporting same to the association board of directors, who will be guided in passing upon such applications.

Any farmer may borrow from \$100 to \$10,000 through this system, giving as

(Continued on page 217).

"By the Way"

CRITICS.

"Good-morning! I came to tune your piano."

"Piano? But I didn't send for you."

"No, ma'am, but the neighbors said I ought to call."

HEAT OR LIGHT.

He sought a place within the sun
But overshot the mark
And proved to all the brutal Hun
Should dwell in regions dark,
For decent men should never see
So vile and base a thing as he.
—Detroit Free Press.

His deeds are all so evil he
Should sure avoid the light:
And still this place, it seems to me,
Might serve the creature right.
For nothing will so well complete
His cure as high degrees of heat.
—Newark, (Ohio), Advocate.

You're right, the Hun I'd like to see
Within the blazing sun,
Suspended from the gallows tree.
Just think what heaps of fun
To sit within the shade and gloat
While old Sol barbecues his goat.

NOTHING TO WORRY ABOUT.

During our recent not spell, a University professor, while walking along the street, noticed an Irish laborer working on the pavements with his hat off.

"Don't you know the sun will injure your brain if you expose it like that?" said the professor.

The Irishman wiped the sweat from his forehead and looked at the professor.

"Do you think I'd be doing this all day if I had any brains?" he said.

PHYSICALLY EXEMPT.

One night a certain gentleman went into a restaurant and ordered lobster.

When it arrived it was found to have only one claw, and he demanded an explanation.

"Ah, lobsters, they are great fighters," said the waiter, "they fight much, and often one will its claws lose."

"My! is that so?" exclaimed the gentleman. "Take this one away and bring me a winner."

FINANCING THE FARM.

(Continued from page 216).

security. A government guarantee is back of every farmer's bond. If it were otherwise the Federal Farm Loan System could not sell its securities in competition with the get-rich-quick, gold-brick schemes that promise (but seldom pay) ten per cent. As it has been, all Federal Farm Loan Bond issues have been sold within a few days from the time they were offered, and every Federal Land Bank has on file applications aggregating into the millions, of those who desire to purchase the next issue.

Not alone has the system removed the mill-wheel of responsibility from about the American farmer's neck, giving him adequate financial aid, and placing him beyond the selfish grasp of the money lending, uncaring class; but the new system is opening another channel for a nationally organized marketing system which shall give the farmer more than forty-five per cent of the market price of his produce. The system has fully demonstrated the desirability of a system of organization which is not sectional, but national, backed by the federal government. It was important to every man, woman and child in the United States, that the farmers have adequate financial backing; it is doubly important to all that the farmers be given immediate and satisfactory methods of distribution.

Blight Control

Is It Possible Without the Knife?

After six years of experience and consistent success in hundreds of orchards, we say

Positively Yes!

HOW? By the use of "SCALECIDE" as a dormant or scale spray. It kills the hold-over canker that produces the twig and fire blight. At the same time, "SCALECIDE" will do all and more than any other dormant spray or combination of sprays will do—it will control scale and other insects, including pear psylla, leaf roller, bud moth, case-bearer and aphids. Read what these well-known fruit specialists say of

"SCALECIDE"

The Complete Dormant Spray

Prof. M. W. Richards, late of Purdue University, writes: "Even the old pit cankers seem to be healing over nicely. The young blight and black rot cankers are peeling off completely, and a nice, clean, healthy bark has been formed underneath. This condition does not occur on the trees sprayed with lime sulfur, hence I believe we are safe in saying that 'SCALECIDE' did it."

Mr. A. N. Brown, Georgetown, Del., who has charge of 1000 acres of orchards writes: "The enclosed branch [see illustrations at the right] was cut from a Yellow Transparent that was an extreme case of apple blight a year ago. One spraying with 'SCALECIDE' arrested further progress of the disease and new bark began to form, and late last season new buds appeared, which developed a growth of sixteen inches before winter. I have thousands of cases where one application did the work."

The experience of these two experts is typical of the experience thousands of other men have had. "SCALECIDE" saves labor, saves time, and **saves trees**—its use will make you money.

Write today for our **Money Back Proposition** and name of nearest dealer. You take no risk. It will cost you nothing to know the TRUTH. Address Dept. 13

B. G. PRATT COMPANY

Manufacturing Chemists

50 Church Street

New York City



Above is shown the original bark after being killed by blight canker and coming loose from the branch illustrated to the right.

To the right is shown the branch which was infested with blight canker. One spraying with "SCALECIDE" killed the blight canker, and new cambium formed, the old blackened bark peeling off as shown above.

These illustrations are of the branch sent to us by Mr. A. N. Brown, Georgetown, Del.

Put

SOLVAY

PULVERIZED

LIMESTONE

ON YOUR LAND

GUARANTEE
94% Carbonates
95% thru 50-mesh screen
Furnace Dried
Fine as Flour



How can any progressive farmer afford to hesitate about applying land lime, when every farm authority urges the use of lime and is able to prove its advantages?

It will pay to specify Solvay Pulverized Limestone, because it is so fine and contains such a high percentage of carbonates, that it will provide maximum results at a minimum cost.

We are now able to take care of your Fall requirements because extensive additions to our equipment are now in operation.

Ask us to send you Litmus for you to use in making a soil test.

SOLVAY PROCESS COMPANY, 580 West Jefferson Ave., Detroit, Michigan

In Bulk
or in
100-lb.
Paper Sacks
in Box Cars



USE NATCO DRAIN TILE

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

National Fire Proofing Company,

1115 Fulton Building, Pittsburgh, Pa.

BARRELS

We have for sale Potato, Sugar and Apple Barrels also egg crates. We buy and sell all kinds of Burlap and Cotton Bags. Write for prices.

Hamburger & Spitz, 373 Bellevue Ave., Detroit, Mich.

When writing to advertisers please mention The Michigan Farmer.



Woman and Her Needs

At Home and Elsewhere



Preparing to Hold the Home Trenches

By JENNIE BUELL

HOW shall we best hold the country home trenches? How fortify against surprise attacks of disease, emergencies and increasing obstacles? How maintain the morale of our fighting farm forces? How build up the resistance of the rural reserves? And how nourish the oncoming soldiers and laborers, the boys and girls now under war age?

Questions like the above are now fairly asking themselves way out in country places as war-time needs begin to demand of every family its utmost tribute. However humble and unimportant a home mother has hitherto considered herself, she must now stand in the limelight of public accounting. No matter how modest have been her past deeds, in the eyes of herself or others, Uncle Sam is calling upon her to manifest the ways and means by which she can now serve her nation.

You know this is no fancy picture of what is being asked of every farm woman: "Are your sons fit for fighters, for farmers? Are your daughters skilled in plain work of the home, of the field, of some other useful, unfrilled calling? Is your husband of sound body for his years, so that he can step into the gap left by the boy and do a man's work? Are your children feeding right, sleeping right, growing right—like the husky little animals they should be? And you—are you big-minded enough and sufficiently strong of body to compass all that the time expects of you—food saving and substituting, Red Cross service, extra number of chickens, a larger garden, more canning, more remodeling, more skimping and more 'less' of everything than ever before?"

At the last ditch, aren't these the matters that are up to the farm woman just now? If her boy fails to pass his physical examination because of a

bodily defect that might have been prevented in childhood; if her husband is weakened by stomach trouble; if she herself is not equal to the tasks that have multiplied upon her—how far might these things have been avoided if she had been a more thinking and efficient manager?

Suppose she had understood foods and what they do for stomachs and livers and muscles and nerves when improperly used; suppose she had known how to "manage" to better advantage and had had her house arranged with the system of a workshop to lighten toil; and suppose she had bought labor-saving utensils and machinery and had plumbing installed—would she not now have been in a better position to serve her family, the Red Cross and her nation?

But it is "never too late to mend"—

even to mend a woman's ways. And that there are farm women who are doing this very thing, we have evidence. Through their organizations they are studying what foods will do, they are showing one another handy tools and exchanging ways they have discovered to "short cut" their routine work. They are learning to systematize necessary duties, to discard unessential things and tasks, and to grow more capable in every direction—in short, to become freer to do what the government is now asking them to do—field work, cooking simply proper foods, canning, care of orphans, Red Cross and other distinctively war work. Consciously or unknowingly, they are learning to put first things first and to leave undone many things that they formerly held necessary. They are thinking, testing out each daily task

as never before in all the world's time.

Educate, educate, educate—has become daily habit with many a home woman, although she might herself scoff if you suggested that she is "studying." But, isn't she doing just that—studying her business of running a home on a new basis—one that will allow her to give more generously of her resources, her family and herself to her country in its time of peril?

