

630.5  
M626

# MICHIGAN FARMER

AND LIVE STOCK JOURNAL  
PUBLISHED WEEKLY. ESTABLISHED 1843.

VOL. CLX. No. 1  
Whole Number 4234

DETROIT, MICH., SATURDAY, JANUARY 6, 1923

ONE YEAR \$1.00  
FIVE YEARS \$3.00



National Dairy Council

Milk Puts Power Behind the Blow



Published Weekly Established 1843 Copyright 1923

The Lawrence Publishing Co.  
Editors and Proprietors

1632 LaFayette Boulevard Detroit, Michigan  
TELEPHONE CHERRY 8884

NEW YORK OFFICE-95 Madison Ave.  
CHICAGO OFFICE-1109 Transportation Bldg.  
CLEVELAND OFFICE-101 1-1013 Oregon Ave., N. E.  
PHILADELPHIA OFFICE-261-263 South Third St.

ARTHUR CAPPER ..... President  
MARCO MOLES ..... Vice-President  
PAUL LAWRENCE ..... Vice-President  
J. F. CUNNINGHAM ..... Treasurer  
F. H. NANCE ..... Secretary

L. R. WATERBURY ..... Associate Editor  
BURT WERMUTH ..... Associate Editor  
FRANK A. WILKEN ..... Associate Editor  
I. A. LEONARD ..... Associate Editor

I. E. WATERBURY ..... Business Manager

TERMS OF SUBSCRIPTION  
One Year, 52 issues ..... \$1.00  
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  
55 cents per line agate type measurement, or \$7.70 per inch (14 space lines per inch) per insertion. No advertisement inserted for less than \$1.65 each insertion. No objectionable advertisements inserted at any time.

Member Standard Farm Papers Association and Audit Bureau of Circulation.

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

VOLUME CLX NUMBER ONE

DETROIT, JANUARY 6, 1923

## CURRENT COMMENT

### THE MICHIGAN FARMER SAYS:

Health is wrapped in the apple skin.

The community, twenty years hence, is measured by its schools of today.

According to Confucious the greatest fault is to cleave to a fault.

Legumes pay their board and leave buried in the soil a valuable, if not an appreciated, gift.

The greatest success in the dairy business comes when a pure-bred dairy herd gets into the hands of a "pure-bred" dairyman.

### A Tax For Roads

IT was back in 1905 that the state of Michigan inaugurated a road building campaign. Since then over \$83,000,000 has been expended in the state for road construction and maintenance. The greater portion of this has been used during the past eight or ten years. With a business that involves so much capital, it is natural that those who supply the funds would become interested in the problems of road financing. The taxpayers of the state are, therefore, watching eagerly the attitude of our law makers on this question during the legislative session which has just opened at Lansing.

A number of schemes have been proposed for financing the construction of new roads and the maintenance of old ones. One of these is a property tax on motor vehicles. Another would increase the license tax. A third would place a mill tax upon all property to raise funds for this purpose. Still another is a tax upon gasoline. Finally, there have been proposed various combinations of the above mentioned schemes.

Possibly the gasoline tax has attracted as much if not more attention than any of the other proposals. Its sponsors who are many, contend, in a broad way, that this tax would distribute the expense of road building and up-keep on those who use the roads most. They say that with such a tax trucking companies and those who use the highways for carrying passengers would pay into the state treasury according to the amount of travel they do.

The members of another large group are opposed to this gasoline method of financing road expenses. They contend that this tax would favor the rich man

in that he would possibly pay less than Mr. Average Citizen, who may happen to make much use of his car or truck. They further contend that the city man who drives his car, or truck, ninety per cent of the time on city pavements objects to contributing his full quota to the up-keep of country roads.

From this brief survey and the fact that all the other proposals have both ardent friends and determined enemies, it is apparent that the road tax will be one of the important measures to be fought out at the present session of our legislature. The question should, therefore, receive the careful consideration of farmers. Both the State Association of Farmers' Clubs and the State Grange in annual session indorsed this method of financing the cost of road building and maintenance.

### The Road is Rough

AS we cross the threshold of another year we wish to extend a word of encouragement to him who has chosen for life work the culture of the fields.

He who has aspired to the stewardship of a plot of God's green earth, on which to rear a family comfortably and well, has aimed high. There is no nobler occupation under the heavens, if we view it from the standpoint of service in the world's great work. Back of all progress along the pathway of civilization, has ever been an intelligent, prosperous agriculture.

The bumps we have taken during the recent past, have been severe; they have tried the souls of most of us; they have come quick and hard. But it now appears that the balance of the world has been preserved. While matters have gone hard with us the tide will turn; it always does. Indeed, if we mistake not, it has already started in the direction of better things. The business barometer gives reason for greater faith in the early return of more prosperous times.

But the progress will be slow as indicated in an article elsewhere in this issue. There is but one sure way to get out from under a burden of debt and discouragement, and that is to dig out. This way out is neither easy, nor fast, for the course is steep and rough and there is no elevator.

Because the way is thus, the world calls loudly now for men who are not afraid of work—red-blooded men with stout hearts and healthy minds and willing hands. Since the dawn of history it is those homely attributes that have brought forth the things worth while.

So let us take heart at this, the beginning of a new year, and resolve to put the best there is in us into our work, having abundant faith that the best things in life will return to us.

### The Value of The Horse

IN these days of gasoline go-carts and chugging tractors, it sometimes looks as if the horse might be consigned to the museum and labeled, "Old Dobbin, an example of ancient motive power."

It is true that the horse will not occupy the same position in the world's economics as he did in the past. Motive power has changed rapidly in the past century and it is well that it has, for transportation improvement has been the greatest known stimulant to civilization. It has annihilated distance, and brought peoples together and in doing this it is bringing about a greater human understanding.

But withal, the horse still plays an important part. He still furnishes a cheap source of power for plowing, and is the most economical to use for short hauls. But greater than these is the fact that you can make friends with a horse. This is something you cannot do with the steely steeds of today.

One of the great things which makes farming attractive is the association one has with living beings. Aside from the dog, there is none with which we form more pleasing associations than the horse. Much of the recreation time of young farm folks is spent with animals. It is fortunate that it is so, for there is no more wholesome recreation for children than the time they spend with pets.

We have encouraged calf clubs, pig clubs and chicken clubs. In such club work the young people form pleasant relations, but the projects are mostly based on the pecuniary interest in agriculture they arouse. In the formation of colt clubs we would encourage the great affection which usually exists between man and his horse, and besides the raising of the colts would prove profitable, for students of agricultural economics say that there is need for more horses to supply the coming farm demand. Colt clubs would prove to be another factor which would encourage the boys to stay on the farm.

### All Power to Azotobacter

YOU should not get us wrong. In this comment we are not dealing with a close, or even distant relative of the weed which furnishes the nicotine of commerce. Azotobacter is a real friend of man.

His business has a peculiarly close relation to agriculture. He competes with the importers of nitrates from Chili, with the nodules on leguminous plants, and undoubtedly will keep right at his line regardless of the development of Muscle Shoals. This friend is alive, resides in the soil, eats sugar and carbohydrates from which he gets the necessary energy to fish nitrogen out of the air to combine with other elements in compounds for healthy plants to feed on.

Azotobacter is a little particular, however, about the conditions under which he labors. An acid soil is an abomination to him. He prefers an abiding place where there is plenty of lime and solutions of potash and phosphoric acid. He also is mulish should the temperature run low but is very amiable and active when the summer heat has reached his home.

Under the favorable conditions mentioned, he becomes a real factor in making soil fertile. At the famous Rothamsted Experiment Station, soil on which vegetation had been allowed to fall back on the ground and decay for a period of thirty years, showed an increase in its nitrogen content amounting to one hundred pounds per acre per year. Azotobacter was very largely responsible for this increased supply of nitrogen. We hope some day to know how, on our farms, to multiply the like of him a million fold.

### Our Chicken Population

IF some odd individual who had much patience could go out and organize into camps the chicken population of the state and there train them in the ways of the military order, he could put on a dress, parade which, for size, would startle even those who have been in the presence of chickens all their lives.

For instance, if these companies of chickens could be lined up eight abreast, they would form a solid column reaching from the city of Detroit to the Straits of Mackinaw. Or, if they were loaded upon ton trucks and these traveled along the highway three rods apart, the number of trucks required to carry this army would make a line 275 miles long. Then again, if all the people of the state decided upon having chicken for dinner each day until the entire chicken population of the state was consumed, at least a half month would be required for the feast.

Another way of impressing the mind

with the magnitude of our chicken business, is to grasp what the better half of this feathered population in the state can do. In the course of a year these hens from Michigan lay 53,382,336 dozen eggs. These placed end to end would make an egg chain reaching nearly around the world. Or, you could travel in your flivver at the rate of 400 miles a day for fifty days and only move from one end of this line to the other.

Michigan's poultry business is no small part of her agriculture.

### Free Seeds May Go

JUDGING from the result of a vote in the lower house of congress, taken on the Saturday before Christmas, there is a chance that our federal law makers may have the heart to discontinue the long established custom of appropriating a third of a million dollars for the distribution of free seeds. The elimination of the free-seed method of campaigning may occasion a change in the practices of congressmen, but the farmers and gardeners will be affected only to the extent of having less feed to keep the house mouse contented.

### After Effects

WELL, the holiday festivities is over and I suppose about as many resolute is already broke as folks. All there is left of the holidays for lots of folks is the payin' for them. So many folks buy their presents with their future.

They say there's lots of folks in the city what live like the Prince of India on a dollar down and a dollar a week. You kin buy fur coats, diamond rings and lots of other what you call essenshuls of life that way, but I never heard of you bein' able to buy just plain, ordinary, insignificant bread and butter like that.



Seems like lots of folks has lots a fun livin' on their future, but the way some a them use their credit ain't no credit to

themselves or nobody else.

Maybe it's all right 'cause it keeps factories runnin', but it seems like when a twenty dollar clerk lives like a million dollars it's too much like bein' what you ain't. It looks like some folks spend so much time bein' what they ain't, that they never get to be what they ought to be. They spend so much time gettin' on a hill top and yellin, "Hurray For Me."

Now, Abe Lincoln and lots other men what has accomplished things didn't waste their energy yellin' for themselves, but when they did yell it was for other folks. But they spent most of their time doin' the things what made them famous.

One writer says something about if you make good enough rat traps the world will wear a path to your door, even if you live in the woods. Seein' that the rat populashun of most cities and even farms, is greater than their human populashun, I think that is right.

Sophie just looked at this and said that anyone kin see that I ain't got rid of all the grouchiness of the holiday festivities.

"A full stomach maketh a empty head," said a man what had a empty stomach, but a full head. And when you ain't got nothin' in your head you use your disposhun which usually ain't the sweetest thing you ever see.

I tell Sophie, "Never mind, the sweet bye and bye is coming." Then she looks at me, sour like, and says, "It's time to put the cat out and go to bed."

HY SYCKLE.

# Making Marl Slide the Plank

*A Cheap But Satisfactory Device for Mining Marl from Lake Beds*

By I. J. Mathews

DEVICES for reclaiming marl from lake beds have not been perfected. They are, however, well along in the experimental stage. I wish to give my impressions of a marl extractor which I saw recently.

This was a small outfit, involved but little capital and labor, but seemed to be doing the work very satisfactorily. It was designed by William Peterson and Elwin Parmeter, two farmers who live in Kent county, Michigan.

They started work on Round Lake, a small three-acre lake located near Harvard, Michigan, and are still working on it. By way of explanation, Round Lake is just one of the many hundreds of small lakes dotting the land here and there which contain marl, and while these men have got many hundred tons of marl out of this lake, they have made a very small dent in the total tonnage that is there to be extracted.

This outfit cost about \$700, and was largely home-made. All the mechanical work is done by a six-horse-power engine and all this engine does is to run two reversible drum hoists. One hoist pulls a scraper out into the lake and drags this back full of marl. The other hoist operates a dump on a gin pole which gets the marl out on dry land where it can dry out before hauling.

The scraper full of marl is dragged up an incline and dumped into a bucket. The other drum hoist then pulls this bucket up a cable attached to a gin pole where it is tripped. Then the reversible hoist drags the bucket back to the place where it is filled as the scraper delivers its next load of marl.

The day I was there, they were getting a scraper full of marl out of the

lake every two minutes. The bucket holds about a third of a cubic yard, so it will be seen that there was a cubic yard of marl being delivered to the pile each seven or eight minutes. According to William Peterson, out of each ten-hour day, they get in about nine hours of continuous work.

The hoists are controlled by levers within the reach of one man so there are only two men needed to operate this rig. There is little machinery to get out of order and it looks like an outfit well within the reach of a company of five or six men who realize their need for marl, and have a lake reasonably close from which the marl can be extracted.

Telling what they have learned from experience, William Peterson, the chief designer, explained that the size of the bucket is necessarily dependent upon the strength of the gin pole. A third of a cubic yard of marl is pretty heavy. The engine and hoist give plenty of power to transfer more of this up the cable, yet the gin pole they had would not allow more to be carried.

When a new bed is to be opened up, it is first necessary to cut away the grass and rushes that grow near the edge of the lake. The machinery is set up just as though the marl was to be recovered, but instead of the marl scraper being attached to the cable, an ingenious cutter made out of two bean

puller blades is used. This is dragged back and forth across the grass, cutting it into pieces. Then the men go in with pitchforks and throw out the pieces of sod. This gives them a clean surface to start work in.

There must be a pulley fastened out in the lake somewhere so the hoist can pull the scraper to the far edge of the bed and then return the scraper full of marl. To do this a boom must be built about the area to be worked. This is done by using pine timbers bolted at the corners and then trussed inside by welding silo hoops together. "You can't get this boom any too strong," says Mr. Peterson.

The device that holds the boom pulley so it can be moved from one position in the bed to another is an ingenious A-shaped rig made out of timbers with a board nailed on the top side to hold it in position against the outer edge of the boom. When the cable is slack, a raised bench can be used to push back the A-shaped framework with the pulley. It can then be moved to another location along the boom and a new area of marl opened up.

The scraper itself is made largely of iron and weighs about 400 pounds. This weight makes it "bite" the marl more effectively and keeps it right side up. There is no bottom to it. The back is rounded at the top so the marl will roll up and the top is of board slats that can be set to regulate the "bite" of marl that is taken. The incline up which this scraper goes with its load of marl consists of planks stuck down into the marl and then securely bolted at the lower end. In addition, a piece of sheet iron is put on so the scraper will not catch onto these boards as it comes up with its load.



One View of the Successful Home-made Marl Extractor Perfected by William Peterson and Elwin Parmeter.

## Will the Big Type Hog Get Too Big?

*Some Pertinent Comments on the Subject by G. H. Conn*

MUCH comment is being made by thinking breeders on the big type hogs that are so much in demand at the present time. We have not forgotten the small pudgy type of but a few short years ago, that our present type has supplanted. We now understand why they were not hogs that would make money for the breeder and farmer. The market was discriminating against them and what the market demands is what the breeder must produce.

Just why the public should always go to the extreme in all reform is hard to understand, but past history shows that this is true and possibly always will be. Years ago when the small, blocky, square hog became popular, breeders developed the type until they were small, poor breeders and nothing much but a little bunch of fat. Hogs would be mature and ready for the market weighing 150 pounds; 200 pounds was a very large hog in those days. Now the very opposite condition is to be found among breeders everywhere.

### Dangers From Extreme Big Type.

Students of breeding and animal development have always noticed an invariable rule of growth of certain types in the animal kingdom. It invariably happens that a small animal will be what we term a neat, trim, refined animal; on the other hand a large animal is generally coarse, rough and a poor feeder. In the first class we say that they have quality at the expense of scale, or size, and in the latter we say they have scale at the expense of qual-

ity. Thus it can be seen that size and quality can only exist in the same animal in relative proportions, that is largely determined by the size and rate of development of the animal. The history of practically all breeds of live stock will bear out this statement, as they have all suffered at one time and another from mistakes in this connection. Breeders of hogs can see the future of the big type if they will stop and think a bit. Too many breeders do not give enough thought to their operations. An exaggerated big type is going to be just as bad, if not worse, for the industry than was the small type of a few years ago.