In the picture, shown with this, is a group of farm women and girls spending an afternoon to consider these ways of gaining efficiency in their work. Not having a county Home Demonstrator, they have taken up the work among themselves, studying how to use their homes as laboratories for production of war materials. In this group meeting, and in the thirteen others held for the same purpose in other parts of Washtenaw county, all are practical housekeepers. The woman in the center is a young mother from an adjoining community who practices canning all kinds of vegetables and meats and who went over to tell her neighbors how she does it. Another woman was there to talk on substitutes and why we must send wheat, fats, sugar and meat to the Allies and why it is unpatriotic for us to feast while they famish. Still another of this group is the woman member of the county farm bureau board, who planned and arranged this series of home conferences, and who here talked on what she thinks is coming to farm women out of the present situation, such as keener thinking about their work and how to do it easier and more quickly; better methods of selling the farm produce; and, lastly, more direct participation in the government by all the common people, not excluding the farm woman.



Housekeepers of Pittsfield and Lodi Townships, Washtenaw County, in Conference on "How to Hold the Home Trenches."

Patriotic Wheatless Breads

EATING breads made from the following recipes is real patriotism because the recipes call for not a grain of wheat.

Oatmeal and Corn Flour Biscuit.

- 1½ cups ground rolled oats
- 1½ cups white corn flour
- 6 teaspoons baking powder
- 1 teaspoon salt
- 4 tablespoons fat
- 1 cup milk or water.

Grind rolled oats in food chopper. Mix the dry ingredients. Rub in the fat, taking care not to pack the flours. Add liquid and mix lightly. Turn out on a board dusted with barley flour and roll to three-quarters of an inch thickness. Cut and bake in hot oven.

Oatmeal and Corn Flour Muffins.

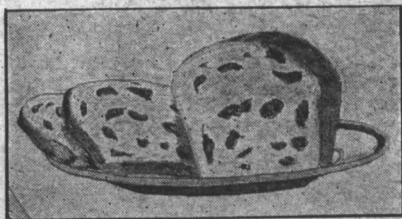


- 1 cup milk
- 2 eggs
- 1 tablespoon melted fat

- 1 cup oatmeal (ground)
- 1 cup corn flour
- 4 teaspoons baking powder
- 1 teaspoon salt

Sift the dry ingredients together and add to the liquid. Stir in the melted fat. Bake in well-greased muffin molds for twenty-five minutes.

Barley Raisin Bread.



- 3¾ cups barley flour
- 6 teaspoons baking powder
- 1 teaspoon salt
- 1 tablespoon sugar or syrup
- 1 cup seedless raisins
- 1½ cups milk
- 1 egg
- 1 tablespoon melted fat.

Mix and sift dry ingredients, add raisins. Slightly beat egg, add milk

and fat, and add liquid to dry ingredients. Mix well, put into greased bread pan and oil the top. Let stand twenty minutes. Bake nearly an hour in rather slow oven.

Oatmeal and Rice Flour Biscuit. . .

- 1½ cups ground rolled oats
- 1½ cups rice flour
- 6 teaspoons baking powder
- 1½ teaspoons salt
- 4 tablespoons fat
- 1 cup milk or water.

Combine materials as for oatmeal and corn flour biscuit.

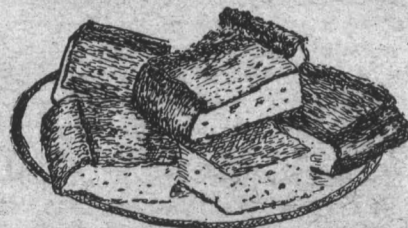
Cornmeal Biscuit.

- 1 cup cornmeal mush (well cooked)
- 1 cup barley flour or other dry substitute
- 2½ tablespoons shortening
- ¾ teaspoon salt
- 2½ teaspoons baking powder
- Enough milk or water to make stiff dough.

Add salt and shortening to cornmeal mush, beating thoroughly. Mix with this the dry material and baking pow-

der sifted together. Work in lightly, add necessary liquid. Form into small biscuits and bake very thoroughly

Rice Corn Bread.



- 2 cups yellow corn meal
- 2¼ cups cooked rice
- 2 tablespoons fat
- 2 cups boiling water
- 2 eggs
- 4 teaspoons baking powder
- 2 cups milk
- 1 teaspoon salt.

Scald the cornmeal with the boiling water, add the milk, fat, rice, salt and eggs beaten together. Sprinkle in the baking powder and mix well. Bake in shallow pans about fifteen minutes in a quick oven, and serve hot.

Coaxing Hens to Eat

(Continued from page 203).

greatest results. Hens fed an unbalanced ration produced only half as many eggs as hens fed a balanced ration during the same length of time. An unbalanced ration wastes from one-half to two-thirds of the feed, therefore it is very important to supply the proper feed in proper amounts.

In determining the character of a ration, we must take into consideration the following points: First, the price of feed; second, palatability; third, nutritive ratio; fourth, digestibility; fifth, season of the year. In compounding the following rations for laying hens, the above points were followed.

Scratch Feed.—Cracked corn, 200 pounds; feed wheat, 20 pounds.

Dry Mash.—Bran, 20 pounds; middlings, 20 pounds; cornmeal, 20 pounds; ground oats, 20 pounds; meat scrap, 20 pounds.

Skim-milk, buttermilk or plenty of fresh water to drink. Sprouted oats or mangels, sugar beets, grit and oyster shell.

The dry mash is the barometer of egg production. If the birds are consuming large quantities of mash, it means palatability. If they show a tendency to leave it, the mash then contains some ingredients that are obnoxious to the hen's sense of taste.

To a large extent, it is through and by means of the dry mash that the whole feeding system is properly balanced for egg production. This dry mash should be fed in hoppers similar to the accompanying illustration. This hopper should be open at all times, thus allowing the hens free access to it. The scratch feed should be fed in a litter of straw and should be so regulated that the hens must eat definite amounts of the mash mixture. If over-feeding grain happens, the hen is liable to gorge herself and not have the appetite or capacity for the mash mixture. A laying hen eats approximately four ounces a day, two-thirds of which should be grain and one-third mash.

Hens Must Have Lime.

Hens cannot make eggs unless they have the lime with which to manufacture the shells. Feed and water usually contain only enough lime to shell one egg for each ten eggs the feed would produce. The number of eggs produced from high-priced feeds should not be limited because of lack of lime. Keep oyster shell before the hens at all times. Supply plenty of hard, sharp grit. We must not confuse grit and oyster shell because they each have separate and distinct work to perform.

The value of skim-milk as a feed for poultry cannot well be overestimated. It not only has a high nutritive value but keeps the digestive tract in sharp, clean condition.

Skim-milk contains nearly all the nutritive elements in whole milk. The skim-milk retains all the protein and ash of the whole milk. In a recent test with a pen of hens which had been given all the water or milk they could drink, had their supply limited to only one dishful a day. The egg yield was reduced exactly one-half. This shows the value of water or milk to egg production. While they are both cheaper than feed, they are worth just as much to the hen in manufacturing eggs. Provide large water vessels and keep them well-filled.

Some form of green foods or succulents should be given in some form or other. When possible, we would advocate the growing of sprouted oats. This is a highly nutritious feed and has both a tonic effect on the hen and a stimulating value in consumption of feed which results in higher egg yield. Mangels, sugar beets, or ensilage may take the place of sprouted oats and are a good supplement to the above laying ration.



Trade Mark
Reg. U. S. Pat. Off.

Raynster

Look for this Label
in your Raynster

Raynster for Protection

Raynster is the family name of a complete line of weatherproof coats. Raynsters include coats for men and women, girls and boys, in all kinds of materials, at a wide range of prices.

Heavy rubber-surfaced work coats; warm, ulster-like coats for cold and rainy weather; imported cloth coats that are worn as overcoats; light slip-ons; school coats for youngsters—all these bear the Raynster quality label. Look for this label—be sure it is in the raincoat you buy. It is your protection. It assures good materials and fine workmanship and the best value for your money.

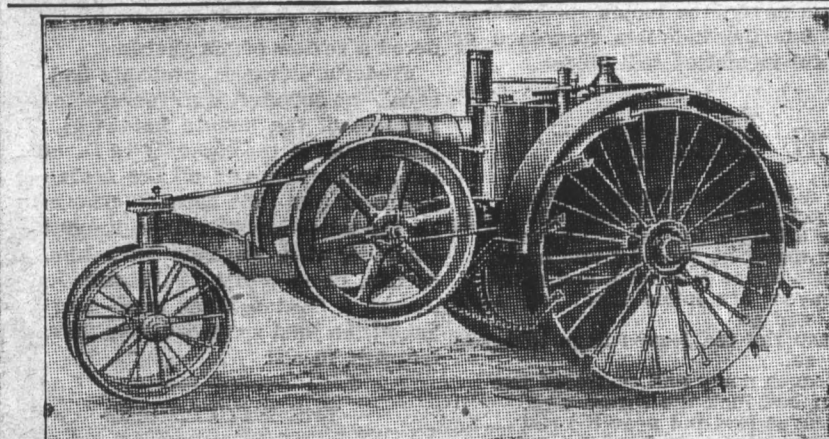
Write to us for a Style Book with illustrations and descriptions of the different kinds of Raynsters.