### The Middle Ground.

From the history of other breeds we can see that there is a middle ground, where a combination of size and quality will yield greatest returns and pro-

duce animals suitable for the purposes for which they are intended. There should be a determination of this middle ground and the establishment of a type that can and will be reproduced more or less regularly with a reasonable assurance of uniformity. If breeders could agree on such a type and all would get such an animal firmly fixed in their minds, the dangers that we fear would not be encountered. It is the duty of those men who are close students of breeding to outline the dangers of exaggerated type that is confronting hog breeders today and point out the dangers and the inevitable result.

Just why present-day breeders can not see the dangers in such practices, is strange. The thoughtful breeder thinks not only of one generation but far into the future and the effects that

his work will have on it. The breeder who lives only in the present will not be in the business a few years hence, unless he changes his policies. Breeders of other animals have never been able to increase the size of their individuals beyond a certain point and still retain their quality, and we feel safe in saying that swine men will not do it either. The early history of our swine ancestors would indicate that the one thing we have always had to attempt to improve in swine, was quality. Breeders must determine what will present these undesirable qualities to the lesser degree and combine the greater number of desirable qualities. Outstanding Features of Present Type.

In practically all papers and from nearly all breeders of big type, the things that are emphasized are height, length, arch of back, and weight. The mad scramble that is going on to produce a hog that stands higher, that has great strength, and that has a greater arch of back, is leading many a breeder toward ruin and failure.

It seems to the outsider that they have lost sight of many of the qualities that should always be looked for in correct type hogs. It would be interesting to see the type that some breeders would have if they could bring about all the changes that they are clamoring for now. We predict that not many men would be proud to claim it.

The points that are emphasized in the majority of advertisements are length of legs, length from head to tail; (Continued on page 28).



What do You Think of Mr. Conn's Position on Hog Types? Write the Editor a Short Letter Giving Your Opinions.

# LATE AGRICULTURAL NEWS

## WANT DUTY CUT ON FEEDER CATTLE.

THE Illinois Agricultural Society, representing 80,000 farmers, is asking for a reduction in duty on Canadian feeder cattle as fixed in the McCumber-Fordney tariff law. According to a report to the American Farm Bureau Federation from Howard Leonard, of the society, Illinois cattle feeders have learned to appreciate the nice Canadian feeder cattle because of their superior quality. The present duty has already resulted in the receipt of a much smaller volume of Canadian cattle in our markets, thereby curtailing the supply of quality feeding cattle.

## NEW FRUIT MAN ADDED TO STAFF.

MICHIGAN Agricultural College extension staff will be increased to two men by the addition of H. A. Cardinell, extension pomologist of the University of Missouri, who will assist T. A. Farrand, secretary of the State Horticultural Society, in field work. Mr. Cardinell has had a wide experience in fruit growing, especially among the western farmers. He graduated from the agricultural college in 1915 and joined the Missouri staff in 1919. He also spent quite a few years on some of the famous fruit farms of the west.

## FARM COST ACCOUNTING.

DISCUSSING the objectives in agricultural cost accounting, in a paper read at the meeting of the American Farm Economics Association at Chicago, December 28-30, Dr. Henry C. Taylor, chief of the bureau of agricultural economics, said that probably the most important purpose of agricultural accounting is to furnish the basis of making a choice between two or more lines of production.

## TO RE-PUBLISH BOOKS.

CONGRESS has voted to appropriate \$200,000 for printing and distributing the publications entitled "Diseases of the Horse," and "Diseases of Cattle." These old books first made their appearance about thirty years ago, and have been out of print for many years.

## NURSERYMEN FORM ORGANIZATION.

AT the end of the horticultural meeting many of the prominent Michigan nurserymen got together at the Hotel Pantlind in Grand Rapids and formed a Michigan association of nurserymen.

The purpose of this organization is to further the interest of the nursery business with respect to legislation, to promote keen competition, to draw together harmoniously the nurserymen and their customers and to further all commendable horticultural developments. One of the first things the association advocated was the licensing of nurserymen.

The officers elected were: President, B. G. Monahan, of Detroit; vice-president, W. F. Ilgenfritz, of Monroe, secretary-treasurer, C. A. Krill, of Kalamazoo. The following executive committee was also elected: Edward S. Greening, of Monroe; George A. Hawley, of Hart; R. J. Coryell, of Birmingham; F. E. Beaty, of Three Rivers.

## STATE BUDGET IS O. K.'D.

BUDGET requests, amounting to \$32,774,092.98 for the operation and maintenance of state departments and

institutions for the two years beginning July 1, 1923, were approved last week by Governor Groesbeck and the state administrative board.

The board also passed on, without approval, to the legislature requests totaling \$21,610,560.29 for the year 1923-24 and \$7,336,205 for the year 1924-25. This total includes large amounts wanted by institutions for building purposes and for the purchase of real estate. The requests of the university for \$7,277,000 and of the agricultural college for a substantial amount are among these items.

The following recommendations, which were adopted, were made by the board in submitting its report:

First.—That the recommendations submitted to this board by Mr. Croll, for the maintenance and operation of state institutions, totaling \$7,353,408 for the fiscal year 1923-24 and \$7,335,517 for the fiscal year 1924-25 be approved.

Second.—That the recommendations relative to operating expenses of the different state departments, totaling \$4,311,340 for the year 1923-24, and \$4,402,097 for the year 1924-25 be likewise approved.

Third.—That the requests of the highway department, tax commission, military establishment, naval militia, department of agriculture and department of conservation be submitted to the legislature, without definite recommendation at this time, because of a possible change in state policy.

Fourth.—That the soldiers' bonus sinking fund, amounting to \$1,816,000 for each of the said fiscal years, and the war loan sinking fund amounting to \$480,000 be likewise approved.

Fifth.—That the amount of \$200,000 requested for the appraisal of tubercular cattle be approved.

Sixth.—That requests for miscellan-

eous items of state expense be approved, as well as those for the maintenance of the different examining boards.

Seventh.—That of the \$16,641,221.29 requested by the various departments and institutions for building purposes for the biennial period, the items listed and recommended by Mr. Croll, amounting to \$2,396,556 are regarded by this board as necessary. The remainder of the building requests are submitted to the legislature for its action.

## THE GERMAN PURCHASING POWER.

THE purchasing power of consumers in Germany is greatly reduced, owing to the drop in German exchange. This is being felt in the milk trade in Berlin and other German cities. In November, according to the representative of the United States Department of Agriculture, less than 99,000 gallons of milk daily were consumed in Berlin as compared with 440,000 gallons a day before the war. The American condensed milk trade in Hamburg is completely at a standstill, as consumers cannot buy the milk.

There is a heavy reduction in the demand for lard in Germany. Other animal oils are in poor demand, but the margarine industry is said to be increasing. The Germans are depending more and more upon vegetable oils.

Germany is requisitioning \$2,500,000 tons of grain for which it is paying very low prices. This grain is to be used to lower bread prices for the laboring class. In an effort to further cheapen food prices in Germany the government prohibited exportation of tree fruit of which there was an abund-

ant crop. This resulted in an over-supplied market, low prices, and much fruit left to rot on the trees because it did not pay the farmers to pick and ship it to market.

## LIVE STOCK REPORTING SERVICE PROVES VALUE.

THE market reporting service on live stock recently established by the Bureau of Agricultural Economics of the Department of Agriculture is considered of more importance to the southwest producers than the new stock yards in Los Angeles, according to a report from that city. Since the receipt of the market information furnished by the Los Angeles office of the bureau, price differentials between various lots purchased from different producers have been materially narrowed even in the most remote farming districts. This spread has narrowed to twenty-five cents per hundred pounds instead of one dollar or more as often existed in the past, and two practices are today almost abolished, one the speculator making a margin on a known market through rapid action among remote producers, and the other the large outfits in certain sections taking up the smaller lots in their vicinity at a margin difference. Similar encouraging reports are coming from other sections in regard to the usefulness of the bureau's market news service.

## COST OF KEEPING HORSES.

SOME interesting cost studies are being made by the bureau of agricultural economics. A survey made recently by the bureau indicated that the cost of keeping work horses in the corn belt in 1921 was about \$100 per head. Exclusive of pasture the annual ration per head consisted of forty bushels of corn, twenty bushels of oats, 1.3 tons of hay and 1.8 tons of straw or corn stover. During the year sixty-six hours of man labor were required to care for each horse.

The average farm value of the work stock was \$123 per head.

During the year each horse worked an average of 723 hours. On the basis of a ten-hour work day the average cost was \$1.37 per day, or 13.7 cents per hour of actual work done. The horses on some farms worked two to three times as many hours as those on other farms, showing a widely varying degree of efficiency on different farms.

## ON AGRICULTURAL CREDIT.

THE position of the American Farm Bureau Federation on the bill which would afford credit to agriculture running from six months to three years, was outlined by Gray Silver, the Washington representative of the federation, before the senate banking and currency committee. He said the federation would add to the Lenroot-Anderson bill among other things a provision for a large central fund which would make the system more elastic than would be the case if the bill were passed as in its present form. He indicated that the fund would be similar to the War Finance Corporation fund. He suggested that a limit of \$5,000,000 for each of the twelve federal farm land banks' farm credits departments is too small and that it should be increased to \$10,000,000 each. He would have this capitalization of the twelve discounting agencies supplemented by this large central fund administered, not by the federal farm loan board as provided in the Lenroot-Anderson bill, but by a separate board erected for the purpose.



Wednesday, December 27.

BLINDED nine years ago, Albert Owitz may regain his sight by having a pig's eye transplanted.—Eight train union chiefs were found guilty of conspiracy to obstruct interstate commerce for their activity in the railroad strike last fall.—Will Hayes, chief of the motion picture industry, lifts the ban on Fatty Arbuckle films, but most local censor boards still retain the ban.

Thursday, December 28.

ARTICLES of incorporation have been filed at Lansing for the Home Rights League whose avowed purpose is to make less effective the eighteenth amendment.—Twenty-two civilian employes were arrested for being involved in a conspiracy to loot the United States navy.—A lone war veteran, armed with a monkey wrench, held 200 Ku Kluxers at bay in Peru, Indiana.

Friday, December 29.

IT is reported that Henry Ford is going to build a \$6,000,000 manufacturing plant at Hegewisch, Illinois, a suburb of Chicago.—Stanilas Wojciechowski has been sworn in as the new president of Poland.—All December heat records for Kansas were broken when the temperature registered sixty-two degrees.

Saturday, December 30.

AN Arizona Indian found the charred bodies of the Michigan aviators, Colonel F. M. Marshall and Lieutenant

Charles Webber, seventy-five miles from Tucson, Arizona.—San Diego, California, has the highest suicide rate in the country, while New York City has the lowest.

Sunday, December 31.

THE old Polk street depot in Chicago, which was erected in 1884, was entirely destroyed by fire just before Christmas.—Twenty-one United States senators are for bringing all the United States soldiers back from the occupied Rhine district.—The actors in the world-famous pageant play at Oberammergau are poverty stricken because of the depreciation of the German mark.

Monday, January 1.

WITH 400,000 refugees forced upon her, Greece is becoming a good market for Michigan beans. She is expected to consume about 95,000 metric tons of the Michigan product.—Georges Clemenceau, the famous "French tiger," turned over to the American Field Service Fund \$20,000 which was the profit of his recent speaking tour in this country.

Tuesday, January 2.

AFTER accumulating three-fourths of the world's gold, the United States is now preparing to move some of this back to Europe. Improved business conditions in Europe is the cause.—Madame Sarah Bernhardt, the noted French actress, who has been dangerously ill, is reported to be recovering.

# A Neglected Opportunity

Michigan Has Ideal Conditions for Profitable Pear Production

By C. I. Lewis

THE writer recently made a 1,100 mile trip through Michigan, and one conclusion that he drew was that Michigan has one of the brightest futures in pear production that it has in any fruit which it is now growing, and men who are considering devoting their entire energy to apples, cherries and men who are considering devoting thought to the production of the pear.

The western states along the Pacific could not continue their pear growing if they did not give the orchards more exacting care with regards to blight control than does the state of Michigan. In other words, pears can be grown more cheaply and easier in Michigan than they can be grown on the Pacific Coast. Pears in a general way grow in Michigan in spite of the care rather than because of the care they receive. Blight control is not systematic and while blight may be bad certain years, this past summer it was relatively light when compared with the attack which one is accustomed to see along the Pacific Coast.

Soon after crossing the Indian line one begins to note how the highways are lined with pear trees. It is surprising to see how well these trees do with the care they are given; but all over western Michigan there are splendid orchards which are a testimony that pear growing can be made very successful when the trees are given the proper care.

Visit the orchard, for example, of George Hawley, at Hart, Mich. There you will find one of the finest blocks of Bartlett pears in the state. Or visit the C. D. Kistler orchard at Ludington. While he has not gone into pears extensively, you will find some beautiful specimens of the Bartlett and Flemish Beauty in his orchard. One of the most interesting orchards to visit is that of E. H. Broe, near South Haven. Broe is a very successful pear grower. He has a fine, large orchard of pears, specializing in such varieties as Bartlett, Howell and Flemish Beauty. Some of his trees are now fifty-three years old. A year ago the larger trees produced as high as fifty-nine bushels per tree and this year these large trees will probably average forty bushels. He is demonstrating that pear growing can be made very successful in western Michigan. Or visit the orchard of Mr James Nichol, at South Haven, and you will find a very fine block of Bartlett pears. I can enumerate a great many orchards where pear growing is being carried on quite extensively.

### Varieties to Plant.

The Michigan Horticultural Society has studied the question of varieties for this state, recommending that the Bartlett, Keiffer and Seckel be generally planted, while in the south end of the state the Clapps, Favorite, Howell and Bosc can be added. The Bartlett, of course, is a standard variety, both for eating and for canning. It is hard to understand why pear growers on the Pacific Coast can get \$75 or \$80 a ton for Bartletts and perhaps growers of Michigan might sell for half the price because the Michigan Bartlett's are a high quality, they are white when canned, they are of a delicious flavor and are well thought of by the trade; but probably one reason why there is a great discrepancy in price is due to the fact that pear growing has not been developed extensively enough in Michigan to warrant the putting up of a huge tonnage by the canneries. When this time does come, the price should advance.

The Bosc is a pear which it will pay to watch because this is rapidly becoming the most famous pear in America. It has a superb quality. It should

be double worked probably to be grown at its best. If the growers that plant Kieffers can bud or graft them over to Bosc they will have a more vigorous tree; or in some sections they are taking the Anjou, a fine pear but a shy bearer yet an extremely vigorous grower, and are grafting that over to the Bosc. This seems to give the Bosc more vigor and productiveness.

Occasionally a man will say one trouble with pears is when grown in Michigan and New York they will not keep like the ones on the Pacific Coast. There may be an element of truth in that and there may not be, but I have seen good eastern Bartlett pears, picked in early September and taken out of storage in the middle of October that were in excellent condition for canning and it is evident that they will keep long enough for any trade if these pears are properly handled.

In planting pears one should always consider the question of pollination. It is well to plant the pears in blocks, two to four rows of a variety and then bring in some other variety. In this way pollination will be taken care of and big crops can be expected.

### Stocks to Use.

Formerly pears were planted entirely on French roots but these are subject to a form of root louse and are very subject to the attack of blight and are rapidly being done away with. The French root, however, is adapted to very heavy soil. The Japanese roots which some nurseries handle are relatively resistant to blight and insect attack on the root, but they will not adapt themselves to heavy soil and should be planted on the lighter loam.

There is a new pear coming out in the south known as the "Pineapple Pear," which has been grown there for forty-two years and is seemingly immune to blight. This might make a most excellent stock for Michigan pear growers to use, at least, it would pay to investigate it on a small scale.

In addition to using the right stock in fighting blight, one should cut out the blight, especially the hold-over cankers in the winter time. These can be detected easily when the trees are bare and steps should be taken to cut them out. In cutting year trees, however, one should always have the wound and tool disinfected. Corrosive sublimate is a good disinfectant to use on the tool at each cut but is not good on the wound. Cyanide of mercury is much better to use in sponging off the wound after the cuts are made. A solution which is commonly used now on the coast is one part corrosive sublimate and one part of cyanide of mercury to .05 part of water, or two large tablets of each substance and one quart of water. This solution must not be kept in metal containers.