United States Rubber Company
Clothing Division, New York and Boston



Raynster

Reg. U. S. Pat. Off.



WEIGHT 4500 LBS. H. P. 15-30

The Simplest Farm Tractor Made.

Successfully burns Kerosene, Fuel Oil or distillates. Single Cylinder. Light. Efficient. Simple. Strong. Complete specification and prices furnished on application.

PONTIAC TRACTOR CO.,

Pontiac, Mich.

Why Hens Won't Lay

P. J. Kelly, the Minnesota Poultry Expert, 84 Kelly Bldg., Minneapolis, Minn., has published a book, "The Tale of a Lazy Hen." It tells why the hens won't lay and how to make them lay every day. Mr. Kelly will mail the book free to anyone who will write him.

POULTRY

Barred Rocks—EGGS FROM STRAIN with records to 290 eggs a year; \$2 per 15. Delivered by parcel post, prepaid. Circular free. FRED ASTLING, Constantine, Mich.

BUFF LEGHORNS, 50 Choice hens and a few cockerels selling for \$1.50 each, this is half price. Dr. WILLIAM SMITH, Petersburg, Mich.

Ferris White Leghorns

A real heavy laying strain, tramped 17 years, records from 200 to 264 eggs. Get our special summer prices on yearling hens, breeding males, eggs for hatching, 8-week-old pullets and day old chicks. We ship C. O. D. and guarantee results. Catalog gives prices; describes stock; tells all about our farm and methods; results you can get by breeding this strain. Send for your copy now—it is free. GEORGE B. FERRIS 284 Union, Grand Rapids, Mich.

HOMESTEAD FARMS

A Federation of Interests

Laying Hens

150 S. C. White Leghorn Yearling Hens; 50 S. C. Single Comb Black Minorca hens.

Pullets

40 S. C. White Leghorns; 25 S. C. Black Minorcas; a few R. C. Reds and White Rocks.

Cockerels

Buff and White Rocks; S. C. Black Minorcas; S. O. and R. C. White Leghorns; S. C. Brown Leghorns. We shall be pleased to describe and to quote prices on any of this stock.

Bloomington Farms, Bloomington, Mich.

BREEDING COCKERELS

Bred-to-lay S. C. White Leghorn and Barred Rocks. Would advise ordering early. Price reasonable. Write us your wants. Sunnybrook Poultry Farms, Hillsdale, Mich.

Fowlers Buff Rocks Booking orders now at a \$2 for 15; \$4 for 30; \$5.50 for 50; \$8.00 for 100. R. B. FOWLER, Hartford, Mich.

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

Rhode Island Reds

Both combs. No stock for sale until December. INTERLAKES FARM, Box 39, Lawrence, Mich.

Rose Comb Br. Leghorn cockerels \$1.00 each, from best lines in America. White Pekin Ducks \$2.00 each. Mrs. CLAUDIA BETTS, Hillsdale, Mich.

R. C. Br. Leghorn Cockerels bred from Madison Sq. winner, \$2 and up. 100 choice yearling hens \$1.25 each. Flemish Giant Rabbits, Black and Gray. E. HIMEBAUGH, Coldwater, Mich.

SILVER, Golden and White Wyandottes, good breeding stock after Oct. 1st, fine lot of cockerels \$3 to \$5 each. O. W. Browning, R. 2, Portland, Mich.

White Wyandotte eggs for hatching also baby-chick out of choice stock; send for a 1918 circular. DAVID RAY, 709 Norris St., Ypsilanti, Michigan.

Pullets Wanted. Prefer Leghorns. F. J. BARRETT, R. F. D., Milford, Mich.

Our Boys and Girls

At Work and play

The Old Apple Orchard

By G. W. TUTTLE

THERE was the old orchard and not to me. the new orchard. My father had set the young orchard—even rows, well shaped trees, fine fruit, were there. The old orchard I presume was set by my father's grandfather. Scattered trees they were in



No Man Can Leave a More Inspiring Monument than an Orchard of Glorious, Radiant Trees Whispering Alway of Heavenly Secrets.

my day, homely and hoary and old, but there was an individuality, a tree personality, about them.

All shapes and sizes; some as straight as an arrow; some set at an angle of forty-five degrees; some with many a crook and turn in their trunks and gnarled old limbs. Some were still strong and vigorous, while others were weak and decaying. The shape of every one of these old apple trees is indelibly photographed upon the pages of my memory.

How the wrens and the yellow-shafted flickers loved these old trees where nature had provided holes and cavities so plentifully that no bird needed to go homeless. As for the robins they preferred the cherry trees, for the appetite of the young robins was almost insatiable, and it was convenient to rear their young where they merely had to drop the food down the gaping, ever-hungry throats.

How I watched the early apples in my boyhood days. All was grist that came to my apple mill—the apples might be large or small, sweet or sour, green or ripe, rosy cheeked or as white as the daisies that rioted on the green carpet beneath the tree; it mattered

Apples were apples in those days. We had not reached the fussy, complaining, picayune age where most things are not worth considering, and we want the rest buttered, and fried, and served on a silver platter. We

took things as they came, in those days, and if they did not come we promptly climbed the tree and shook them down.

The amount of apples a boy could account for were simply unaccountable. When his stomach was full, and his blouse, and his pockets, the boy would take one longing, hungry look at the remaining apples on the tree, and then tear himself reluctantly away.

Did you ever hear of a case where a boy died from eating green apples? No, and you never will. There is an affinity between them, but it vanishes after the years of manhood are reached. Now I look an apple over to see if it is pleasing to the eye. Then I feel of it carefully, jab it between the ribs with my thumb, look doubtful, and say: "I am afraid it is not soft enough."

Pshaw! the apples are all right; it is the old man who is not soft enough. Let us be thankful that when youthful days have fled, youthful memories but cling the closer to us. The apple may lose its flavor, the melon its lusciousness, but the indelible fragrance of youthful memories still abides.

A Girls' Tea Party

For a half dozen girls an old-fashioned tea party is a pleasing and restful form of entertainment. Old-fashioned blue and white china should be used if possible, dainty white linen and a centerpiece of old-style flowers, red geraniums, begonias, or asters are pretty.

The refreshments should be in keeping with the times and the form of entertainment, the following being an excellent menu:

Cheese Sandwiches (rye bread)
Cucumber Pickles
Quince Preserves
Rice Flour Sponge Cake
Tea

After the first cup of tea refill the cup and ask each one to turn the hot liquid into the saucer, turning her fortune with the leaves.

The hostess acting as fortune teller then reads the future of each of her guests, observing the following rules: One leaf alone you'll be
Two together means company.
Three in a row your wish you'll gain

Four, a letter to make you vain.
Five good news the letter will bring.
Six in a bunch, for joy you'll sing.
Seven together, good fortune waits.
An open space is a road, and gates
Of leaves are miles that you soon will go
Because the tea leaves have told you so.

Tea leaves many and scattered fine
Are of bad luck the surest sign.
Tea leaves few and near the rim
Your cup of joy o'erflows the brim.
Tea leaves shaped like a heart can tell
That someone loves you and loves you well.

Tea leaves in two separate places
Are of divided life the traces
And leaves piled up you well abhor
Wounded your dear one is, in war.

The Long and the Short of the 83rd

ENTIRELY, you know, we've been hearing quite a bit of telepathy—the science of reading what's in the other man's mind—and if there be anything at all in it, as some wise men

really claim there is, it's mighty good for us that it hadn't been developed to fullest when we paid a visit, not long since, to the big Camp Sherman rifle-range.

Had it been—well, what you you suppose the military authorities would have done to your's truly at that time; for all the while we stood by and took the accompanying picture we couldn't help thinking of the arch-militarist, Friedrich der Grosse, he from whom the present Arch-Hun obtained his basic ideals!

Think of it—musing on Frederic the Great when squarely inside an American military reservation, and this with a brother and three cousins with Old Glory at the same, identical time.

Frederic the Great, however, kept dancing in prospect and the reason is the giant soldier pictured here.

Frederic, you know, prided himself especially on his regiment of giant guards; the tallest men to be found in all the Prussian legions. High-heeled boots and topping hats added to their giant stature and quite a picture, in-



Slim and Shorty.

deed, was presented when Frederic ordered a review of his guards.

Frederic, however, probably had no equal—no superior, whatsoever—to the Sammie of the picture herewith; the tallest man of the eighty-third Division this, and perhaps in all the American forces at this time abroad. The man, all the taller for his rather diminutive comrade, then engaged with him in certain camp work, is Private J. E. Sproat, a Dayton, Ohio, man—and his height, he tells us, proudly, is just six feet five, in all!

THE DIFFERENCE.

When you're bad did you ever notice
How the shadows get big and black,
And the geese and the chickens gossip
As soon as you turn your back.
How the robins sing out "she's naughty."

"Till your brain gets all in a whirl,
And the quaint old clock, doesn't say
"tick, tock"
But it says "Bad girl! bad girl!"