### Pruning.

To growing pears they should be pruned to make strong, sturdy trees, and the right type of pruning will, in a way, help to control blight. One should avoid a tree where the main branches all come out at one point. Either grow a typical center or a modified center tree and have your main branches well spaced. Keep these main branches about equal size as the tree develops by giving each about the same amount of pruning each year.

Old pear trees sometimes have far too many spurs. They develop an enormous number of weak spur clusters. By thinning out a third or a fourth of these clusters the remaining buds will be reinvigorated, new wood will start to form new buds and those remaining will be greatly strengthened and the fruit produced will be much larger.

We used to think years ago that any piece of land which was heavy and of



## Complete protection at a minute's notice

Slip the "U. S." Walrus right on over your shoe—its smooth rubber surface is as watertight as a boot

You can stand any amount of slush—mud—barnyard mire with the "U. S." Walrus.

For the odd jobs that take you from house to barnyard and back again a dozen times a day—slip the U. S. Walrus right on over your shoes. You can put them on as easy as you slip into an overcoat. And you avoid tracking all the outside dirt and muck into the house.

That's something every farmer's wife will appreciate!

What's more, when you're through with a job—one good douse under the faucet washes the hardest caked mud clean off that smooth rubber surface.

Tough, rugged, with a heavy fleece lining that keeps your feet warm in all kinds of weather, you'll find the U. S. Walrus the greatest footwear convenience you've ever known.

### Other "U. S." Models—all built for long, hard wear

U. S. Boots, built so strongly they're famous wherever boots are worn—rubbers and arctics, all styles and sizes for the whole family—U. S. Bootees, the all-rubber lace shoes for spring and fall use—every kind of rubber footwear you could possibly need is included in the big U. S. line.

Every single one is backed by 75 years of skilled experience. It will pay you to look for that "U.S." Trademark—the honor mark of the oldest and largest rubber organization in the world.

United States Rubber Company

The "U. S." Walrus can be washed clean instantly. Its surface is as smooth and waterproof as a boot



Easy to slip in and out of! One of the big convenient features of the "U. S." Walrus



Trade Mark



Ask for  
**"U.S." Walrus**

questionable drainage would grow pears, but that was when we used to grow pears on French roots. We are finding now that with the blight resistant root we want well-drained soil and some of the lighter loams will grow pears very successfully, as demonstrated in the pear belt of western Michigan which, on the whole, consists of rather a light type of loam. These soils should be given good tillage or mulching and tillage could be carried on until about the first of July, and then, perhaps, cease under normal conditions. Where the ground is too devoid of organic matter, cover crops can be added to good advantage. One should perhaps avoid, however, too great a stimulation or the growing of too rank a wood growth as this is more subject to blight.

One reason some of the Michigan pear growers have not developed this

business on a greater scale is due to the fact that they have not standardized their grade or pack. I believe that some of the better pears of Michigan, if they were very carefully graded and packed in boxes would bring the top market price, but whatever container is used the pears should be graded carefully as to size and freedom from blemish. If put up in a nice pack they will soon force their way into the market and should bring a fine price. It would not take very much of an effort to get the large manufacturing towns of Michigan to eat more pears than that state will produce in years to come.

There is a huge market output for pears because the industry over the country as a whole is declining and, therefore, the demand has been stimulated. Probably some of the most profitable horticultural investments in the

United States today are the pear orchards of the Pacific Coast, due to the fact that they have been taking the market because the eastern states have quit growing pears. There is an increasing demand for canned pears, especially the Bartlett, and this output alone should take care of a huge tonnage of that variety.

Pears are also being dried and there is a big demand for the high-grade fall pears and Bartletts for selling in bushel baskets and other containers for home canning.

When Europe gets back on its feet there will be an increased demand again for Bartlett pears.

Michigan would do well to look into the future of pear growing. To organize their pear industry growers could form a sort of society or group where they could meet and discuss blight con-

trol, varieties, pruning, etc., and in a very little while a tremendous industry could be built up. It would have the advantage also, of giving this state another highly developed line of horticulture rather than encouraging too much of the specialization on one or two fruits.

Over a ten-year period we can say that pear growers on the Pacific Coast have practically always made money owing to the increasing demand for this product. That is the reason they are increasing their acreage so rapidly in most sections.

Michigan is ideally located for the development of a huge business in the canning and eating varieties of pears. It does not have to grow varieties which are poor and have no quality, but can produce the highest quality of varieties and can have a splendid market right at her door.

## OUR SERVICE DEPARTMENT

Always Give Name and Address When Sending Inquiries.  
as Satisfactory Service Cannot be Given to Unsigned Letters

### SHADE TREES IN HIGHWAY.

What is the law in regard to cutting down shade trees along the road? What distance do they have to be from the center of the road before one has the right to cut them?—H. R.

The owner of the land owns the shade trees and has the right to cut them at pleasure. The highway commissioner is the only other person who has the right to do so; and he can do it only after notice to the owner to do so and giving him reasonable opportunity to remove them, and then he has no right to do so unless the removal is reasonably necessary to put or keep the road in unobstructed condition for travel. Any statute attempting to deprive the abutting owner of his title to the trees without day in court and compensation is merely void.—Rood.

### COLLECTION OF ACCOUNT.

Last spring I built from old scrap lumber lying in the barnyard, a chicken house, brooder house, roost, droppings board and nests in another house. There was no contract made, but the owner was satisfied with my work. I worked ninety-six hours, charging fifty cents per hour. The owner refused to pay, saying I spent too much time. He offered me \$20, which I refused. I sent this fellow my bill, telling that I would charge six per cent compound interest from November 1, 1922. How long should I keep that up to have said bill valid?—P. M.

Simple accounts outlaw in six years. Compound interest cannot be collected, but only simple interest at five per cent.—Rood.

### SIZE OF PULLEY.

I am building a power ice cutting machine, using a three and one-half horsepower engine and twenty-eight-inch saw, the engine pulley is seven inches face and ten inches diameter. What size pulley should I use on the saw arbor and what speed should the engine be governed to? How much set does a saw require?—D. D. P.

In regard to the size of a pulley for driving an ice cutting machine, you have not stated the speed that your engine runs, but the average farm engine should run from 400 to 500 revolutions per minute. With a ten-inch pulley on your engine the speed of the saw can be found by multiplying the speed and the diameter of the engine pulley and dividing the result by the speed of the saw.

If we assume the engine to run 400 revolutions per minute and about 650 for the speed of the saw, then,  $400 \times 10$  divided by 750 equals six inches the diameter, approximately. For a speed of five hundred revolutions per minute for the saw, then,  $10 \times 400$  divided by 500 equals eight inches, approximately

the diameter for the saw pulley.

Increasing the speed of the engine to 500 revolutions per minute would give a speed of 937 revolutions per minute in the first case, and 625 revolutions per minute in the latter case.

Since I do not know the speed which the saw should run it would probably be advantageous to try the larger pulley at an engine speed of 400, and if found that the saw speed is not fast enough the engine speed can be increased. The same can be done with the smaller pulley in case the larger does not give enough speed.—H. H. Musselman.

### PRICE OF KEEPING COWS.

Would you please say what you believe to be a fair price for the keep of a cow? All I want is just what the feed is worth as near as possible, and as I rent the farm and I move in the spring I get no benefit of manure. I am feeding her two bushels of silage, about four pounds of ground oats and alfalfa hay twice a day, what she will clean up.—W. C. B.

As you say you only want the price of the feed the cow consumes, the problem is a simple one. Simply weigh the ensilage and alfalfa hay the cow consumes in a day and use this as a basis of calculation for the time you keep her.

If you charge the market price of the feeds you would really get something for your time in caring for her, because you would save the cost of marketing. You can figure ensilage at one-third the price of mixed hay.

Nothing is said as to whether the cow is giving milk or not. Probably not, or mention would have been made. But where a cow gives milk, the value of the milk should be taken into consideration.

### DESCENT AND DISTRIBUTION.

If a man dies leaving quit-claim deed of all his real estate to his wife, and if wife marries again, can husband No. 2 claim a share of the property? Can heirs of wife by husband No. 2 claim heirship to said property? Is it best for wife to make quit-claim deed to heirs by husband No. 1? Can husband No. 2 claim household goods that wife and husband No. 1 bought? Can heirs of husband No. 1 claim their portion that their father purchased, if no will is left by the mother? Or do all share alike? What share of the household goods can husband No. 2 take?—E. W.

All the woman's children take in equal shares, whether of her first or any other marriage. Her surviving husband, there being no will, takes one-third of the personality, and the children the rest. When the first husband died his children inherited two-thirds of his personality, and the widow one-third.

What is deeded away during life does not descend to the heirs; but the heirs of the first husband took two-thirds of the land he then owned, and his widow inherited the other third, there being no will.—Rood.

### HOGS FED TOO LIBERALLY.

Please tell me why our hogs do not gain. We feed three times a day of ground oats and barley. Have corn on the cob on the feed floor all the time.—H. R.

The chances are your hogs have become stalled on corn by too liberal feeding for too long a time. Hogs may be fed lavishly and yet poorly fed. Feed plenty of ashes and charcoal, with a little lime, sulphur and salt added, give them some sort of roughage, such as good bright alfalfa or clover hay, then balance the grain ration by feeding one-tenth as much tankage as you are feeding of barley and corn combined. Do all of these things and be sure that they are not infested with worms or lice, and you will see improvement in short order.—Pope.

### SOW EATS CHICKENS.

I have a sow that raised nine fine pigs and is a good sow, but she started to eat chickens and simply craves for chicken. Is there a cure for that?—J. D. S.

There are only two sure ways that I know of of stopping a sow from eating chickens. One is to keep the sow and the chickens apart, the other is to butcher the sow. The taste for chicken is often acquired through accident, either by stepping on one and injuring it, or by fighting chickens away from the feed. The craving is no doubt caused by a lack of animal food in the ration and where this is supplied in the form of tankage, hogs seldom, if ever, acquire the chicken-eating habit. If you will supply a pound of tankage a day to this sow and keep her entirely away from the chickens or the chickens away from her for a few months, it is possible she will forget the habit. Otherwise it would be best to pork her and replace her with another of less carnivorous tendencies.—Pope.

### CONTRACTS OF MENTALLY INCOMPETENT.

Agents for stock companies, by misrepresenting and lying to an old man, induced him to subscribe for large amounts of stock, he not having the money to pay for them. They got him to give his notes. They then sold his notes to banks. The old gentleman since then has been adjudged incompetent to do business, and they have put a guardian over him. Now can the banks collect notes of him, or will it

be up to the company to settle for the notes?—B. H.

The fact that he has since been adjudged incompetent is no determination that he was so incompetent when he gave the notes. But if it can be shown in the suits on the notes that he was then incompetent there can be no recovery.—Rood.

### FORECLOSURE.

The former owner of my farm holds a mortgage on the farm. Interest is due December, 1922. If I fail to pay the interest, and he forecloses, how long will it be before I will be forced to move off? Am I entitled to next year's crops grown on the farm?—R. B.

About fifteen months. All crops not harvested before the purchaser at the foreclosure gets possession belong to him.—Rood.

### ALFALFA WITH WHEAT.

Next spring I wish to sow alfalfa with winter wheat. Would it be advisable after top-dressing with farmyard manure? Would it be advisable to sow lime on the wheat, and what would be the best time to sow alfalfa?—O. L. B.

On land that contains sufficient clay so that it will heave "honey comb" by the action of the frost in the spring, it is best to sow the seed before freezing is over, even before the snow is gone. The action of the frost covers the seed.

If the soil is sandy or gravelly so frost does not produce this result, then it is probably better to defer the seeding until the land can be harrowed to cover the seed.

In either case, the top-dressing with manure will be of prime importance. It would have been better to have applied the lime last fall when preparing for wheat and incorporated it with the surface soil.

It will be all right to apply lime in the spring, if you harrow the land. Lime must be mixed with the surface soil to give results.

Most experiments seem to show that one is not as apt to get a stand of alfalfa with wheat as he is with red clover, probably due to the fact that the soil is not inoculated for alfalfa.

### TAX LIMIT.

Will you please tell me what the law is in regard to the limit that a man can be taxed per \$1,000 for road repair funds? Also where to find it in a law book.—W. D.

The state constitution provides that the tax for road purposes shall not in any one year exceed \$3.00 per \$1,000 of the assessed value of the preceding year. Article VIII, Sec. 26.—Rood.

# Planning for 1923

*Fitting Crops to Farm and Market Conditions*

By G. W. Putnam

IT is a profitable winter occupation for Michigan's two hundred thousand farmers to decide what each will contribute in forage, grain, truck and fruit to the sum total of Michigan's agricultural production.

Every farm in Michigan, whether large or small, represents a unit out of which Michigan's agriculture is built. These units vary within wide limits as to the type of farming pursued. They also vary greatly as to their comparative production per acre. The variation in production per acre of similar crops on the different farms is due to a great many causes.

One of the important factors in determining high average acre production per farm is in carefully planning what crop each acre is to contribute in advance so that the farm work can be arranged for the best distribution of available labor throughout the season. The yield per acre has been reduced on many farms because there was no time to give the seed-bed that extra harrowing or cultipacking prior to sowing.

### Winter the Time to Plan.

The farmer has been accused of being a poor bookkeeper and he undoubtedly is, for bookkeeping, or other records, is usually on a yearly basis and there are times in the year when he is "the busiest man on earth," but during the winter there are many times when he likes to get out his "old stub pencil" and figure on the granary door or other convenient tablet.

If he would figure out a definite rotation of crops over a certain cycle, such as three, four or five-year rotation, so that he would know just how each acre is to be used, it would go a long way toward systematizing his farm work and in distributing his labor uniformly over the year. Many farms are operating in Michigan on a definite rotation system and they are in the high average yield per acre class. If a farmer believes, as many do, that his farm is the exception that proves the rule and it just simply will not fit into a definite rotation, he at least can determine the crops to be grown for two seasons in order to plan for the hay and fall grain seeding as well as for the spring-sown crops.

### Relation of Crop Acres to Live Stock on the Farm.

In planning what crops to grow care must be used in determining the acreage of each to insure an abundance of home-grown feeds. Live stock is kept primarily as a home market for the feeds produced. The kind of feed grown should be adapted to the live stock kept. For example, the dairy farmer who insists on seeding timothy with his clover is defeating his own purpose. The first consideration in planning what crops to grow on a live stock farm should be given to the production of a legume hay. Alfalfa, clover, sweet clover, or soy-bean hay is available to the live stock farmer as a source of dependable cheap roughage.

In planning for the grain crops for feed select those that will balance up the roughage used. Michigan live stock men can afford to give more attention to barley as a source of starch. It is a more economical feed to produce in some sections than is corn. In the southern counties some attention should be given to soy-beans as a high protein feed and to field peas for the same purpose in the northern counties.

### Planning for Cash Crops.

Cash crops are sold off the farm in the state in which they are harvested. Of these, Michigan has many. Her list surpasses in length that of any other state. Our farmers have, therefore, a wide range of cash crops from which

to choose. While this diversity offers the opportunity of arranging the crop rotation to a greater nicety, yet like all complicated situations, the man who studies it out to secure the advantage, is obliged to use more gray matter than where a simple rotation is the object.

Several questions ought to be answered when choosing a cash crop for the rotation. The first of these is, can the crop be marketed to advantage from the locality in which you are farming? There are some good potato soils in Michigan on which it would be unwise to grow the crop, because the cost of marketing would be too great. Secondly, can the soil be kept in good fertile condition? High production must be maintained if one counts on staying in the farming game. The crop production plan must so fit into the soil recuperation plan that average yields will tend to increase rather than to decrease.

And thirdly, will the use of the crop affect the live stock policy? Possibly you can grow one crop well but its introduction may disturb, or occasion a change in the list of crops grown for the stock. This in turn, may make meat or milk production more expensive.

Finally, how will the use of the crop take care of the labor question? Will it tend to pile up labor at certain seasons and cause other periods to go begging for things to do, or will it better distribute throughout the months the demand for both horse and man labor?

### A GOOD POTATO CROP.

IN a letter from Lloyd Fishell, of Fenwick, he describes his method of growing two acres of potatoes and the yield as follows:

I plowed sod ground during the first week in May and harrowed it five times before planting. The seed was



treated for scab with corrosive sublimate, and planted June 15. Before the plants were large enough to cultivate they were worked twice with a spike-tooth harrow and then cultivated twice. I sprayed five times with a 4-6-30 Bordeaux for blight, hoppers, etc. The patch passed inspection and I dug from the two acres just 750 bushels.

### YIELD 317, NOT 300 BUSHELS.

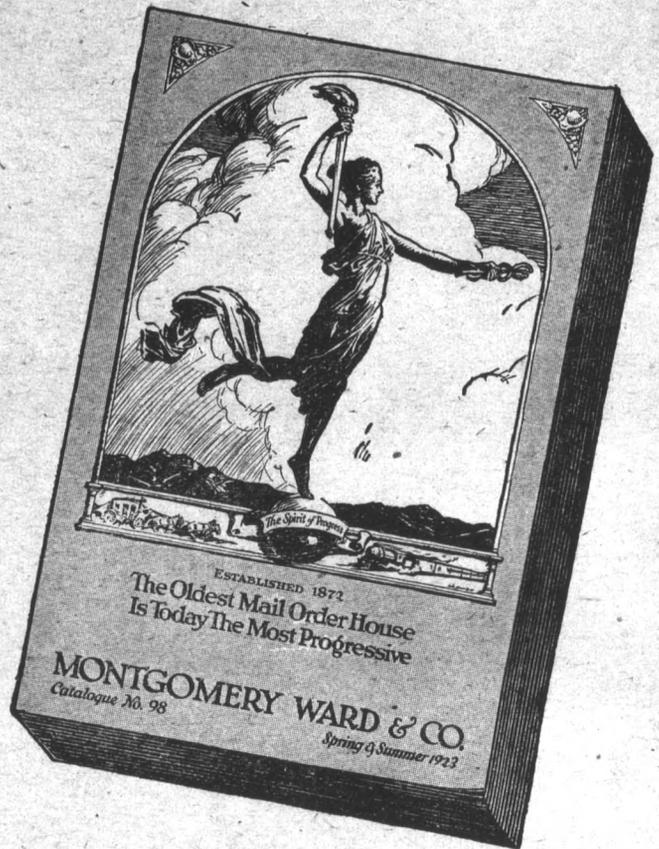
A LETTER has just been received from Arthur Ranta, of Calumet, stating that his potatoes yielded 317 bushels per acre instead of 200 bushels, as reported in these columns in our issue of December 9.

### WASHINGTON REPRESENTATIVE.

THE executive committee of the American Farm Bureau Federation has re-appointed Gray Silver as Washington representative of the federation for the coming year, and has pledged him their full support and cooperation as head of the Washington office.

# Montgomery Ward & Co.

## New Spring Catalogue READY for You



## Send the Coupon Below for Your FREE Copy

It is completed. The new Catalogue for Spring is now ready.

Months of work searching for bargains, experts visiting all the markets of America, better and still better values. Now the book is complete. And one copy is YOURS Free.

In all our Fifty Years Service to the American Public we have never offered you better values—bigger bargains in dependable, serviceable goods and larger savings for you.

It is the duty of every thrifty man, of every prudent woman, to take advantage of this offer and send the coupon below for this new complete catalogue.

### Everything for the Home, the Farm and Family

**For the Man:** Suits of all virgin wool, as low as \$14.95. Everything else a man wears of equally high quality at correspondingly low prices. Everything a man uses from tools to farm machinery at a saving.

**For the Woman:** The best New York Styles in all kinds of wearing apparel. Everything needed to make a house a home. Everything a woman buys for home, herself or children—and always at a saving.

We repeat—one copy of this Catalogue is yours Free. Don't you, at least, miss the pleasure, the surprising bargains, the big saving that may just as well be yours. Send this coupon back today!

**Montgomery Ward & Co.**  
CHICAGO FORT WORTH KANSAS CITY  
PORTLAND, ORE. ST. PAUL

### Your Orders Shipped Within 48 Hours

We have perfected our service for You.

After much work, and study, originating and testing new systems, and employing experts, we have a system that makes certain a very quick and satisfactory service to you.

Practically every order is now actually being shipped and on its way to the customer in less than 48 hours.

Lower prices, better merchandise, and now a 48 hour service. True it is indeed that "Montgomery Ward & Co., the Oldest Mail Order House, is Today the Most Progressive."

Mail the coupon below to the one of our five houses that is nearest you.

To MONTGOMERY WARD & CO.  
Dept. 37 H

Chicago, Kansas City, St. Paul, Fort Worth, Portland, Ore. (Mail this coupon to the house nearest you.)

Please mail me my free copy of Montgomery Ward's complete 1923 Spring Catalogue.

Name.....

Address.....



## Something to think about

When lying awake at night, stop counting imaginary sheep and think what is probably the cause of your sleeplessness.

Both coffee and tea contain a drug element that irritates a sensitive nervous system, often causing restless nights and drowsy, irritable days.

A delicious, hot cup of Postum contains nothing that can deprive you of restful sleep at night, or hamper your days. But it *does* supply all the warmth, comfort and satisfaction that can be desired in the mealtime beverage.

Your grocer sells Postum in two forms: Instant Postum (in tins) prepared instantly in the cup by the addition of boiling water. Postum Cereal (in packages) for those who prefer to make the drink while the meal is being prepared; made by boiling fully 20 minutes.

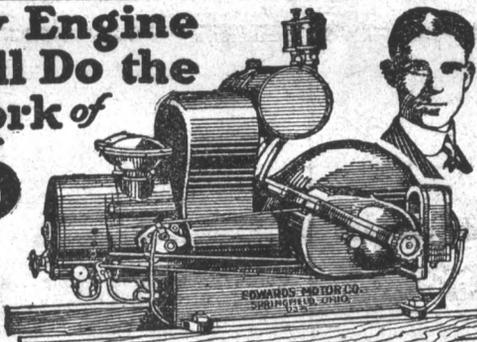
## Postum FOR HEALTH

*"There's a Reason"*

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



## My Engine Will Do the Work of 6



"I set out to build a farm engine that would have every feature the farmer wanted and none he didn't want. It has now been on the market six years. Thousands of satisfied users tell me I've succeeded. I'm proud to have this engine bear my name."  
—A. Y. Edwards.

**EDWARDS ENGINE**

## Try This Remarkable Engine FREE

There is no other farm engine like it. Simple in construction and easy to operate. It is only one engine, yet it takes the place of six engines. It will give from 1½ to 6 H. P., yet it is so light that two men can carry it easily. Set it anywhere and put it to work. Change power as needed. It is a 6 H. P. when you need 6, or 1½ H. P. when you need only 1½, or any power in between. Fuel consumption in proportion to power used and remarkably low at all times. Adjustment from one power to another is instantaneous. It is many engines in one. Operates with kerosene or gasoline. Easy starting, no cranking. Low factory price—now lower than before the war. The greatest gas engine value on the market. And you can prove all of these statements to your own satisfaction—try the engine yourself—free of cost or obligation.

### What Users Say

**Ivan L. Blake, of Hannibal, New York, says:** "Only engine economical for all jobs. I run a 28-inch cord wood saw, a 24-inch rip saw, a washer, a pump, and a grinder, and it sure runs them fine. It has perfect running balance, and it sets quiet anywhere."

**Robert Gruett, of Spokane, Washington, says:** "It has given entire satisfaction. Furnishes steadier power than my old engine which weighed twice as much. It is portable, adaptable and free from vibration. If I sold my Edwards today, I would order another tomorrow."

**Frank Foell, of Cologne, New Jersey, says:** "It's a great pleasure to own an Edwards engine. I run a wood saw, cement mixer, threshing machine, etc. Do work for my neighbors. Easy to move around and easy to run. I would not have any other."

**Clarence Rutledge, of Manitoulin Island, Ontario, says:** "Have given my Edwards three years' steady work

and like it fine. It uses very little fuel. I run a 28-inch cord wood saw, also a rip saw, 8-inch grinder, ensilage cutter, line shaft for shop, churn, washer, separator and pump. Have had ten other engines, and the Edwards beats them all."  
**Kurt Kruger, of New Brighton, Minn., says:** "I run a 30-inch wood saw, 8-inch feed grinder, also a pump jack. You cannot beat the Edwards for general farm work."

### Free Trial Offer

Now—we want to prove our claims to you. We want to send you an Edwards engine for absolutely free trial. Just send us your name and address and we will send immediately complete details about the Edwards engine and about our remarkable free offer. No cost or obligation. Write now.  
The Edwards Motor Co.  
219 Main St. Springfield, O.

## ABOUT THE FARM

*Farm Practices and Experiences Tersely Told*

### CONCRETE FLOOR FOR HOGS.

WE think a concrete floor for the feeding of hogs is the only thing. We have many reasons for the old saying, "cleanliness is next to Godliness," applies to the care of dumb animals as well as to the human being. It surely has paid us for all the expense it was in building. We used large stones in bottom, well hammered down, then put about four inches of concrete on top. That gives you a floor that will last a lifetime and will save its cost in feed along every year if you are feeding any hogs at all.—F. H. South.

After every feeding we clean the floor of all cobs and manure so they will have a nice clean place to eat at the next feeding. We believe that the old saying, "cleanliness is next to Godliness," applies to the care of dumb animals as well as to the human being. It surely has paid us for all the expense it was in building. We used large stones in bottom, well hammered down, then put about four inches of concrete on top. That gives you a floor that will last a lifetime and will save its cost in feed along every year if you are feeding any hogs at all.—F. H. South.

### BLANKETING THE PERENNIALS.

THE other day a farmer, who is always doing things on time, was drawing strawy manure upon his strawberry plants, the shrubbery beds about the house and also on the flower borders.

By taking pains to use manure clean of weed seed, he has found little trouble from weeds the following year. The plants, however, respond promptly in the spring. This, he thought, was due both to the protection afforded the plants during the temperature changes of the winter and spring, and also to the addition of readily available plant food at a time when it is needed to start growth promptly.

### BAKING POTATOES SELL WELL.

THE potato show in Grand Rapids early in December demonstrated that consumers are willing to pay a premium for a superior product, even in years of bountiful crops, according to C. C. Wells, general manager of the Michigan Potato Growers' Association.

The exchange shipped fifty bushels of assorted baking potatoes to the show and despite the fact that any quantity of potatoes could be bought from farmers at thirty-five to forty cents a bushel, the association had no trouble in selling the selected stock at eighty cents a bushel.

"We are finding throughout the nation a well defined demand for a grade of potatoes that is better than the U. S. No. 1," said Mr. Wells. "That is why our tubers shipped under the Chief Petoskey brand are bringing premium prices." He predicted that the day is not far distant when Michigan shippers will be supplying the market with a special baking grade of potatoes.—M.

### BREAKS WORLD'S RECORD FOR CORN PRODUCTION.

ACCORDING to an announcement by the Ohio State University, William H. Gilmore, of Croton, Licking county, Ohio, has broken the world's record for corn yields by averaging 134.31 bushels of air-dried, shelled corn on ten acres of land. The record is official, both the field and the yield have been measured and certified by university representatives.

This is the third year that Mr. Gilcorn per acre on this land. This year he left no stone unturned in an effort to break the record. The seed-bed was a clover sod, heavily manured on half the area, before plowing under. The manured portion also had 500 pounds per acre of eighteen per cent acid phosphate and the other five acres each had 2,500 pounds of mixed fertilizer, an 0-10-10.

The seed was sown three feet each way and thinned to three stalks per hill. The thick sowing proved successful.

### TREES PAY TAXES.

LAST week we visited with Mr. M. E. Cole, of Oakland county, who reminded us that by selling a couple of loads of Christmas trees out of a swamp on his farm this year, he has taken care of the tax problem very nicely. Two years ago he had considered the swamp land a total waste. Now, however, it has become an asset since trees rapidly grow up where others have been removed.

## Opinions and Comments

*By Our Readers.*

### WANT QUAIL ON SONG BIRD LIST.

I FIND the farmers about here unanimous in wanting quail placed upon the list of song birds in order to protect these birds from the hunter's gun. We would like these birds perpetually protected. They are the real friends of the farmer.—P. M. Baucher, Stanton.

### THINKS NORRIS BILL SHOULD PASS.

IT begins to look like congress would do something to aid the farmer. But that body has become so uncertain that one cannot tell what they will do.

I believe the Norris bill would come nearer getting "the answer" than the rural credits bill, because the farmers can raise a plenty of farm products but the trouble is to get the price for them. Some object to the Norris bill because they say that it will put the government into "big business." Is there any serious objection to that? Isn't the government into the biggest business in the country—that of transporting the mail?—E. G. Storm.

### BELIEVES DRIVERS OF TRUCKS SHOULD HAVE SPECIAL PERMITS.

I LIVE where I can observe the workings of the newly developed transport system. While it has many advantages there are some things about it that are not to the general liking of the public.

My idea is that a good many of the things which occur to get the transport companies in bad repute, could be overcome if the men who drive the trucks were more careful. Perhaps they should have a special permit, such permit to be issued only after the man has shown ability as a truck driver with full knowledge of the rules of the road. The permit should be recallable upon proof of disobeying road rules. I also think that every truck should be provided with a mirror which would enable the driver to note traffic to the rear. Often one is obliged to follow a slow truck for long distances on narrow roadbeds, because the driver of the truck cannot hear the horn of the car behind.—D. S. Kingland.

# Players In a Big Game

By F. W. Henshaw

ALL the games aren't held on the football gridirons these days. In northeastern Michigan a contest with bigger stakes was recently played. Members of the crew of the "land-clearing special" formed one team; the stumps were the enemies of their particular gridiron; and interested visitors looked from the sidelines. Farther away were the eyes of the world,



Larry, with Every Muscular Fiber Tingling, is Ready for Any Task.

watching. The prize was not a championship—it was the satisfaction of helping to settle one of Uncle Sam's last frontiers.

Yes, it was all a game to Larry Livingston's hardy crew of college men, lumberjacks and former soldiers. The factor that was most of all responsible for the success of the train was more than skill, more than experience, more than good management. It was the enthusiasm of the crew, kindled and kept burning by Larry Livingston himself.

Swinging a sledge hammer and loading stumps with dynamite and picric acid, jerking them out with a tractor or capstan machine, and bending your weary back over the handpower pullers—all this becomes an old story when it's repeated day after day. And there isn't very much fun in standing in cold water for hours while blasting a ditch. But these men of Livingston's attack their job at each new scene of action with no visible diminution in their zest.

Words of love weren't wasted between the men of the land-clearing train, but it was apparent that Larry had a place in the hearts of his helpers. He was in on all the peculiarly difficult jobs. One day when the car used for the kitchen and dining-room caught fire, it was Larry who climbed up and extinguished the flames by pouring water from a coffee pot. When the flivver, tractor, or trucks were being carefully piloted down a couple of planks from the flat car to the ground, very likely it is Larry at the wheel. Whenever a spirited game of horse-shoes was in progress, Larry was there.

In working with his men, Larry is a real comrade; in playing and eating with them, he's a prince of good fellows; and in looking after their welfare, he's like a fussy mother.

So much space gone, and still not a word about the men themselves. A separate story might be written about each. For instance, there is "Dynamite" McAdams, a former University of Wisconsin athletic star. He lives up to his nickname, not only in knowledge of the explosive, but also in dynamic qualities. Along with him is Jack Donnelly, a towering Irishman who likewise knows considerable about the whims of dynamite as it reacts upon stumps. Jack tells about going aboard a houseboat in Hampton Roads once upon a time:

"'Bes man aboard ship,' I says. And I got thrown overboard." One infers that the other man must have been from another world.

Two other college men were Nick Kessler, a graduate of the forestry course at M. A. C. in 1918, and George Amundsen, who attended the University of Wisconsin. Along with Amundsen in working with the stump pullers were "Shorty" Dickinson, a graduate



This 7-year-old Son of C. E. Powell Operates the Blasting Machine.

of the two-year short course at M. A. C., and Jim Ogg. Assisting Kessler with the home-made equipment was "Mike" Bolander. Sidney French, eighteen years old, a future college man, ran the tractor, and I. L. Werner took care of the plow.