When you're good did you ever fancy
That the wind goes laughing by,
And everything seems to love you
In earth and in air and sky.
The roses nod you a greeting
And the lilies flags unfurl;
While the dear old clock, doesn't go
"tick, tock,"
But it says "Good girl! good girl!"



Uncle Sam's Fighting Boys Wear IRONCLAD KHAKI Twill Cloth

You men and women of his "home guard" should wear this patriotic economy cloth, too. It's fast color and wears like leather.

SHIRTS, PANTS and OVERALLS
made of the genuine Ironclad Khaki (the kind Uncle Sam uses) carry the yellow "army" label, like the above. Look for it in the garment before you buy.

Write today for free samples of Ironclad Khaki Cloth, and Miss Ironclad Khaki, the kid glove finish ladies' overall cloth.

Garments on sale by dealers—everywhere
FRANKLIN MANUFACTURING CO.
Manufacturers of Cloth Only
123 Market Place - Baltimore, Md.

BREEDERS' DIRECTORY.

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

CATTLE.

Wildwood Farms

Breeders of Best Strains of
Aberdeen Angus Cattle
and Duroc Jersey Hogs

Several young bull calves on hand, three of which are of serviceable age, out of Black Monarch III, three times Grand Champion, Michigan State Fair. Also several AI Brood sows. Will be glad to correspond with you by letter regarding stock. Write

SIDNEY SMITH, Supt.

Wildwood Farms, Orion, Michigan
W. E. SCRIPPS, Proprietor.

WOODCOTE ANGUS

TROJAN-ERICAS & BLACKBIRDS (BLACKCAPS) only. The most fashionable strains of the breed. Great care given to matings and pedigrees. Every animal BRED IN THE PURPLE. Breeders and feeders of many INTERNATIONAL WINNERS.
WOODCOTE STOCK FARM Ionia, Mich.

Cloverly Angus Good quality bulls of serviceable age and younger. Inspection invited.
Geo. Hathaway and Son, Ovid, Mich.

GUERNSEYS must reduce herd, so offer a few choice females of Glenwood breeding also bulls, all stock of A. R. breeding, herd tuberculin tested.
T. V. HICKS, Battle Creek, Mich.

Registered Guernseys

Two choice heifer calves, \$300. One bull calf with above \$75; this bull calf is no relation to heifer calves.
J. M. WILLIAMS, North Adams, Mich.

Guernseys 45 Registered head, all tb. tested. Nora's May King, son of Imp. May Rose King, heads our herd, 19 of his half sisters sold averaging \$1950 each. His bull calves are booked ahead at reasonable prices.
Avondale Stock Farm, Wayne, Mich.

For Sale Registered Guernsey bull calves May Rose breeding.
JOHN EBELS, Holland, Mich.

GUERNSEYS—REGISTERED BULL CALVES Containing blood of world champions.
HICKS' GUERNSEY FARM, Saginaw, W.S. Mich

GUERNSEYS: Owing to ill-health I will sell two Imported young cows, also two American bred cows. Two of them due to freshen in Sept. Best of breeding.
G. A. WIGENT, Watervliet, Mich.

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

I Always Have Holsteins To Sell

If wanting Registered cattle write me your wants before placing your order elsewhere.

L. E. CONNELL, Fayette, Ohio

HOMESTEAD FARMS

A Federation of Interests

Holsteins: From a herd of 50 Holsteins headed by the Bull King Zenna Alcarra Pontino, son of King Segis Pontino Alcarra, this \$50,000 Bull, we offer a number of bred cows and heifers, younger heifers and calves, and young bulls.

One particularly high class young bull now ready for service. If you want Holsteins of any class, will you please write to us for descriptions and photographs? Every animal guaranteed.

BLOOMINGDALE FARMS, Bloomington, Mich.

CLUNY STOCK FARM

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

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

Jack Bill Winn--Wood Herd Registered Holsteins Sire in Service Flint Maplecrest Boy

Who is bred for real production his sire Maplecrest Korndyke Hengerveld is one of the best bred long distance bulls in the world. He or his dam are brother or sister to six cows with records above 1,200 lbs. of butter in one year and ten more above 1,000 lbs. in a year. Flint Maplecrest Boy's Dam is Gluck Vassar Bell 30.57 lbs. of butter in 7 days, 121 lbs. in 30 days. Butter fat test 5.27. Let there be a reason why Flint Maplecrest Boy is not one of Michigan's greatest young sires. None of his females are for sale until after we test them. But we have 10 of his bull calves from 2 to 9 months old, with A. R. O. dams which we now offer for sale at prices any dairy farmer can afford to pay. Just tell us the kind of a bull you want.

JOHN H. WINN, Inc.
Lock Box 249. Roscommon, Mich.

OAK Leaf Farm. Herd sire Lenawee Pontiac Calamity King offer Registered Holstein bull calves from A. R. O. cows and the above sire whose dam holds the milk and butter record in the state of Ind. 7 days milk 796.3, butter 22.51—315 days milk 23782.3, butter 926.775.
E. H. GEARHART & SON, R. 4, Marcellus, Mich.

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

"Top-Notch" HOLSTEINS

The young bulls we have for sale are backed up by many generations of large producers. Buy one of these bulls, and give your herd a "push". Full descriptions, prices, etc. on request.
McPherson Farms Co., Howell, Mich.

\$50 Liberty Bond gets 1 mo. old grandson of Pontiac Lass 30 1/2 lb. Other grandsons sister to grandire of 42 lb. 4 yrs. Here free fiber. Apr. adv. for females. Terms, M. L. McLaughlin, Redford, Mich.

The Pontiac Herd "Where the Champions come from"

Offer Bull Calves sired by sons of Pontiac Korndyke, Hengerveld DeKol, Pontiac Dutchland, or Admiral Walker Pieterse.
Do you want a Pontiac in your herd?
Pontiac State Hospital, Pontiac, Mich.

The Traverse Herd

This is the chance you have been looking for. We will sell a few good A. R. O. cows. One with 27 lb in 7 and 110.85 in 30 days. Three others above 24 lbs. Come and see them or write for descriptions and prices but hurry for they will go quickly. Also a few bull calves for sale, the kind you will be proud to own. Pedigrees and prices on application. State age desired.
TRAVERSE CITY STATE HOSPITAL
Traverse City, Michigan.

Want Yearly Records?

Our new sire has four sisters whose semi-official records are 677, 742, 913 and 946 pounds of butter in one year respectively at 2 to 3 years of age. His dam is a daughter of Friend Hengerveld De Kol Butter Boy, four of whose daughters have records over 1000 pounds and she is also a granddaughter of Pontiac Angie Korndyke, with six daughters above 1000 pounds of butter in one year.

Peaceland Stock Farm, Three Rivers, Mich.
C. L. Brody, Owner Port Huron, Mich.
Charles Peters, Herdsman

94% more milk by mating scrub cows with Pure Bred HOLSTEIN BULLS

is result achieved in first generation at Iowa Experiment Station recently. Head your herd with a Holstein sire—it pays.

The Holstein-Friesian Association of America, Box 164, Brattleboro, Vt.

Only 3 Cows Left

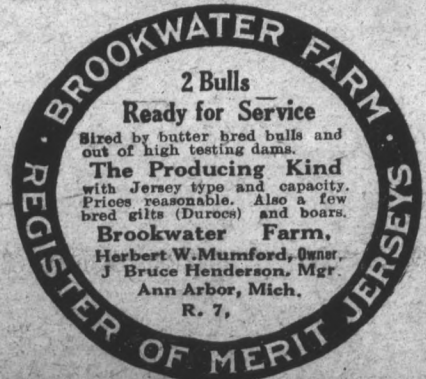
and two six months old bull calves. \$50.00 check, or Liberty Bond gives you your choice of either calf.
MARTIN MOON, Brunswick, Mich.

HOLSTEINS of quality. Bull calves from dams with records high as 31 lbs. in 7 days. Also collier puppies.
E. A. HARDY, Rochester, Mich.

Holsteins: Bull calf born Oct. 6. A nice individual well grown in good condition. His seven nearest dams average butter 7 days 23.26 lbs. milk 533 lbs. Dams record 18 lbs at 2 1/2 yrs. W. B. Reader, Howell, Mich.

For Sale Registered Jersey Bulls ready for service \$75.00 each.
NOTTEN FARM, Grass Lake, Mich.

For Sale Registered Jersey Cattle of both sex. Smith & Parker, R. 4, Howell, Mich.



DISPERSION SALE

OF Registered Holsteins

At Jackson, Mich.

Wednesday, Sept. 25, 1918

Sixty young, healthy females in dairy working condition, bred to a thirty-eight pound grandson of Pontiac Lass.

The herd bull, King Korndyke Oriskany Pontiac, will also be sold. He is sired by a son of Pontiac Lass, the 44 lb. cow, out of a 31 lb. dam, whose milk tested 5.52, and who has three A. R. O. daughters.

My son is in France and my health will not permit me to continue.

One of the oldest and best herds in Michigan.

No old cows, all healthy and tuberculin tested.