With the train moving each day, the men find it difficult to keep stocked with clean clothes. Sometimes they turn washerwomen themselves. Jack and Shorty—the Mutt and Jeff of the crew—built a fire on the shore of Otsego Lake one afternoon, heated water and in shorter time than is required to start a dog fight they set up an amateur laundry and proceeded to do business.

The horse market is in better condition than it has been for the past seven or eight years.



Jack Donnelly, One of the Dynamite Experts, Rejoices when he Gets Around Him an Audience Like This.

# TOP NOTCH BEACON FALLS RUBBER FOOTWEAR



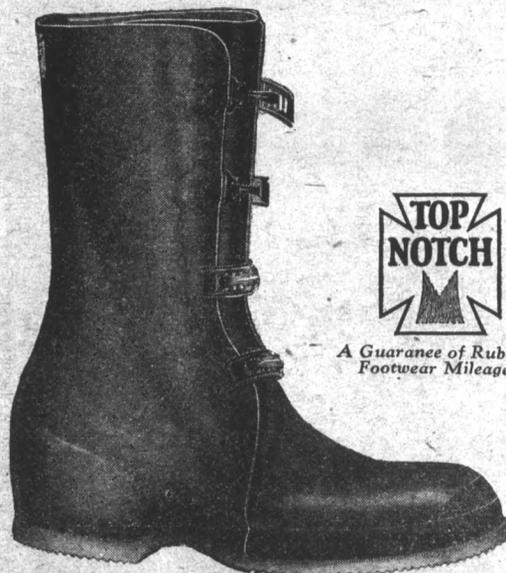
## Real foot protection

A HIGH all-rubber arctic that fits snugly and keeps snow and dirt from working back of the buckles. The protection of a rubber boot with the comfort of an old shoe. This arctic will keep your feet dry in slush, snow or rain. Every vital point of wear is strongly reinforced with strips of tough rubber.

This "Cornbelt" arctic is ideal for the farmer, or anyone who has to endure rough stormy weather.

There is a dealer in your vicinity who sells Top Notch Footwear. It costs no more than the ordinary kind. You can always identify our product by the Top Notch Cross.

Beacon Falls Rubber Shoe Company  
BEACON FALLS, CONN.



A Guarantee of Rubber Footwear Mileage

Cornbelt Arctic

**GALLOWAY'S**  
Wonderful BARGAINS

Save one-fourth to one-half. Get Galloway back to normal prices. Galloway cut-the-meat machinery has cut the heart out of farm equipment prices. Galloway machinery is way ahead in patented features and honest quality. 600,000 pleased customers—all farmers—say Galloway goods are the greatest value on the market. Satisfaction guaranteed. Cash or credit. 30-day free trial. Send today for the Galloway sensational price-cutting buyer's guide.

Wm. Galloway Co., Dept. 197, Waterloo, Iowa

**New 300 Candle Power Lantern**

**Increases Egg Yield**  
Gives brilliant, soft, white light—like daylight. Just the thing to hang in hen house night and morning. Burns Kerosene or Gasoline. Clean, odorless, economical. Burns less fuel than wick lantern. Is 100 times brighter. Lights with match. Absolutely safe. Greatest improvement of age. Patented.

**Make \$60 to \$100 a Week**  
Introducing this wonderful new Light. Take orders for Lanterns, Table Lamps, Hanging Lamps among friends and neighbors. We deliver by parcel post and do collecting. Commissions paid same day you take orders. Get started at once. Write today for agents offer.

**THE AKRON LAMP CO.**  
381 Lamp Bldg., Akron, O.

AGENTS SEND FOR FREE OUTFIT

**COAL**—Soft Lump Coal in carlots at attractive price. Agents wanted. THEO. BURT & SONS, Merose, Ohio.

Mention The Michigan Farmer When Writing Advertisers

# 800 gallons of deadly spray at less than 2¢ a gallon



NEXT to its deadly certainty, the best thing about Hall's Nicotine Sulphate is its very low cost. It can be diluted with water 800 to 1000 times to make a deadly spray costing less than 2 cents a gallon.

Hall's Nicotine Sulphate contains 40% pure Nicotine—the most powerful contact poison known. Being a vegetable extract, it will not harm fruit, flower or foliage. But it will wipe out aphids, thrips and similar insects. Use it next season.

Buy from your dealer. If he is not supplied, send us your order along with his name.

## HALL'S

NICOTINE SULPHATE

HALL TOBACCO CHEMICAL CO.  
3951 Park Ave., St. Louis, Mo.

10 lb. tins — \$13.50  
2 lb. tins — 3.50  
½ lb. tins — 1.25  
1 oz bottles — .35  
10 lb. tins make 800 to 1000 gallons of spray.

# Rural Health

By Dr. C. H. Lerrigo

## FROSTBITE.

THE first treatment of frostbite should begin when the attack occurs. It consists in restoring the circulation to the tissues by the gradual process of rubbing with snow or cold water, rather than forcing it by the hasty process of artificial heat. In cases of severe freezing this should be persisted in as long as necessary to secure a good color and active circulation. While doing this the patient should be made as comfortable as possible and should be strengthened and stimulated by hot drinks and by hot applications to other parts of the body. This gradual restoration of the circulation, bringing it back in the same way it went, restores vigor without injury to the blood vessels. Hasty restoration by applying artificial heat breaks down blood vessels and causes death of tissue. Severe cases should always be given the advantage of a few days' rest in bed to complete restoration.

Following frostbite the patient is very sensitive to cold. Frostbitten hands or feet get cold very easily. They become numb and tired. As they grow warm they itch intolerably. Often the burning and itching from warmth of the bed drives sleep away. In some cases ulcers develop and are hard to cure.

The ulcers of frostbite must be treated with every care to prevent infection, for the tissue is of poor quality as to resistance. They must be kept surgically clean and dressings changed every day. It is economy to give the ulcerated part absolute rest until healed.

The itching may yield temporarily to the application of cool water, to a lotion containing camphor, tar or menthol. But the important thing is to build up the devitalized tissues and restore a good circulation so that there will no longer be this undue susceptibility to cold.

First, build up the nourishment of the whole body. Next, give special attention to the affected part. Nutrition may be encouraged by daily massages. Improved reaction may be obtained by bathing the parts twice daily in cold water and following this by active rubbing. Protection should be given by special clothing, such as warm gloves for the hands and woolen stockings for the feet. Nothing should be worn to cramp the circulation.

## IN AUTO ACCIDENT.

I was in an auto accident about three months ago and shortly afterwards I became afflicted with pains in my chest which seem to bother mostly underneath the lower ribs. Sometimes they are quite sharp and cutting, at others dull. Could they be nerve pains due to the accident? Would you call them serious?—Knockdown.

Nerve pains do not often persist in a healthy young person unless there is some damaged structure behind them. You should have a careful X-Ray examination. There may be fractured ribs. There may be torn ligaments or a rupture of the diaphragm. The use of the fluoroscope would be an aid to diagnosis. As regards life, I do not suppose the injuries are dangerous, but you should never allow yourself to go on in a condition of impaired efficiency.

## HOW SHOULD ONE TREAT CHILBLAINS?

I am bothered with chilblains year after year. I should like to know how to protect myself against them.—Subscriber

A chilblain means damaged and de-

stroyed tissue. After it has developed, the cure only comes as new tissue is formed, and while that process is going on there is much itching and burning and many disagreeable symptoms that are hard to control. Shoes must always be both stout and roomy. The circulation has such a struggle that it will never do to allow the least constriction. Woolen hose are helpful but they must be worn uniformly, not wool one day and cotton the next. When coming into a warm room after a trip in the cold the sufferer will avoid much unpleasantness by taking the precaution of removing footwear in a cool room and bathing the feet carefully in tepid water and rubbing well with a dry towel before sitting down in the warmth. It must be remembered that chilblains often indicate impaired nutrition. One who has them year after year, in spite of reasonable care, should give especial attention to an attempt to build up the body by special diet, the drinking of milk and addition of butter, cream and fats in larger amounts, more hours of sleep, and every measure possibly to build up the strength of the tissues.

## GAS IN STOMACH.

I have a great deal of stomach trouble, much pain and bloating after eating. My doctor gives me a laxative and thinks that washing out my stomach would do good, but I have tried that and it is very distressing and did not seem to help. Sometimes eating a few crackers seems to relieve the pain temporarily.—J. N. M.

Your trouble is probably due to an excessive amount of hydrochloric and perhaps other acids in the stomach. I do not think that washing the stomach would give you more than temporary relief, and knowing by experience what an ordeal it is for the average patient, I do not advise it. It might be dangerous, too, if there should be an ulcer of the stomach, as is possible. In grave conditions of this character you owe it to yourself to get the very best and most thorough treatment possible. Halfway measures should not be considered. First you should put yourself in the hands of a doctor who is competent to examine the stomach contents and find out exactly what condition is present. You cannot possibly know how to proceed until this is done.

## FINGER NAILS BECOME LOOSE.

Can you tell me the cause of finger nails coming loose, and what to do to stop them?—M. L.

There are several diseases which affect the finger nails destructively, but there is quite a probability that if you are otherwise in good health this is only a local trouble due to some contagious fungus. Ringworm sometimes affects the nails. I suggest that you observe rigid cleanliness and apply an antiseptic of a rather mild character, such as boracic acid.

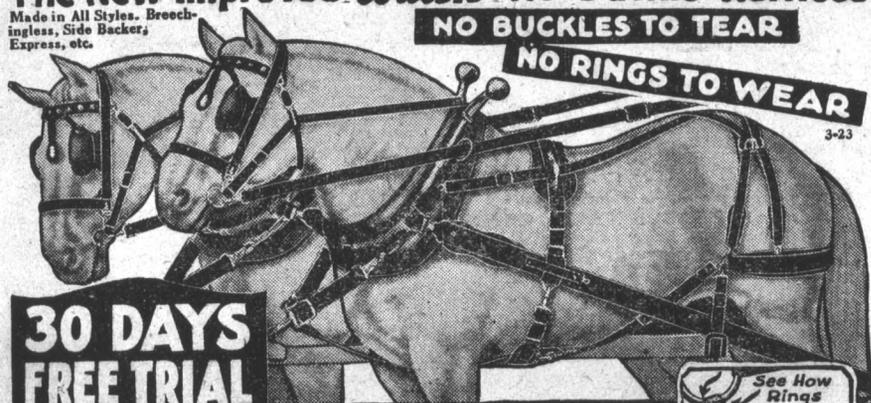
## TONSILITIS VS. DIPHTHERIA.

When a person has tonsillitis is it likely to run into diphtheria? We had a case of diphtheria. We would have some satisfaction in knowing if this is likely.—Parents.

To give you a frank answer, I must say that the probability is that the disease did not change, but only the diagnosis. If the doctor did not get a laboratory report, however, or if a mistake was made in the report, as does happen at times, it is fair to remember that such a mistake in diagnosis is very easily made. It was a very common mistake only a decade or two ago.

## The New Improved Walsh No-Buckle Harness

Made in All Styles. Breaching, Side Backers, Express, etc.



30 DAYS FREE TRIAL

Before you buy any harness, post yourself on this new way of making harness, which is three times stronger than buckle harness. Let me send you a set of Walsh No-Buckle Harness on 30 Days' Free Trial. Let me show you why this harness is three times stronger without buckles, also how much better looking and handier in every way. No obligation on your part. If not convinced, send it back at my expense. The Walsh is a proven success on thousands of farms for over eight years.

### THREE TIMES STRONGER THAN BUCKLE HARNESS

Buckles Weaken and Tear Straps. As an example, a Walsh 1½ inch breeching strap holds over 1100 lbs. The same strap with the buckle will break at the buckle at about 350 lbs. pull. Ordinary harness has 68 buckles. Walsh Harness has no buckles—easy to see why Walsh is three times stronger, lasts so much longer without repairs.

### COSTS LESS — LASTS TWICE AS LONG

The Walsh cuts harness costs. The price is no more than buckle harness, yet it outlasts two buckle harness, and saves many a dollar in repairs. No patching, no mending, because no rings to wear straps in two, no buckles to weaken and tear straps. Easily adjusted to fit any horse, rust-proof hardware, improved hames, etc. Write today for new reduced prices.

### \$5 AFTER THIRTY DAYS' FREE TRIAL

Balance easy payments, or pay cash after trial if you wish. Selling direct from factory gives you highest quality harness possible to make at lowest prices.

James M. Walsh, President, WALSH HARNESS CO.  
128 Keefe Avenue, Milwaukee, Wisconsin



See How Buckles Tear Straps



Endorsed by Agricultural Colleges, Government Experiment Stations, leading horsemen and thousands of users in every state.

### Engine Sale

1923 Model OTTAWA

Write for Special Low Prices and FREE Engine Book!

1364H OTTAWA MFG. CO.  
4141 1/2 Street, Ottawa, Kans.  
668E, 135411 Meigs Bldg., Pittsburgh, Pa.

### MILK BOTTLE CAPS

WILL FIT ALL STANDARD MILK BOTTLES PARAFFINED AND PRINTED RED LIKE DESIGN. \$1.00

BOX CONTAINS 1750 LIP CAPS OF 2000 WITHOUT LIP. PARCEL POST PREPAID—ORDER A BOX NOW! A BOX THE AMERICAN MILK CAP CO. 5 BOSTON WESTERN STATION, DETROIT, MICH.

### Wrestling Book FREE

Be an expert wrestler. Learn at home by mail. Wonderful lessons prepared by world champions Farmer Burns and Frank Getch. Free book tells you how. Secret holds, blocks and tricks revealed. Don't delay. Be strong, healthy. Handle big men with ease. Write for free book. State name. Farmer Burns School, 4701 Railway Bldg. Omaha, Neb.

## CLOVER

### Adapted to Climate and Soil

Isbell's Bell Brand Clovers—red or alsike—are the purest obtainable. They are all Michigan-Grown—hardiness and adaptability to severe climatic conditions are bred into them—the result of 44 years of success in growing seeds.

FREE Samples of any field seeds to show Isbell's 1923 Seed Annual. Big savings on sterling quality direct-from-grower seeds. Write today.

S. M. ISBELL & COMPANY  
706 Mechanic St. Jackson, Mich.

## Watch the Udder

*Dairymen, in Particular, Should be Well Informed and Should Observe Carefully the Condition of Cows' Udders*

By Dr. W. C. Fair

**U**DDER ailments of cows, mares, sows and ewes are pretty much preventable. It is not expensive to do it. First and most important of all single things is cleanliness.

In order to keep the udder clean, the animal should be kept in a clean place. She should not be allowed to live in her own filth. Besides, the udder should occasionally be washed with soap and water. The animal should be housed in a building that is properly ventilated and well supplied with fresh air. Her bowels should be kept open. Daily exercise is a simple and usually effective remedy for sluggish bowel action. The diet is also a big factor in preventing udder ailments.

### Congestion of the Udder.

In cows, congestion of the udder (Garget) is very common in heavy milkers. Before and just after calving it is a rule that the mammary gland is enlarged, hot, tense and tender, and that a swelling may extend forward from the gland on the lower surface of the abdomen. In two or three days, when the secretion of milk has been established, the calf allowed to suck,

pouring upon them hot water, care being exercised not to scald the patient. As much milk as possible should be drawn off from the inflamed gland, and she should be milked every two or three hours, not forgetting the benefit of gentle hand-rubbing of the bag. In my practice I lessen the work of milking by inserting a self-retaining milking tube in each teat. In case suppuration takes place, the parts must be opened to allow the pus to escape freely. Belladonna ointment is a useful application to subdue pain. Phytolacca and lanolin is another useful external remedy for garget. If the parts are indurated and hard, apply compound iodine ointment. If gangrene occurs, the unhealthy tissue will need to be removed and the parts treated antiseptically.

### MICHIGAN'S ALFALFA CAMPAIGN.

**P**ROF. J. F. COX, head of the farm crops department of the Michigan Agricultural College, has just returned from the west where he assisted in the purchase of 350,000 pounds of Utah



This Past Fall Mr. Baltzer, Dairy Extension Specialist, Found a Number of Very Promising Calves on His Trip Through Cloverland.

or through hand-rubbing, this swelling leaves.