Many A. R. O. records.

BOARDMAN FARMS,
John W. Boardman, Prop.

Registered Holsteins For Sale

- 9 Granddaughters of Spring Farm King Pontiac 6th, from A. R. O. Dams up to 20 lbs. 6 to 13 months old.....From \$100 to \$150
- 5 Extra good Granddaughters of King of the Pontiacs, from 9 to 14 months old.....\$800 for all
- 1 Daughter of Spring Farm King Pontiac 6th. Four months old.....\$150
- 3 Two-year-old Granddaughters of Spring Farm King Pontiac 6th.....From \$150 to \$200
- 1 Extra Fine 3-year-old son of King of the Pontiacs; 27-lb. Dam; 29-lb. Grandam.....\$800
- 1 Son of Aristocrat Pontiac from a 22.50 lb. 2-year-old.....\$400

GEO. S. BIGELOW, BREEDSVILLE, MICHIGAN.

THE Wildwood Jersey Farm offers for sale choice bull calves for fall service from R. of M. daughters of Majesty's Wonder by Majesty's Oxford Fox. Herd tuberculin tested. When looking for a sire to head your herd, get a Majesty. Alvin Baldwin, Capoe, Mich.

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

Mendale. Interested Owl No. 111311 heads my herd, bull calves from this great sire and out of R. of M. dams for sale. C. B. WEHNER, Allegan, Mich.

Illie Farmstead Jersey Cattle. Several heifers bred to freshen next fall. Also a few heifer and bull calves of choice breeding. Colon C. Lillie, Coopersville, Mich.

Maple Lane R. of M. Jersey Herd. For sale one four-year-old cow, also bull calves and heifer calves sired by a grandson of the Foggis 99th of Hood Farm. IRVIN FOX, R. 3, Allegan, Mich.

HEREFORDS

3 Extra nice yearling heifers, 3 extra nice heifer calves old enough to wean, 4 extra nice bulls from 8 to 12 mos old not related to heifers. Prince Donald, Farmer and Perfection Fairfax breeding. If interested come and see them.
ALLEN BROS., Paw Paw, Mich.

Herefords Polled and Horned blood lines embrace Fairfax. Polled Perfection and Prime Lad 9th breeding. Prices reasonable. COLE & GARDNER, Hudson, Mich.

Herefords Bob Fairfax 49427 at head of herd. 14 bulls for sale all ages either polled or horned. EARL O. MCARTY, Sec'y Mich. H. B. Ass'n, Bad Axe, Mich.

Attention Michigan Breeders!

IN reply to several complaints regarding Express Companies refusing to accept for shipment animals weighing more than 500 pounds, we have taken the matter up with the officials and find that the ruling does apply to breeding stock. If your agent refuses to accept your animals for shipment, notify us giving name of station where shipment was refused.

THE MICHIGAN FARMER.

BIDWELL SHORTHORNS

For Beef and Milk.

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

BIDWELL STOCK FARM,
Box B, Tecumseh, Mich.

Richland Farms Shorthorns

IMP. Lorne in Service. Grand Champion Shorthorn Bull of Mich. We offer for sale a choice collection of young bulls by some of the leading sires of the breed. You cannot afford not to own one of these bulls at the prices we are asking for them. We invite correspondence and inspection.

O. H. PRESCOTT & SONS,
Farms at Prescott, Mich. Office at Tawas, City, Mich.

Francisco Farm Shorthorns

We maintain one of Michigan's good herds of Scotch and Scotch-Topped cattle. They are well bred, properly handled and price reasonable. Come and see; we like to show them.
P. P. POPE, Mt. Pleasant, Mich.

The Kent Co. Shorthorn Breeders Association are offering some choice animals at reasonable prices. Write your wants.
L. H. LEONARD, Sec., Caledonia, Mich.

I HAVE FOR SALE

1 red and 2 roan Shorthorn Bulls. One roan is a good one ready for service, also females for sale. Write JAMES NEAD, Sunfield, Mich.

Dairybred Shorthorns of best Bates Strains, young stock of both sexes for sale.
J. B. HUMMEL, Mason, Mich.

SHORTHORNS

Cows, heifers & young bulls for sale at farmers prices; herd catalog mailed free. Horrieton Farms, Hart, Mich.

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

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

Shorthorn herd bull, A roan by the great Avondale, for sale. For particulars write H. B. PETER, Carland, Mich.

Shorthorn Seven Scotch and Scotch-Topped bulls for sale. Price reasonable.
W. B. McQUILLAN, R. 7, Howell, Mich.

For Sale two registered Shorthorn bulls. One 8 mo. old. One 2 years old.
SARGENT & SON, R. 3, Linden, Mich.

FOR SALE 4 Brown Swiss Bulls and 2 heifers.
Dr. WM. SCHAD, Moline, Mich.

STOCKERS AND FEEDERS

for sale. 64 head heavy feeders, 2 loads Hereford yearlings, horse sale every 2 weeks.

A. C. WISECORVER, Fairfield, Iowa

HOGS

Registered Berkshire gilts and sows for fall farrowing, 3 boars and spring pigs, either sex.
CHASE STOCK FARM, R. 1, Mariette, Mich.

Berkshires—Registered Pigs of both sex, fine quality.
FAIRMAN FARM, Plymouth, Mich.

A Few good, sturdy, young, Berkshire Boars for sale at a reasonable price. THE McNAMARA FARMS, St. Ignace, Mich.

DUROC BOARS

Big long, tall, growthy boars. The kind that will add size and growth to your herd. Biggest March farrowed pigs in country. Weigh 250 lbs. not fat.
NEWTON BARNHART, St. Johns, Mich.

Durocs. Choice spring pigs out of selected sows and desired by our best herd boars. They are of the big type, strong, smooth and of excellent quality and include some of the most popular blood lines such as Orion Cherry King, Top Col. Defender, Brookwater etc. Prices reasonable. The Jennings Farms, Bailey, Mich.

DUROC Jersey Spring boars for sale. Good breeding and large bone. Prices and descriptions on request.
J. D. CRANE & SON, Plainwell, Mich.

Duroc Jersey spring boars sired by Orion Cherry King Cal. Write for prices and description.
W. C. TAYLOR, Milan, Mich.

DUROCS April and May pigs of both sexes sired by a Defender bred boar. For prices etc., write
WELLS PARISH & SONS, Allendale, Mich.

DUROC JERSEYS

E. D. HEYDENBERG, Wayland, Mich.

Choice Duroc Jersey Gilts For Sale.

CAREY U. EDMONDS, Hastings, Mich.

Duroc Jersey—Fall boars of the large heavy boned type. Gilts bred to Junior Champion boar for June farrow, also Spring pigs pairs not skin.
F. J. DRODT, R. 1, Monroe, Mich.

Duroc Jerseys for sale. spring & fall pigs of both sex also Shorthorn bulls milking strain.
CHAS. BRAY, Okemos, Mich.

Chester Whites, spring pigs either sex, can furnish a few pairs or trios not akin from strictly big type mature stock at reasonable prices. F. W. Alexander, Vassar, Mich.

Crandell's Big Type O. I. C's Champion herd everywhere shown in 1917. Herd headed by five champion boars. Our sows won Senior, Junior and Grand Champion prizes at Illinois, Missouri, Ohio and Michigan 1917. Special prices on all spring pigs. Get our catalog it is free.
Crandell's Prize Hogs, Cass City, Mich.

LAST fall gilts all sold, have a good lot of last spring L pigs from 3 sires good growthy stock. Farm 1/2 mile west of depot, Citizens Phone 124.
OTTO B. SCHULZE, Nashville, Mich.

BRED GILTS and SERVICEABLE BOARS
J. CARL JEWETT, Mason, Mich.

O. I. C.'s a few choice Apr. and May pigs either sex and 4 reg. Holstein heifers.
CLOVER LEAF STOCK FARM, Monroe, Mich.

LATEST MARKET REPORTS

SECOND EDITION.

The markets in this edition were revised and corrected on Thursday afternoon, September 5.

WHEAT.

The United States government has fixed the price for the 1919 crop of wheat at \$2.20 per bushel. This price, however, may be changed. A commission has been appointed to report on conditions obtaining next spring, and should a higher price be warranted by the findings of this commission, the government will advance the minimum quotations. Wheat continues to move toward primary markets in exceedingly large volume, and stocks are piling up everywhere. Last week nearly five million bushels were transferred to Canadian elevators. This keeps prices near the government's minimum. Rates on grain from Lake Superior to Georgian Bay and Lake Erie ports have been advanced one-half cent. One year ago the price paid for No. 2 red wheat at Detroit was \$2.19 per bushel. Present prices here are:

No. 2 red	\$2.19
No. 2 white	2.17
No. 2 mixed	2.17

CORN.

The corn crop over the country is well advanced and danger of frost damage is becoming more remote each week. The probabilities are strong that a big crop will be harvested this fall. The demand from feeding sections is problematical, due to the uncertainty of the live stock business in general. A year ago No. 3 yellow corn was selling on the local market at \$2.10 per bushel. Local prices here on Thursday were:

No. 3 corn	\$1.55
No. 3 yellow	1.60
No. 4 yellow	1.55
No. 5 yellow	1.40
No. 6 yellow	1.35

OATS.

Farmers are putting in their bins one of the largest crops of oats harvested in this country. Despite this fact, there is such a broad general demand and a promise of generous calls from abroad, that prices are being well maintained in the face of heavy marketing by growers. A year ago they were paying 59c for standard oats on the local market. Present prices are:

Standard	70
No. 2 white	69½
No. 3 white	68½

RYE.

No change is reported in this market, trading being very dull and prices remaining unchanged from last week. No. 2 grade of this year's rye being quoted at \$1.65 per bushel.

BARLEY.

Practically none of this grain is finding its way into the primary markets at present, and trading is at a standstill. A few sales by sample are being made at \$1.98 to \$2.10 per cwt.

BEANS.

Bean prices have declined. The new crop will be fair and will come onto the market earlier than in a normal season. This, coupled with the outlook for a fair crop, particularly in the navy bean sections, is having its effect upon the trade. Local prices are now down to \$9 per cwt. The Chicago trade quotes the Michigan pea beans, hand-picked, at \$10.50@11 for fancy stock. Trading there is showing an easier tone. In New York City choice pea beans are quoted at \$11.25@11.50.

FEEDS.

Feed prices remain unchanged. Quotations to jobbers in 100-lb. sacks are as follows: Bran \$34.66; fine middlings \$36.66; standard middlings \$36.66; coarse corn meal \$68; cracked corn \$67.50; corn and oat chop \$48 @55.

SEEDS.

Buyers are anxious for supplies, and to secure them have bid up the price over \$1 during the past week. Prime, spot and October are quoted here at \$19.25; alsike \$15.50; timothy \$4.65.

HAY.

This trade is very firm with the supply in many larger markets inadequate to meet the demand. Local prices are

steady with those of last week as follows:

No. 1 timothy	\$26.00@26.50
Standard timothy	25.00@25.50
Light mixed	25.00@25.50
No. 1 clover	20.00@21.00

Pittsburgh.—Receipts have been more liberal here, but the demand has taken care of the increase at former prices. These are:

No. 1 timothy	\$30.50@31.00
No. 1 light mixed	28.50@29.50
No. 1 clover, mixed	27.00@28.00
No. 1 clover	27.00@28.00

POTATOES.

As the season advances, and larger stocks of potatoes are available for marketing, a slightly easier tendency is observed, particularly in the northern markets. Supplies are more liberal, and prices show a decline over a week ago. At Detroit prices range from \$2.60@3.30 per cwt. At Pittsburgh the range is from \$2.65@3.10; Cleveland prices for No. 1 are \$3.25 @3.30.

BUTTER.

Further advances have been made in butter prices. The trade is firm at the higher figures. At Detroit extra fancy creameries sell to jobbers at 46 @46½c; do firsts 45½c. Chicago trade rules higher, with creameries at 42½ @47c. The range in New York is from 46@50c for better grades of creamery.

EGGS.

The movement of eggs is free for this season of the year. Prices are

maintained, with the consumption large. At Detroit jobbers are paying 41½ @43c for the current receipts from Michigan. In Chicago ordinary firsts bring 37½ @41c. The New York trade is steady with western stock ranging from 38@66c per dozen.

CHEESE.

Higher prices are quoted in the various important cheese markets of the country. This is due to increased consumption largely, although the limited milk supply is restricting production. In New York fresh specials have advanced to 27c and average run 26½c. On the Chicago market there is very little change, with former values holding firm and trade fairly active. The Young Americas are bringing 26½ @26¾c per pound. At Detroit flats bring 26 @27½c and daisies 27 @27½c.

POULTRY.

The feeling is easy in this trade, with supplies and demand comparatively small. Broilers are quoted at 34@35c for large, 30@31c for small; hens 32@33c; roosters 19@20c; ducks 28@30c; geese 19@20c; turkeys 24 @25c per pound.

DETROIT CITY MARKET

Trading is on a large scale at our city markets these days. Potatoes sell at \$1.90@2 per bu; cabbage 90c; apples \$1.25@2.50; corn \$1.35 per bag; butter 55c; tomatoes \$1; cucumbers \$2@5, according to size.

Live Stock Market Service

Reports for Thursday, September 5th

CHICAGO.

Cattle.

Receipts 15,000. Native steers steady to strong; butchers slow and lower. Good to prime choice steers \$16.85@19.10; common and medium butchers \$10.25@16.85; heifers \$7.50@14.25; cows \$7.50@14; bologna bulls \$7.65@13; canners and cutters \$6.50@7.50; stockers and feeders, good \$11@14; stockers and feeders, common and medium \$8@11.

Hogs.

Receipts 21,000. Market mostly 25c lower than yesterday. Tops \$20; heavy \$19.15@19.65; mixed and light \$19.60@19.85; packers' hogs \$18.25@18.75; medium and heavy \$18.45@19; light bacon hogs \$19.25@20; pigs, good to choice \$18.25@18.55; roughs \$17.50 @18.

Receipts 24,000. Top classes slow and lower; feeders steady. Choice to prime lambs \$17.25@17.80; medium and good lambs \$16@17.25; culls \$10 @13.50; medium good and choice feeders \$16.25@17.65; choice yearlings at \$13.25@13.75; medium and good yearlings \$11.50@13; wethers, medium and good \$11.75@13.

BUFFALO.

Hogs on this market are selling from 10@15c lower than on Wednesday. Pigs are now bringing \$20.25@20.50; heavy grades \$20.75@21; other kinds at \$21.

Today saw a continuation of the slow sheep and lamb trade with top lambs reaching \$17.75.

The best calves sold at \$20@20.50, and ranged all the way down to \$7.

Cattle rule steady with the receipts light.

DETROIT

Cattle.

Market steady at 25c lower than last week; milch cows \$10@20 lower than last week.

Best heavy steers	\$12.00@12.50
Best handy wt bu str.	10.50@10.75
Mixed steers and heifers	9.00@9.75
Handy light butchers	8.00@8.25
Light butchers	7.00@7.25
Best cows	8.75@9.25
Butcher cows	8.50@8.25
Cutters	6.75
Canners	6.00@6.50
Best heavy bulls	8.50@9.50
Bologna bulls	7.50@8.25
Stock bulls	6.75@7.00
Feeders	8.50@9.50
Stockers	6.50@8.50
Milkers and springers	\$65@100

Veal Calves.

Market strong. Best \$18.50@19.00. Others 9.00@18.00.

Sheep and Lambs.

Market steady.	
Best lambs	\$16.00@16.50
Fair lambs	14.00@15.00
Light to common lambs	11.00@13.00
Yearlings	13.00
Fair to good sheep	10.00@11.00
Culls and common	5.00@7.50

Hogs.

Market 15@20c lower than on Wednesday. Mixed \$19.75@20.15. Pigs 19.75@19.20.

NEWS OF THE WEEK.

(Continued from page 212).

Lys river. British troops have reached Lens, while Australians and Canadians capture Peronne and advance into the territory beyond. American troops operating in Belgium capture Voormezele and other strong positions between that point and Ypres.—Spanish government decides to seize German ships in Spanish ports to replace Spanish tonnage sunk by German submarines.—Lenine, Bolshevik premier, is reported assassinated by a girl revolutionist.—President Wilson sets the minimum price guaranteed by the government for the 1919 wheat crop at \$2.20 per bushel.

Tuesday, September 3.

The famous Drocourt-Queant switch line is smashed by the British who are now four miles beyond this formidable line. Germans evacuate Lens. Americans are rapidly advancing toward Armentieres. The French cross Nord Canal and are marching toward Ham. Critics believe the Teutons will be obliged to realign their front line from Rheims to the Belgian frontier.—Congress is considering the \$8,000,000,000 war tax measure which has been presented by the federal tax committee.—Fuel Administrator states that 1,500,000 tons of coal will be conserved this year by the adoption of the skip-stop system on electric lines.—Reports from Monday's attendance at Michigan State Fair show it to be the banner day in the long history of this organization, 125,000 people having passed the turnstiles.

HOGS.

A 500 lb. Gilt just one. We sold Smooth Jumbo to head Model Farm herd, Lansing, Mich. watch his smoo. This gilt is bred to him for Aug. farrow "Liberty Bell" is the best gilt in Michigan you can buy her for just \$100. Bell phone. J. C. BUTLER, - - - - - Portland, Mich.

Big type P. C. Boar one yearling. Large and fine every way 2 fall yearling 10 Apr. boars. Write for prices. Satisfaction guaranteed. R. W. Mills, Saline, Mich.

Big type P. C. Boars all ages the kind that make good, meet me at the fairs. E. R. LEONARD, - - - - - St. Louis, Mich.

Yorkshires For Sale. Bred gilts and sows for farrowing. WATERMAN & WATERMAN, Packard Road, - - - - - Ann Arbor, Mich.