Congestion of the udder may merge into active inflammation with exposure to cold or wet, with standing in a cold draft, with blows to the udder, wounds, or overfeeding on rich food, or with insufficient stripping of the udder in milking. In the period of full milk the organ is so susceptible, that any serious disturbance of the general health is liable to fall upon the udder.

The symptoms vary in different cases. If, following exposure the animal shivers, the surface of the body and legs become cold, after which there is a flash of heat, some fever, quick breathing, loss of appetite, and less milk, or the milk flow may be entirely suspended in the affected quarter, or quarters.

Mammitis occurs in two forms: In the mildest form it is confined to the superficial structures of the gland, while in the other form the interior of the gland is affected.

### Treatment.

The treatment should be prompt and energetic, as the longer the case is neglected, the more difficult it becomes to effect a cure. The treatment should embrace the employment of both local and constitutional remedies. If the bowels are costive, give a cathartic, and don't forget that the application of a suspensory bandage is one of the most important requisites in the treatment of garget. The bandage, being placed in position, may have a quantity of bran or spent hops placed in it and around the udder, the bran or hops should be kept constantly moist by

common alfalfa, and 250,000 pounds of Grimm alfalfa seed for Michigan farmers. Beside the supply already secured, another million or fifteen hundred thousand pounds may be obtained if required.

The alfalfa program of the agricultural college calls for two million acres of this crop in the state by 1927. From 1919 to 1922 the acreage in the state increased from 78,000 to 348,000, and with the present new seedings the acreage will come close to 500,000 acres next year.

Much of the imported seed does not stand Michigan winter, but the Grimm and northwestern common will do well here. Last year more Grimm seed was used by Michigan than all other states combined. The state used 280,000 pounds of Grimm and very near a million pounds of northwestern common.

It is possible that within a few years Michigan-grown seed will supplant the northwestern-grown variety. This year there will be about 150,000 pounds of Michigan-grown seed offered, and M. A. C. is encouraging the use of Hardigan alfalfa, which has been developed by Prof. Frank Sprague after fourteen years of effort. Tests show that this variety will produce as well as northwestern varieties and that its seed production will equal that of the varieties grown where we now get our seed supply.

Jenks could not put in a regular ventilating system in his old barn, but he found that the cows thrived better when he covered three of the windows with muslin and kept the glass open nearly all the time.

## How do you account for this?



Why is it that De Lavals in use

separators combined?

on the actual experience of several millions of users over a period of forty years, who have found it the most satisfactory, in that it skims cleaner, lasts longer and is easier to operate and clean than any other.

there are approximately as many

today as all other makes of sep-

For just one reason, which is based

arators combined?

98%



**Of the best creameries use De Laval Separators**

The creameryman knows the best cream separator. Practically all of them use De Lavals. Why? Because they have found by testing the skim-milk, and by experience, that the De Laval is the most profitable. They know that a poor separator can soon waste all their profit and that a De Laval soon pays for itself. The De Laval you use is built on the same principle as the creameryman's.

86%



**Of the exhibitors at the National Dairy Show use De Laval Separators**

At the 1922 National Dairy Exposition an investigation among the exhibitors of purebred dairy cattle disclosed the fact that 86% of them use De Laval Separators. These exhibitors of purebred dairy cattle are the cream of the world's best dairymen—they know the best separator and use it. Butter made from De Laval cream also won first place in every class.

64%



**Of the Separators in the leading butter state are De Lavals**

More butter is made and more cream separators are used in Minnesota than in any other state. According to an investigation by a prominent farm paper, 64% of the cream separators in Minnesota are De Lavals—almost two out of every three. A remarkable record—which simply drives home the fact that the more people know about separators, the more they appreciate De Laval.

51%



**Of all cream Separators are De Lavals**

—according to an investigation by a group of prominent farm papers of wide circulation. There are, still, many inefficient and worn-out separators in use today which are wasting enough butter-fat to pay for new De Lavals. Get the most out of your butter-fat with a new De Laval. See your De Laval Agent or write us.

The De Laval Separator Company

NEW YORK, 165 Broadway

CHICAGO, 29 E. Madison St.

SAN FRANCISCO, 61 Beale St.

## American Fence

The Only Original and Genuine

There is only one quality of American Fence and that is the best that our mills can produce. Use American Fence and you build your fences for life-time service.

Quick delivery through dealers in your community.

Steel Fence Posts

## American Steel & Wire Company

Chicago

New York

Boston

Denver

San Francisco

Write for Book Today

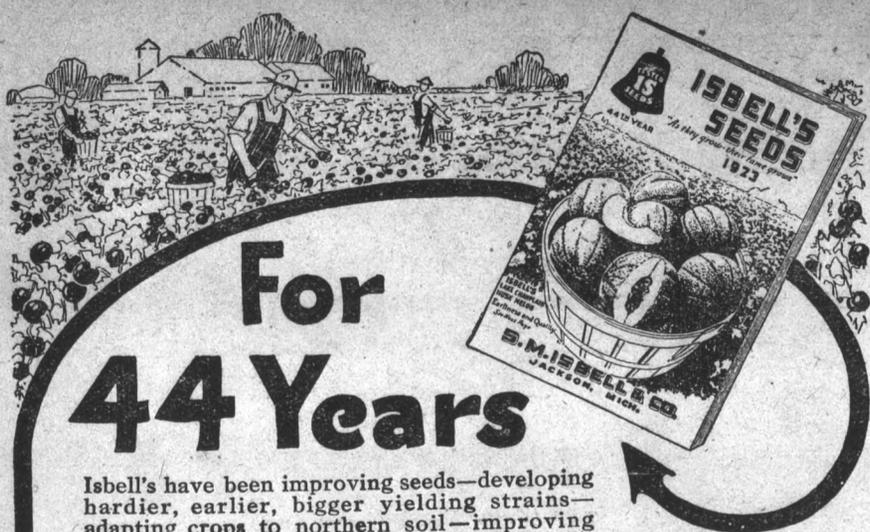


## FARM WAGONS

High or low wheels—steel or wood—wide or narrow tires. Steel or wood wheels to fit any running gear. Wagon parts of all kinds. Write today for free catalog illustrated in colors.

ELECTRIC WHEEL CO., 35 Elm Street Quincy, Ill.





# For 44 Years

Isbell's have been improving seeds—developing hardier, earlier, bigger yielding strains—adapting crops to northern soil—improving methods of preparing seed. That's why Isbell's Seeds are the favorite whenever tested—why they give sure, abundant harvests and withstand adverse weather and soil conditions.

**Hardy, Big-Yielding, Michigan Grown**

**Isbell's Seeds**  
"As They Grow Their Fame Grows"

**FOR FIELD**

**FOR GARDEN**

It pays to plant pedigreed seeds—the labor is no greater and the crop is more certain; and often is double or triple the yield. Pure bred seeds pay big profit, for the same reason that thoroughbred stock does—generations of selections has built the strain.

**Write for Your FREE Catalog, Today**

Isbell's 1923 Seed Annual is ready and your copy will be sent on request. It tells of seed, their growing, selection, testing and cleaning—gives cultural directions—tells what crops to grow and how. It is a mighty helpful catalog—and it is authoritative.

**S. M. ISBELL & COMPANY**

705 MECHANIC ST.

JACKSON, MICHIGAN

**This Coupon  
Brings It  
FREE!**

S. M. ISBELL & COMPANY,  
705 MECHANIC ST. JACKSON, MICHIGAN

Without obligation send me your 1923 Seed Annual,  
quoting direct-from-grower prices.

Name \_\_\_\_\_

(47)

Address \_\_\_\_\_



## The Dependable E-B Spreader

E-B Spreaders are famous for durability. The one pictured here has spread over 6500 loads in seven years and is still in active service.

Quality built throughout and free from weaknesses. All troublesome parts excluded—there are no gears, clutch, apron slats or fifth wheel. Special features include—

- All steel construction (except box, pole and seat)—extra strength.
- Easy to load—only 40 inches to top of box.
- Narrow—drives through 6 ft. door.
- Spreads manure 7 ft wide.
- Two revolving steel beaters and widespread finely pulverized manure.
- Simple ratchet and chain drive—positive and trouble proof.
- Solid bottom saves liquid manure.
- Light draft and easy to operate.

WRITE for free illustrated spreader pamphlet. Your E-B dealer will gladly show you the E-B Spreader.

**Emerson-Brantingham Implement Co.**  
INCORPORATED  
Business Founded 1852 Rockford, Ill.



## News From Cloverland

By L. A. Chase

### A REASONABLE QUESTION.

APPLES are arriving in the Upper Peninsula from New York state. If New York farmers can afford to ship to this territory, why cannot Lower Peninsula farmers?

### GOOD FEED FOR REINDEER.

MICHIGAN'S herd of seventy-five reindeer, now near Grayling, are due to be removed to their new reservation in the eastern Upper Peninsula, where ten miles of fencing have gone in, with quarters for the deer and men. There is said to be plenty of good moss for them growing on the reserve.

### CATTLE POISONED.

A WARNING has gone forth from Dr. F. K. Hansen, assistant state veterinarian at Marquette, that farmers must be very careful in leaving pails and other containers once used for carrying poison in connection with the destruction of potato bugs and otherwise, where cows can get at them. There are a surprisingly large number of instances of sickness and death among cattle from this cause. Even potato vines that have been subject to bug poison may be dangerous.

### APPROVES LAND SETTLEMENT PLAN.

THE state executive committee of the American Legion has approved the land settlement plan for service recently prepared and promoted by the State Department of Agriculture, and three experts of the department have been assigned to the oversight of its execution.

### CONSOLIDATED SCHOOL PROMOTES AGRICULTURE.

THERE are now some seventy-six consolidated agricultural schools in Michigan modeled after that at Otter Lake in Houghton county, which originated the idea in this state in 1912. In 1917 the legislature made provision for state aid to such schools, and since the revisions in the law made in 1919 and 1921, the organization of schools of this character has gone forward very rapidly, especially in the Lower Peninsula.

The board of education of Portage township, Houghton county, in recognition of his services in establishing the first such school at Otter Lake, when he was superintendent of schools, has voted to change the name of the Otter Lake Agricultural School to the John A. Doelle Agricultural School. In commemoration of this change of name, a community meeting was held a few weeks ago, which was largely attended by the farmers and their families of the neighborhood and by educators and friends from away. There was much speech-making in English and Finnish and a general good time.

On this occasion for my revisiting the school, I was greatly interested in seeing how the school has had a part in the agricultural progress of this one time isolated, retarded farming community. Originally the school building stood in a large tract of timber with no town or farms surrounding it. This time I found two stores, a new church and dwellings clustered about the school grounds. The church is lighted from the teacherage of the school by electricity.

Time was when there were only fifty children at the school. Now there are 215 and an addition has become neces-

sary. The children are brought to school in five busses, some of them four miles from home. The equipment of the school includes forty acres of land, some pure-bred hogs and chickens, farm tools, etc., as well as laboratories, domestic science, manual training rooms and other facilities, together with the usual layout of a school. It also serves as a community center for the farmers.

### RECOMMENDS WAR ON TUBERCULOSIS.

AT its December meeting, the Marquette County Board of Supervisors was asked to make an appropriation of \$3,500 to pay the county's share in a campaign of bovine tuberculosis eradication, which the assistant state veterinarian of the department of agriculture plans to put on. The board appointed a committee to take the matter into consideration and this committee has now recommended that the appropriation be made.

### WILL TELL OF THE RESOURCES OF CLOVERLAND.

NORTHERN Michigan will have a place in the National Outdoors Exposition to be held in the Colliseum, Chicago, during the first week of May, 1923. The cost of the exhibit is to be financed jointly by the Upper Peninsula Development Bureau and a group of city commercial clubs. Floor space forty-two by twelve feet in size has been taken. The exhibit will depict the natural resources and points of scenic interest in the peninsula.

### PLAN ANOTHER YEAR'S PROGRAM.

TO supervise the land-clearing work of the Michigan Agricultural College in the Upper Peninsula during the winter months, the staff at the Marquette office has been assigned to particular sections of the peninsula. Mr. A. J. McAdams, dynamite expert, will have direction in the counties of Menominee, Dickinson, Iron, Baraga, Ontonagon, Houghton and Gogebic; while George Amundson will have charge in the eastern counties, including Marquette, Delta, Alger, Schoolcraft, Luce, Mackinac and Chippewa.

In each district winter meetings are to be held to deal with the problems peculiar to each locality. It is planned to hold at least ten meetings in every county. The buying of explosives in carload lots will be considered.

In the summer campaign of 1923, the train will be composed of trucks rather than railway trains, which gives easier access to the points where land-clearing schools are to occur. Mr. L. F. Livingston is in general charge of this work. Information will be secured during the winter meetings relating to the actual number of acres cleared in Michigan during the past season.

### CANADA TAKES UNITED STATES CORN.

ACCORDING to statistics Canada took half of the corn which was exported from the United States in 1921. In other words, she took 58,582,806 bushels. However, much of this eventually went to Europe for Canadian statistics show that only 12,000,000 bushels were imported from this country for home consumption.

The second largest foreign market for American corn was the Netherlands which used 17,843,464 bushels. Following the Netherlands the United Kingdom, Germany and Mexico.

# 1923 and the Farmer

*What Does the New Year Hold in Store for the Tiller of the Soil?*

By John T. Horner,  
Dept. of Economics, M. A. C.

**T**O the average person increasing prices mean a revival of business and "better times." Declining prices indicate depression and "hard times."

The business manager and student of trade study prices and closely watch price changes. This viewpoint is taken for the reason that business is considered good when profits are the result of trading. Profits are greater and more easily made when prices are rising. Losses occur more generally when prices are declining. Therefore, the man who buys and sells wants prices to be on the up-swing. Rising prices resulting in increased profits cause an expansion of business. More workmen are needed. Employment is more universal. Raw materials are demanded. Everyone is busy and receives an income with which to buy more goods. Decreasing prices have the opposite effect. As long as profit is the primary incentive in industry this condition will prevail.

It is quite natural, then, that the increases in prices during the last few months are looked upon favorably by

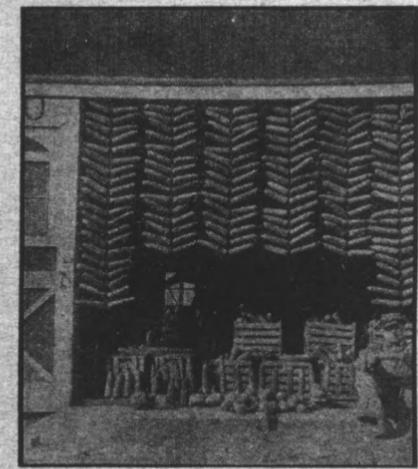
there are bound to reflect on the prosperity of America. Business depressions, like the one we have just experienced, are due primarily to the decreased buying power of the people. If we are dependent upon the buying power of Europe for a return of prosperity we are vitally concerned with anything which influences that buying power.

Approximately fifteen per cent of the agricultural products of the United States must be sold abroad or remain as a surplus to be thrown on the home market. This surplus, if it does not go abroad, is what forces the price down. At our present rate of production it is necessary that we seek a foreign outlet for some of our products. If conditions are such that this foreign market can not take our surplus production then prices naturally suffer. There has been a great disorganization of industry all over the world due to the war. Political conditions in Europe are in a very unsettled state. We do not know what to expect from that quarter. We are vitally concerned about it.

While there has been an increase in the price of farm products in general the rise has not been on all the products of the farm. The potato market is in a bad condition. An increase in the price of cotton does not cause the purchasing power of the Michigan farmer to rise. This increase of the past few months has not been of significance to the farmer in every instance for the reason that a great part of the produce of the 1922 season has passed out of the farmer's hands. The increase in prices and the signs of improvement have made the farmers more optimistic and will probably cause them to buy in anticipation of better times during the coming year.

The American farmer should be very cautious during the next year. The improvement which appears to be on the way might be delayed. If agricultural price increases are offset by increases in the prices of other products then the farmer will find himself in no better position. The European market is going to have a great influence on what the American farmer receives for his next year's work. If there are large crops in other parts of the world; if the buying power of Europe is not restored; if there are unfavorable political developments in Europe, then the year which has such a hopeful birth will die in gloom. The fact that the price of farm products depends upon Europe taking the usual quantities, is evident. It is also quite clear that there can be no real prosperity unless the farmer prospers. The farmer can not prosper unless the prices of his products are such that he can buy the things he needs on a favorable basis.

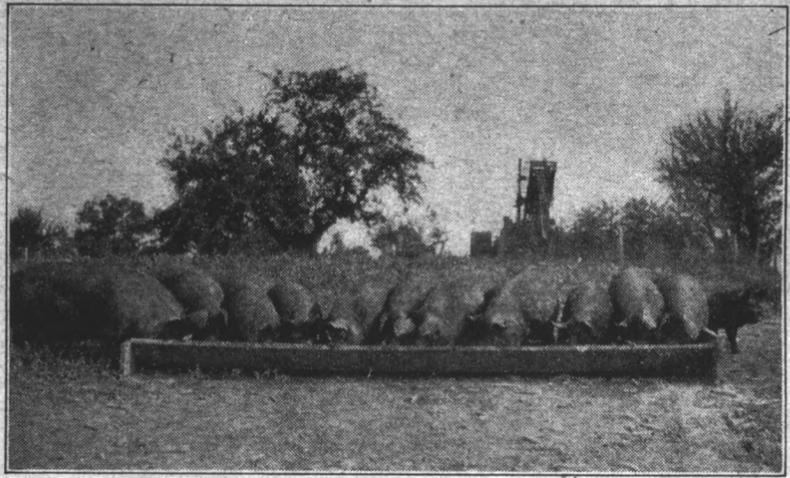
The increase in the wealth of an individual or a nation is the result of producing more than is consumed. Profits can be increased either through better prices for the product sold or decreased production costs. The future price of agricultural products is dependent upon many things. Many things might happen to cause the income from the 1923 crop to be smaller than is now expected. To offset this contingency and be on the safe side the farmer—as well as others—should look well to the outgo. It will be extremely unwise for us to spend for things not needed. Costs must be cut. More quality products at lower costs per unit is a formula which will cause a return of better economic conditions quicker than any other. Eliminate the wastes in production and consumption and prosperity will return of its own accord.



Mr. S. E. Lawrence, of Lenawee county has an excellent crop of Duncan's Yellow Dent from which this exhibit was carefully selected. This use of the very best adapted seed is one of the surest ways of cutting production costs.

the business world. That we are getting back to a stage of good business is almost universally conceded by those who have studied the facts. Recent price changes have been favorable to the farmer. The decreased purchasing power of this great body of our population is becoming a thing of the past according to the reports. During the past year wholesale prices of all commodities have risen ten and a half per cent while those of farm products eighteen and one-quarter per cent according to the index numbers of the United States Bureau of Labor Statistics. This quite clearly indicates that the farmers as a whole are in a better relative position than they were one year ago. Reports seem to be optimistic from all quarters. In looking forward and trying to forecast the future trend it is well to reconsider the causes of our recent depression and see if they have been removed.

The fall of prices during 1920 and 1921 was not confined to the United States. It took place all over the world. Other countries suffered more than we. Economic activities are not confined to one country in this day of easy communication and transportation. The national political boundaries are not economic boundaries. We are now living in an age of cooperation instead of one of isolation. The American farmer is vitally interested in what is happening in Europe and Asia. Things which cause things to be bad



FROM A KODAK NEGATIVE

## A Kodak for the Farm

It's easy to make pictures the Kodak way, and the resulting prints of livestock, buildings, crops and equipment, whether for purposes of sale or record, are of obvious value.

There's fun with a Kodak for everyone—and growing pleasure in the pictures, but on the farm photography has a practical side that should not be overlooked.

*Autographic Kodaks that give you picture, date and title, range in price from \$6.50 up.*

Eastman Kodak Company, Rochester, N. Y.

## Aspirin

Say "Bayer" and Insist!



Unless you see the name "Bayer" on package or on tablets you are not getting the genuine Bayer product prescribed by physicians over twenty-two years and proved safe by millions.

Accept "Bayer Tablets of Aspirin" only. Each unbroken package contains proper directions. Handy boxes of twelve tablets cost few cents. Drug-gists also sell bottles of 24 and 100. Aspirin is the trade mark of Bayer Manufacture of Monoaceticacidester of Salicylicacid.

**Steel Wheels**  
Cheaper than any other wheels. COST LESS  
figuring years of service. Make any wagon good as new. Low down—easy to load. No repairs.  
EMPIRE Reduced prices Catalog free—Mfg. Co., Box 283, Quincy, Ill

## 5 — Good — \$ 1 Magazines

Woman's World, (Monthly) Our Price  
Good Stories, (Monthly) \$1.00  
American Woman, (Monthly)  
The Household, (Monthly) ALL FIVE  
The Farm Journal, (Monthly) FOR 1 YEAR

ORDER BY CLUB NUMBER 270  
A Dollar Bill will do—We take the risk  
Send all orders to  
**Whitlock & Summerhays**  
25 North Dearborn Street, CHICAGO

**ATWATER KENT**  
SCIENTIFIC IGNITION  
Easily Installed Improves Performance Automatic and Hand Spark Advance  
**FORD**  
Atwater Kent Mfg. Co. Dept. Q Phila.  
SYSTEM COMPLETE INCLUDING CABLES AND FITTINGS TYPE LA price \$11.75

BOOK ON  
**DOG DISEASES**  
And How to Feed  
Mailed free to any address by the Author  
America's Pioneer Dog Medicines  
**H. CLAY GLOVER CO., Inc.**  
129 West 24th Street, New York

**PATENTS**  
Write today for free instruction book and "Evidence of Conception" blank. Send sketch or model for personal opinion  
**CLARENCE O'BRIEN, REGISTERED PATENT LAWYER.** 952 Southern Bldg., Washington, D. C.  
Mention The Michigan Farmer When Writing Advertisers

**SPIES HAVE GOOD PRODUCTION**

TEN Northern Spy trees that have been watched for the past few years from the standpoint of production have shown good records for early productiveness. It is usually supposed that Spies do not mature until fifteen or eighteen years of age. But these trees at the age of twelve have produced 117% bushels. One tree has already produced over ten barrels.

The records kept on these trees as well as others throughout the state are for the purpose of testing out the value of bud selection and the propagation of nursery stock. The thought is that buds and scions secured from high-producing trees will produce young trees which will inherit the productive qualities of their parents. This has proven true in a case of some of the citrus fruit, but has not been definitely decided with reference to apples.

**RADIO BENEFITS FRUIT GROWERS.**

DURING the past year the distribution of weather reports by radio has proven successful. Especially has this been so in the fruit districts of New York, Pennsylvania and the Virginias. The Pacific states were also served in a similar manner. To govern times of spraying and to protect against late spring and early fall frosts, the radio service has been found well adapted. No doubt it will become universal in the future.

**NEW FRUIT SOCIETY FORMED.**

A NEW county horticultural society was organized at a recent meeting of Newaygo fruit growers at Fremont. D. H. Brake, of Dayton township, was elected president; Carl Kimbell, of Fremont, vice-president, and B. J. Olney, of Sheridan, secretary. Professor Gardner and T. A. Farrand assisted in the organization work.

**BENZIE MAKES GOOD SHOWING.**

BENZIE county brought upon herself new honors when she entered the Apple and Potato Show at Grand Rapids early in December. She put herself in the front ranks as a fruit county when she took nearly every large prize offered and a great many of the smaller premiums.

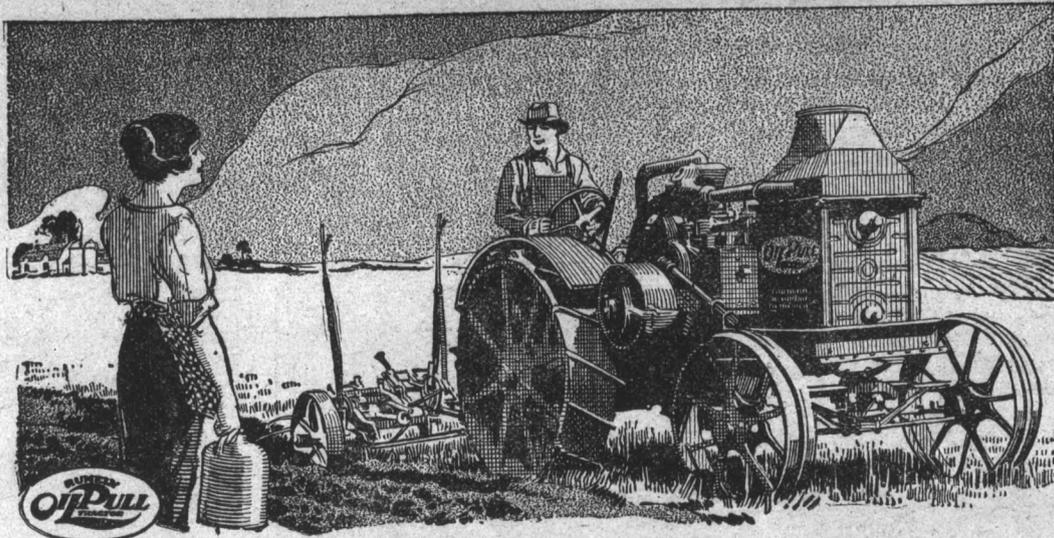
The prize for the best and largest display of fruit was captured by the Benzie County Farm Bureau with a collection of plats from fifteen growers in the county. Most of the barreled apple prizes were won by Benzie growers and the big fifty-bushel prize was gathered in by the Crystal Lake Orchards. In the ten-bushel class, Benzie got first, second and third, A. J. Rogers, Jay Robotham and Crystal Lake Orchards, all of Beulah, being the prize winners.

In the five-bushel class, Crystal Lake Orchards got first and A. J. Rogers, fourth. A. J. Rogers took first in the ten-tray class and the county as a whole took eighteen firsts out of twenty-two in the plate classes opened to Northwestern Michigan.

Benzie county made her debut, or rather, had her coming-out party at this show. As this was a pronounced success, we are anticipating to see Benzie prominent in future state horticultural occasions.

**M. A. C. BOYS GAIN HONORS AT NATIONAL FRUIT SHOW.**

THE M. A. C. judging team which took part in the contest at the National Fruit Show at Council Bluffs, Iowa, was separated from first place by only thirteen points. Cyrus A. Boyer, of Bangor, was the high man on the Michigan team. He was awarded third place in the individual contest. Mr. Boyer is a senior horticultural student.



**"Not five minutes delay in four years"**

ONE thing the OilPull owner is sure of — that his tractor will keep going with unflinching economy, fair weather or foul. In a recent letter Ed. Todd, a Middle-West engineer-farmer, says, "I have used other tractors but the Oil-Pull is the best I have tried. It runs on

less fuel and has less repairs. We have used this OilPull four seasons and have never been delayed five minutes. Our repair bills have been less than three dollars." And Mr. Todd is only one of many in every section who praise this low cost reliability in letters they write us.

**OILPULL**  
"The Cheapest Farm Power"

For years we have sponsored the quality tractor built to high mechanical standards. We have told you that economy is really a matter of careful building, which insures dependability, low fuel cost, low upkeep cost and long life. We have pointed out how Triple Heat Control, Dual Lu-

brication, and other OilPull features combined with finest materials and highest standards of manufacture produce "The Cheapest Farm Power." Now we want you to get the farmer's viewpoint to know what OILPULL owners are experiencing every day.

**Read These Inspiring Home Letters**

We do not ask you to accept letters from the North if you live in the South. We have letters from every section, including yours. We want to show you the experience of farmers in your

district. Ask us to send these letters. Get the Farmer's Verdict. We will include a copy of our new booklet on Triple Heat Control. There is no obligation. Address Department C

**ADVANCE-RUMELY**  
THRESHER CO., Inc., La Porte, Ind.

Battle Creek, Mich.

The Advance-Rumely Line includes kerosene tractors, steam engines, grain and rice threshers, alfalfa and clover hullers, husker-shredders and farm trucks. Served from 33 Branches and Warehouses

**A "BLUE RIBBON" COUNTRY**



At the International Live Stock Show at Chicago, December, 1922, exhibits from CANADA were awarded the following prizes:

Grand Championship and First Prize for Hard Red Spring Wheat. In this class Canadian exhibits won 19 prizes out of a total of 25 awarded.

Grand Championship and First prize for Oats, winning 24 out of 35 prizes awarded.

First, 2nd, 3rd and 4th prizes for Peas, winning 4 out of 5 prizes awarded.

Grand Championship and First Prize for Rye; first prize for two-rowed Barley.

Grand Championship and Sweepstakes for Clydesdale Senior Stallion; 1st prize for Clydesdale 4 and 6 horse teams; 1st prize for Clydesdale Mares 3 years and under.

Championship for Galloway Steers; twelve 1st and 2nd prizes for Sheep. Many other prizes for Grains, Fodders and Live-stock.

**Cheap Land in Canada**

Which produces better grains, fodders and live stock than high priced lands elsewhere, and produces them more abundantly, may be the solution of your farm problem. Get the facts, with free books, maps, etc., and an order for reduced railway rates, direct from the Canadian Government by writing

J. M. MacLachlan,  
Desk 29, 10 Jefferson Ave., East, Detroit, Mich.



**BOWSHER'S HEAVY-DUTY GRINDERS**  
FOREMOST AMONG BETTER GRINDERS  
Crush and grind all the grains that grow; fine for hogs or coarser for cattle feeding. Corn in husk, Head Kafirs, and all small grains.  
Strength, Durability and Service radiate from every line of these Masterful Grinders. Simple but effective in adjustment.  
LIGHT RUNNING—LONG LIFE—EXTRA CAPACITY  
CONE-SHAPED BURRS  
10 sizes—2 to 25 H. P. or more. Also Sweep Mills. It pays well to investigate. Catalog FREE.  
The D.N.P. Bowsher Co., South Bend, Ind.

**SPRAY YOUR FRUIT TREES AND VINES**

Reduced Prices  
Destroy the fungi and worms; be sure of larger yields of perfect fruit.  
Stahl's Excelsior Spraying Outfit Prepared Mixtures  
are used in large orchards every where; highly endorsed by successful growers for thirty-five years. 20 models, power or hand types. Write for free catalog containing full treatise on spraying fruit and vegetables.  
WM. STAHL SPRAYER CO.  
Box 728 Quincy, Ill.

If Your Dealer does not handle

**LE ROY PLOWS**

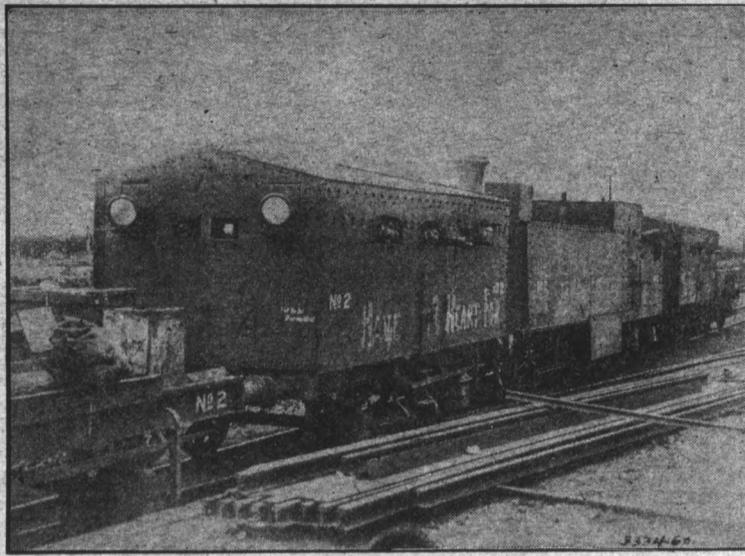
Write LeRoy Plow Co., LeRoy, N.Y.

When Writing to Advertisers Please Mention  
The Michigan Farmer

# WORLD EVENTS IN PICTURES



Miss Jane Adams and Mrs. Lucy Biddle Lewis attend the Woman's Peace Conference.