Victoria Swine Wanted: Would like prices on young boars and gilts. JOHN F. WILDE, R. 2, Rhineland, Wis.

SHEEP

RAMS

Will be at Detroit, Jackson, Grand Rapids and Hillsdale fairs with my Shropshires, Hampshires and Oxford. Come and make selection.

KOPE KON FARMS, - - - - - Coldwater, Mich.

1 Registered Oxford Ram 3 yr. old M. A. C. bred. not to be delivered until Nov. 1st. 25 breeding ewes. No kin to above ram. S. E. MYERS, - - - - - Hart, Mich.

FOR SALE Oxford Sheep, Yearling and ram lambs. H. W. MANN, - - - - - Dansville, Mich.

Some Good Breeding Ewes and registered RAMS for sale. Barnard Sheep Ranch, R. 5, Clare, Mich.

For Shropshire yearlings or lamb rams write or call on ARMSTRONG BROS., R. 3, Fowlerville, Mich.

Ingleside Shropshires Be sure to exhibit at the Detroit, Jackson, and Grand Rapids fairs. HERBERT E. POWELL, - - - - - Ionia, Mich.

IT PAYS TO BUY PURE BRED SHEEP OF PARSONS' The Sheepsman of the East. I sell and ship everywhere and pay express charges. Write for club offer and price list. Oxford, Shropshire and Fokled-Delaines. PARSONS, Grand Ledge, Mich. R. 9

Registered Shropshire yearling ewes and Registered Shropshire yearling rams. Representatives of this flock have given satisfaction in many states since 1890. Priced to sell. C. Lemen, Dexter, Mich.

Brookside Farm offers Shropshires of quality, 10 ewes 40 rams. DAN BOOKER, R. 1, - - - - - Evart, Mich.

Registered Hampshire ram lambs for sale. Weighing up to 130 lbs. Aug. 10th., at \$25.00 and up. Also a few yearling rams. CLARKE HAIRE, - - - - - West Branch, Mich.

Reg. Oxford ram lambs; come by auto and take the choice at \$30 and \$35 fine stock. S. S. W. St. Johns, J. R. HICKS, - - - - - St. Johns, Mich.

Registered Shropshire, one and two year old rams, and ram lambs of the best wool-mutton type. Write for prices. C. P. ANDREWS, - - - - - Dansville, Mich.

For Sale 120 grade Shropshire Ewes, 1 to 2 years old also one car load of yearling steers and one car load of 2 year old steers. J. B. GARDNER, - - - - - Cadillac, Mich.

Shropshire Am offering 8 yearling rams now. Also 12 young ewes for December delivery. C. J. THOMPSON, - - - - - Rockford, Mich.

FOR SALE 14. Choice Ram-boulet Rams. H. W. LYON, - - - - - Mason, Mich.

Farm Help Available

There are a considerable number of young men at Camp Custer who will not fight on moral grounds and are available for farm work. They look to me as if they would make good help on the farm. Many of them are vegetarians, which would help some.

They will cost \$45 per month; \$37.50 of this goes to the man and \$7.50 to the local Red Cross. Anyone wishing some of this help should send me a request for the same, endorsed by their county agricultural agent, or by the chairman of their county war board, if they have no county agent, and I will give them an order and they can go to Custer and get their man.

These men may remain until November 15. The arrangement may be terminated any time if the service rendered is not satisfactory.

A. B. COOK, Owosso, Mich.
Farm Help Specialist, U. S. Department of Agriculture.

Letters from Our Crop Reporters

Osceola Co., Aug. 30.—Condition of crops on basis of normal crop, as follows: Wheat, 50 per cent, \$2 per bushel; oats, 90 per cent, 70c; rye, 90 per cent, \$1.45; barley, 90 per cent, \$1; corn, 80 per cent, \$2; potatoes, 70 per cent, \$1.80 per cwt; beans, 90 per cent, \$8 per cwt; hay, 60 per cent, \$22 per ton; apples 90 per cent, 75c per cwt; butter 40c; butter-fat 44c; eggs 35c; chickens 30c; cattle 6@8c; hogs 15c. Dry weather and grasshoppers have shortened nearly all farm crops, but recent rains have improved late potatoes and beans.

Sanilac Co., Aug. 30.—Some of our crops this season are very good while others are extremely poor. Oats and barley are yielding splendidly. Corn is about 60 per cent; beans 50 per cent; wheat 40 per cent, and pastures about 30 per cent of a normal stand. The dealers here are paying 61c for oats; beans \$7.50@8 per cwt; barley \$1.85 per cwt.

Gratiot Co., Aug. 30.—Our corn crop here is tolerably fair, although much of the planting is of the southern and western varieties that will not mature. Beans and potatoes promise about 75 per cent of a normal crop. Pastures are fair at the present time, and apples will prove sufficient for home needs. Winter wheat is yielding from 10 to 20 bushels and spring wheat 30 bushels per acre; barley will run about 50 bushels. We are receiving \$2.70 per cwt. for our milk; 40c for butter; 36c for eggs; \$2.05 for wheat; 63c for oats and \$1.80 per cwt. for barley.

Lapeer Co., Aug. 29.—Potatoes have been hurt by dry weather and if frost holds off will make about 60 per cent of an average crop. Beans have suffered from the same cause, and promise now a yield of about eight bushels per acre. Pastures are very poor. A very large acreage of wheat and rye is being put in.

Monroe Co., Aug. 29.—Beans in this section are ripening unevenly and the yield will be greatly reduced by the dry, hot weather. Heavy rains the past few days will help the late potatoes some. Corn shows a good strong growth, but ears are not as well filled as they should be. Wheat is yielding 18 to 30 bushels; barley 18 to 35 bushels; rye 14 to 29 bushels. Milk buyers are paying \$3.10; butter 42c; eggs 38c; oats 60@63c; wheat \$2.09@2.12; veal \$16.50; milch cows are bringing \$85@115.

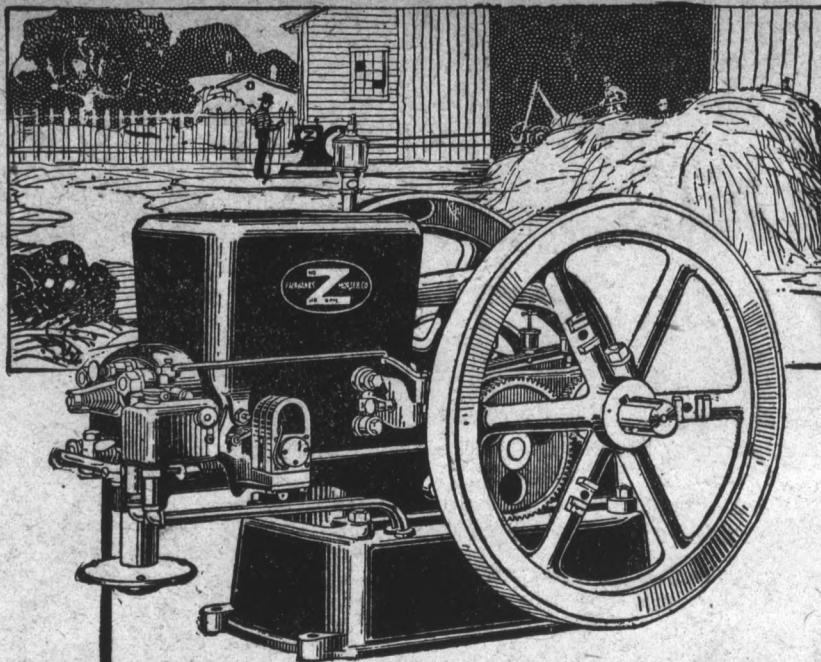
Calhoun Co., Aug. 29.—We will probably have about 50 per cent of a full bean crop. We will have a good crop of late potatoes if rain comes soon. Other crops as follows: Corn 60 per cent; apples 75 per cent; pears 90 per cent. Pastures are dried up. Buckwheat is looking very good. Wheat is yielding from 10 to 20 bushels; barley 25 to 35 bushels; rye 20 bushels; oats 50 bushels per acre. Hay is selling for \$25@30; butter 40c; eggs 38c; potatoes \$1.25 per bushel; apples \$1.25 per bushel; wheat \$2.13; rye \$1.50; oats 60@65c.

Muskegon Co., Aug. 29.—It is getting pretty dry, but corn is doing well, as are also beans and potatoes. Apples will prove a small crop, and pastures are poor. Our wheat is yielding around 18 bushels per acre; rye 12 bushels; oats 32 bushels. Local dealers are paying us 35c for butter and 40c for eggs.

Lapeer Co., Aug. 28.—Beans are not filling well and will be short crop in this section. Potatoes need rain to make a fair crop. Corn will not mature in many instances, owing to the seed used. About half an apple crop is in prospect. Pastures are drying up. Wheat will yield from 10 to 15 bushels; barley 35 bushels; rye 10 bushels; oats 40 bushels. We are receiving \$2.35 for milk; 42c for butter, 39c for eggs; \$2.08 for wheat; \$1.50 for rye.

Lenawee Co., Aug. 28.—Unless we get rain our potato crop will be very small. Corn is about 50 per cent of a normal stand, while beans will be probably 75 per cent. Apples, pears and grapes promise a good harvest. Wheat is yielding 15 bushels; barley about 30 bushels; rye 15 bushels. Butter brings 40c; eggs 42c; oats 65c; wheat \$2.12.

Sanilac Co., Aug. 28.—We are going to have about 75 per cent of a sugar beet crop. Bean and potato yields will not be heavy. Apples are quite promising. Some spring wheat fields are yielding around 30 bushels per acre; barley 40 bushels; oats 40 bushels; rye 20 bushels. We are getting 45c for butter; 38c for eggs.



Quality Assured

by Fairbanks-Morse standards throughout this famous "Z" Engine, for which 150,000 practical farmers have paid \$10,000,000. Service was proved before all this money was paid—a doubly convincing record.

They bought on demonstrated performance in action—regardless of price—to get the biggest dollar-for-dollar values per H. P. ever built into an engine. They acted wisely.

The Service You Get From Your Local Dealer

Your local dealer has just the type "Z" for your needs in stock—waiting for you. Buy from him. He is prepared to give prompt delivery and personal service.

FAIRBANKS, MORSE & CO.

Chicago — Manufacturers

Oct. 24, 1918

Oct. 24, 1918

5th ANNUAL SALE

At Howell Sales Pavilion

85 Head of Registered Holsteins 85

Mostly Milch Cows Consigned by Sixteen Livingston County Breeders.

Howell Sales Co., of Livingston County

JAY B. TOOLEY, Sec.

Catalogs Oct. 5th.

If You Want A Square Deal

and your money on receipt of shipment send your Poultry, Veal & Hogs to

J. W. Keys Commission Co.,
470 Riopelle St., East. Market
Detroit, Mich.

the best market in America; weekly market circular on request, please mention this paper. Are you doing your bit? Buy War Stamps.

HAY

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

Mr. POULTRY FARMER:

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

GEO. R. ELDRIDGE CO.
494-18th Street, Detroit, Mich.

Remember! We guarantee your satisfaction with every shipment.

HOGS

O. I. C. & Chester White Swine

Strictly Big Type with QUALITY. Have a few spring pigs either sex for sale. They are of the right stamp, good enough to be shipped C. O. D.

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

O. I. C. spring pigs for sale. I ship C. O. D. and guarantee to please. F. C. BURGESS, R. 3, Mason, Mich.

L. S. P. C. all sold out, except the largest gilt raised last year, bred for June farrow. H. O. SWARTZ, Shoolcraft, Mich.

Big type P. C. Big boned fellows from Iowa's greatest Bherds, special prices on spring boars and choice bred gilts. E. J. MATHEWSON, Burr Oak, Mich.

See These Z-Engine Features

1. Fairbanks-Morse QUALITY.
2. Economical in first and fuel cost and low up-keep.
3. Simplicity and staunch durability.
4. Lightweight, Substantial, Fool-proof.
5. Gun-barrel Cylinder Bore.
6. Leak-proof Compression.
7. Complete with Built-in Magneto.
8. More than Rated Power.

3 and 6 H. P.

Use

Kerosene

—Also Distillate
—Coal Oil
—Tops or Gasoline.

The 1½ H. P. uses gasoline only.

Raise Chester Whites?

Like This
the original big producers



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

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

BIG TYPE POLAND CHINAS

Bred Gilts and Spring Pigs. One extra well bred Holstein Bull Calf.

HILLCREST FARM,
KALAMAZOO, MICH.

Big Type Poland Chinas. Spring pigs for sale. B. Healthy and growthy. From large litters. Prices right. L. W. Barnes and Son, Byron, Mich.

LARGE Type P. C. Just 5 choice summer gilts bred for July and August farrow. Come and see them. W. J. HAGELSHAW, Augusta, Mich.

Big type P. C. spring pigs of the best producers in the West, priced for July at \$25 to \$35. Guaranteed to please. C. E. GARNANT, Eaton Rapids, Mich.

Big Type P. C. Spring Boars for sale, also Hampshire Ram lambs. A. A. WOOD & SON, Saline, Mich.

Large type P. C. fall gilts up to 365 lbs. ready to ship bred for Aug. and Sept. farrow. Fall sale Nov. 29. Wm. J. CLARKE, R. 7, Mason, Mich.

Large Type P. C.

Bred gilts and boars all sold nothing to offer at present. W. E. LIVINGSTON, Farms, Mich.

Additional Stock Ads. on Page 222

How many kills to YOUR shot pattern?

MOST hunters agree that three shot pellets or more are essential to a *kill*. Less than three may mean a *cripple*, no matter what the size of shot or its velocity. Hence uniform pattern, i. e., an even spread of shot is essential to successful shooting, in the field or at the traps.

The secret of good patterns is in the *control* of the powder explosion. Good, evenly distributed patterns are the direct results of a correct system of wadding scientifically adjusted to the bore of the gun and the load. The wadding, like the piston head of a gas engine, must give the explosion something solid to work against, so that the shot may be *pushed* out evenly.

It must expand and fill the tube of the barrel, completely sealing in the gas behind it. No gas must escape to scatter the shot.

It must offer just the right amount of resistance to the explosion so as to develop uniform pressure and high velocity without danger of jamming the pellets out of shape at the "choke" or muzzle constriction.

The Winchester system

Winchester Wadding is the result of repeated experiments to determine the most efficient control of the gas blast.

The special construction of the Winchester *Base Wad* gives what is known as *Progressive Combustion* to the powder charge.

Combustion spreads instantly through the powder charge. By the time the top grains of powder become ignited the *full* energy of the burning powder behind is at work.

Though the explosion is almost instantaneous, it is none the less *Progressive*, the final energy and maximum *velocity* of the completely burned powder being developed at the *muzzle* where it is most needed.

Meanwhile, under the heat and pressure of combustion, the tough, springy, *Winchester Driving Wad* has expanded to fill the barrel snugly all around. No gas escapes. It is completely sealed in. The wadding *pushes* the shot evenly.

At the muzzle the shot pellets slip out without jamming while the wadding is checked for a brief interval by the constriction of the muzzle. *It follows some distance behind the shot pattern.*

The shot cluster travels on unbroken by gas blast or



wadding and makes the hard hitting, uniform pattern for which Winchester shot shells are world famous.

Fish Tail Flash. All Winchester smokeless shells are made with the new Winchester Primer—the quickest and most powerful shot shell primer made. Its broad *fish tail* flash gives even and thorough ignition. Every grain of powder is completely burned up before the shot charge leaves the muzzle.

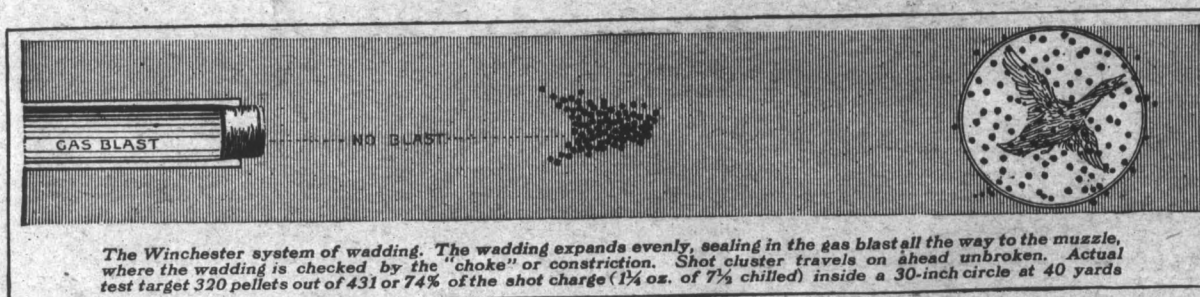
The Crimp. The required degree of pressure necessary in seating the driving wads is worked out in combination with the *hardness* or the *softness* of the *crimping* required for any particular shell.

Waterproofing and lubrication. In the cold damp air of the marshes, or under the blazing sun at the traps, Winchester shells will always play true. Winchester waterproofing process prevents them from swelling from dampness. Special lubrication of the paper fibres prevents brittleness and splitting in dry weather.

Uniform shells. From primer to crimp, Winchester shells are constructed to insure the maximum pattern possible from any load and under all conditions. \$100,000 is spent annually in the inspection and testing of finished shot shells. 25,000,000 rounds of ammunition are fired every year in testing guns and ammunition.

Clean hits and more of them

To insure more hits and cleaner hits in the field or at the traps be sure your shells are Winchester Leader and Repeater for Smokeless; Nublack and New Rival for Black Powder. Write for our Free Booklet on Shells. **Winchester Repeating Arms Co., Dept. M-11, New Haven, Conn., U. S. A.**



WINCHESTER

World Standard Guns and Ammunition