Just one of the heavily armored trains used to patrol the railway system in southern Ireland and to protect men engaged in maintenance of way work in the "hot" region of that warring island.



First airplane picture of Mt. Tacoma, whose majestic peak rears to a height of 14,408 feet.



A group of wives of the delegates who attended the fourteenth annual governors conference in a three-day session at The Greenbrier, White Sulphur Springs, West Virginia.



This is a new and remarkably comprehensive group photo of Scandinavian royalty that has just been received. King Christian X of Denmark is at the extreme left.



Miss Antoinetta Miller, aged 19, and "Hopeful", her faithful horse, started to trot to Florida, but were detained by telegrams from home.



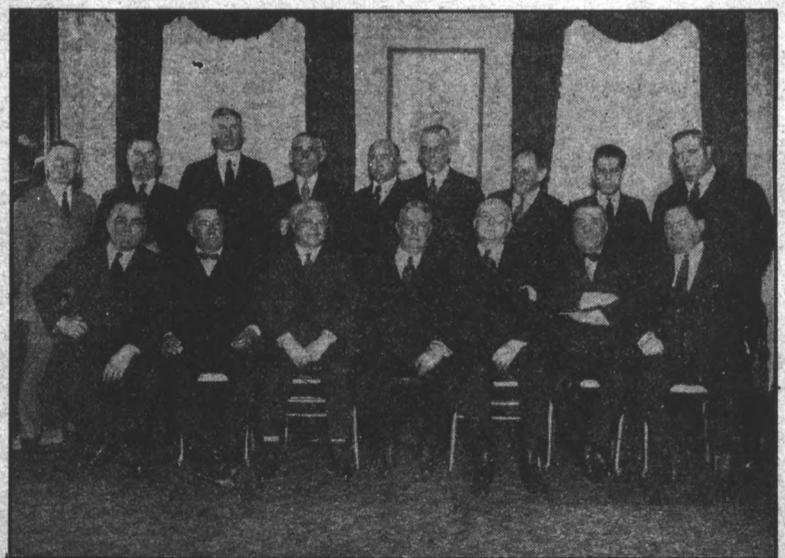
Emma S. Redol has been promoted from stenographer to assistant secretary of the M. & S. L. R. R.



Ambassador Harvey has been summoned home to confer with the President and Cabinet regarding the present European situation.



"On the Road to the War," this Folkestone Memorial was recently unveiled on the spot where more than ten million British, Canadian and American soldiers passed on their way to France.



Showing the American League magnates who attended the general annual meeting of all the big leagues recently held at the Hotel Belmont, New York City.

# THE CROSS-CUT *—By Courtney Ryley Cooper*

Copyright, 1921, By Little, Brown & Company

## CHAPTER XXIII. The Plot is Revealed.

HARDLY realizing what he was doing or why he was doing it, Fairchild seized Anita in his arms, and raising her to his breast as though she were a child, rushed out through the cross-cut and along the cavern to the fissure, there to find Harry awaiting them.

"Put 'er in first!" said the Cornishman anxiously. "The farther the safer. Did you 'ear anything more?"

Fairchild obeyed, shaking his head in a negative to Harry's question, then squeezed into the fissure, edging along beside Anita, while Harry followed.

"What is it?" she asked anxiously.

"Harry heard some sort of noise from above, as if the earth was crumbling. He's afraid the whole mine's going to cave in again."

"But if it does?"

"We can get out this way—somehow. This connects up with a spring-hole; it leads out by Crazy Laura's house."

"Ugh!" Anita shivered. "She gives me the creeps!"

"And every one else; what's doing Harry?"

"Nothing. That's the funny part of it!" The big Cornishman had crept to the edge of the fissure and had stared for a moment toward the cross-cut leading to the stope. "If it was coming, it ought to 'ave showed up by now. I'm going back. You stay 'ere."

"But—"

"Stay 'ere, I said. And," he grinned in the darkness, "don't let 'im 'old your 'and, Miss Richmond."

"Oh, you go on!" But she laughed. And Harry laughed with her.

"I know 'im. 'E's got a wye about 'im."

"That's what you said about Miss Richmond once!"

"Have you two been talking about me?"

"Often." Then there was silence—for Harry had left the fissure to go into the stope and make an investigation. A long moment and he was back, almost creeping, and whispering as he reached the end of the fissure.

"Come 'ere—both of you! Come 'ere!"

"What is it?"

"Sh-h-h-h. Don't talk too loud. We've been blessed with luck already. Come 'ere."

He led the way, the man and woman following him. In the stope the Cornishman crawled carefully to the staging, and standing on tiptoes, pressed his ear against the vein above him. Then he withdrew and nodded sagely.

"That's what it is!" came his announcement at last. "You can 'ear it!"

"But what?"

"Get up there and lay your ear against that vein. See if you 'ear anything. And be quiet about it. I'm scared to make a move, for fear somebody'll 'ear me."

Fairchild obeyed. From far away, carried by the telegraphy of the earth—and there are few conductors that are better—was the steady pound,

"But can't I go along—wherever you're going?"

"There's going to be a fight," said Harry quietly. "And I'm going to knock somebody's block off!"

"But—I'd rather be there than here. I—I don't have to get in it. And—I'd want to see how it comes out. Please—!" she turned to Fairchild—"won't you let me go?"

"If you'll stay out of danger."

"It's less danger for me there than

spoke; instinctively Fairchild and Anita had guessed Harry's conclusions. The nearest mine to the Blue Poppy was the Silver Queen, situated several hundred feet above it in altitude and less than a furlong away. And the metal of the Silver Queen and the Blue Poppy, now that the strike had been made, had assayed almost identically the same. It was easy to make conclusions.

They reached the mouth of the Silver Queen. Harry relieved Anita from her position on his shoulders, and then reconnoitered a moment before he gave the signal to proceed. Within the tunnel they went, to follow along its regular, rising course to the stope where, on that garish day when Taylor Bill and Blindeye Bozeman had led the enthusiastic parade through the streets, the vein had shown. It was dark there—no one was at work. Harry unhooked his carbide from his belt, lit it and looked around. The stope was deeper now than on the first day, but not enough to make up for the vast amount of ore which had been taken out of the mine in the meanwhile. On the floor were tons of the metal, ready for tramping. Harry looked at them, then at the stope again.

"It ain't coming from 'ere!" he announced. "It's—" then his voice dropped to a whisper—"what's that?"

Again a rumbling had come from the distance, as of an ore car traveling over the tram tracks. Harry extinguished his light, and drawing Anita and Fairchild far to the end of the stope, flattened them and himself on the ground. A long wait, while the rumbling came closer, still closer; then, in the distance, a light appeared, shining from a side of the tunnel. A clanging noise, followed by clattering sounds, as though of steel rails hitting against each other. Finally the tramping once more—and the light approached.

Into view came an ore car, and behind it loomed the great form of Taylor Bill as he pushed it along. Straight to the pile of ore he came, unhooked the front of the tram, tripped it and piled the contents of the car on top of the dump which already rested there. With that, carbide pointing the way, he turned back, pushing the tram before him. Harry crept to his feet.

"We've got to follow him!" he whispered. "It's a blind entrance to the tunnel som'eres."

They rose and trailed the light along the tracks, flattening themselves against the timbers of the tunnel as

## Questioning the New Year

By Al. Rice

As the old year has receded  
Down the vale of yesterdays  
O'er the hills the new has speeded,  
And to it we turn our gaze.  
And we question, as we meet it,  
In its garments pure and white—  
As with open arms we greet it:  
Will the new one treat us right?

With an optimistic vision,  
Born of hope, we look to you,  
As a realm of fair elysian  
Where the skies are ever blue.  
Like a prancing, unbacked filly  
We are straining at the rope.  
Will you, like the budding lily,  
Quite fulfill our dearest hope?

Will consumer and producer  
Reach across the middleman?  
Or will things grow lax and looser—  
If it's possible they can?  
Will the harvest be rewarded  
In proportion to the cost?  
Or will farming be regarded  
As a labor that is lost?

Will the many strings that bind us  
Be untangled and untied?  
Or another new one find us  
Pulling carts while others ride?  
Will you equalize the payment  
To the labor that we do?  
In your spotless, unspoiled raiment,  
Glad New Year, we look to you.

pound, pound of shock after shock as it traveled along the hanging wall. Now and then a rumble intervened, as of falling rock, and scrambling sounds, like a heavy wagon passing over a bridge. Fairchild turned, wondering, then reached for Anita.

"You listen," he ordered, as he lifted her to where she could hear. "Do you get anything?"

The girl's eyes shone. "I know what that is," she said quickly. "I've heard that same sort of thing before—when you're on another level and somebody's working above. Isn't that it, Mr. Harkins?"

Harry nodded. "That's it," came tersely. Then bending, he reached for a pick, and muffling the sound as best he could between his knees, knocked the head from the handle. Following this, he lifted the piece of hickory thoughtfully and turned to Fairchild. "Get yourself one," he ordered. "Miss Richmond, I guess you'll 'ave to stay 'ere. I don't see 'ow we can do much else with you."

—than home. And I'd be scared to death here. I wouldn't if I was along with you two, because I know—" and she said it with almost childish conviction—"that you can whip 'em."

Harry chuckled. "Come along, then. I've got a 'unch, and I can't sys it now. But it'll come out in the wash. Come along."

He led the way out through the shaft and into the blizzard, giving the guard instructions to let on one pass in their absence. Then he suddenly kneeled.

"Up, Miss Richmond. Up on my back. I'm 'efty—and we've got snow-drifts to buck."

She laughed, looked at Fairchild as though for his consent, then crawled to the broad back of Harry, sitting on his shoulders like a child "playing horse."

They started up the mountain side, skirting the big gullies and edging about the highest drifts, taking advantage of the cover of the pines, and bending against the force of the blizzard, which seemed to threaten to blow them back, step for step. No one

AL ACRES—Slim's Bovine Judgement is Poor But his Comeback is Good.

—By Frank R. Leet.



\$538

Buy this



Not Portable

5-ROOM HOUSE

You can buy all the materials for a complete home direct from the manufacturer and save four profits on the lumber, mill-work, hardware and labor.

\$1068

for this SEVEN ROOM HOUSE



Not Portable

This sturdy two-story home contains big living-room, dining-room, kitchen, pantry, rear porch, three bed-rooms, bath and closets. A complete home.

This Dutch Colonial Twelve Rooms \$1932



This handsome home contains living-room 14 x 26 feet, library, hall, dining-room, pantry, kitchen, four bed-rooms, sewing-room, bath and five closets.

ALADDIN Houses Not Portable

All lumber cut to fit by Aladdin System (not portable). Proved savings of over 18% waste in lumber and up to 30% saving on labor. Aladdin Homes built everywhere. Satisfaction or money back.

Million Dollar Corporation Guaranty Prices quoted include all lumber cut to fit, windows, doors, woodwork, glass, paints, hardware, nails, lath and roofing. Complete drawings and instructions. Many styles to choose from.

Highest grade lumber for all interior wood-work, siding and outside finish. Send today for money-saving Aladdin Catalog No. 234.

The ALADDIN CO., BAY CITY MICHIGAN Also Mills and Offices at Wilmington, North Carolina; Portland, Oregon; and Toronto, Ontario

For Healthy Orchards Plant Michigan Grown Trees



Buy handsome, thrifty trees, grapevines, berry bushes, roses and shrubs from your own state and insure prompt receipt in vigorous condition. Kalamazoo County is famous for hardy, well-rooted stock. We guarantee healthy and true to name. You ought to plant more fruit trees this season. Special rates if you order now. Our handsome catalog of dependable trees, free for the asking.

CELESTY CITY NURSERIES Box 200, Kalamazoo, Mich.

Direct to You, At Wholesale Prices

Why Not PUT THIS NEW MILL ON YOUR OLD TOWER ALBION. Albion steel and wood mills are quiet and powerful. One-third the working parts of any other mill. Only main Pitman bearing subject to wear. This is oilless, and easily replaceable. Govers by dependable weight without springs. Fits any 4-post steel tower. Why not shorten your chore hours now with a good Windmill? This is your chance—F. O. B. Albion. Erect it yourself. Ask your dealer, or write direct to Union Steel Products Co. Ltd. No. 528 N. Berrien Street, ALBION, MICHIGAN, U. S. A.

TREES & PLANTS THAT GROW CATALOG FREE. Great Bargains, Standard Varieties, Best Quality, Low Prices. Satisfaction or money refunded. 70 years in business proof of our responsibility. Write for Nursery and Seed catalog. PETER BOHLENDER & SONS Spring Hill Nurseries Box 211 Tippecanoe City, (Miami Co.) Ohio

the form of Taylor Bill, faintly outlined in the distance, turned from the regular track, opened a great door in the side of the tunnel, which, to all appearances, was nothing more than the ordinary heavy timbering of a weak spot in the rocks, pulled it far back, then swerved the tram within. Then, he stopped and raised a portable switch, throwing it into the opening. A second later the door closed behind him, and the sound of the tram began to fade in the distance. Harry went forward, creeping along the side of the tunnel, feeling his way, stopping to listen now and then for the sound of the fading ore car. Behind him were Fairchild and Anita, following the same procedure. And all three stopped at once.

The hollow sound was coming directly to them now. Harry once more brought out his carbide to light it for a moment and to examine the timbering.

"It's a good job!" he commented. "You couldn't tell it five feet off!"

"They've made a cross-cut!" This time it was Anita's voice, plainly angry in spite of its whispering tones. "No wonder they had such a wonderful strike," came scathingly. "That other stope down there—"

"Ain't nothing but a salter proposition," said Harry. "They've cemented up the top of it with the real stuff and every once in a while they blow a lot of it out and cement it up again to make it look like that's the real vein."

"And they're working our mine!" Red spots of anger were flashing before Fairchild's eyes.

"You've said it! That's why they were so anxious to buy us out. And that's why they started this two-million dollar stock proposition, when they found they couldn't do it. They knew if we ever 'it that vein that it wouldn't be any time until they'd be caught on the job. That's why they're ready to pull out—with somebody else' million. They're getting at the end of their rope. Another thing; that explains them working at night."

Anita gritted her teeth.

"I see it now—I can get the reason. They've been telephoning Denver and holding conferences and all that sort of thing. And they planned to leave these two men behind here to take all the blame."

"They'll get enough of it!" added Harry grimly. "They're miners. They could see that they were making a straight cross-cut tunnel on to our vein. They ain't no children, Blindeye and Taylor iBill. And 'ere's where they start getting their trouble."

He pulled at the door and it yielded grudgingly. The three slipped past, following along the line of the tram track in the darkness, Harry's pick handle swinging beside him as they sneaked along. Rods that seemed miles; at last lights appeared in the distance. Harry stopped to peer ahead. Then he tossed aside his weapon.

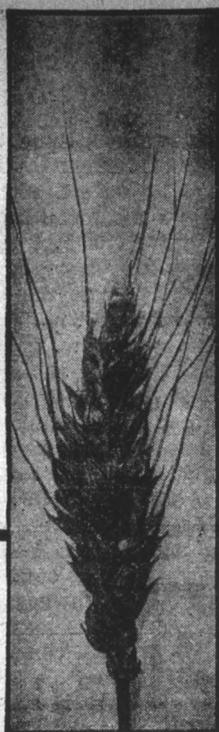
"There's only two of 'em—Blindeye and Taylor Bill. I could whip 'em both myself but I'll take the big 'un. You—" he turned to Fairchild—"you get Blindeye."

"I'll get him."

Anita stopped and groped about for a stone.

"I'll be ready for something in case of accident," came with determination. "I've got a quarter of a million in this myself!"

They went on, fifty yards, a hundred. Creeping now, they already were within the zone of light, but before them the two men, double-jacking at a "swimmer," had their backs turned. Onward—until Harry and Fairchild were within ten feet of the "high-jackers," while Anita waited, stone in hand, in the background. Came a yell, high-pitched, fiendish, racking, as Harry leaped forward. And before the two "high-jackers" could concentrate (Continued on page 19).



Here's the "runt" head—the kind that spells LOSS



Here's the "fair size" head which means "break even"



Here's the full, plump head that puts money in the bank

Which Kind Grows on Your Farm?

MORE sound, plump grains per head—and more heads per acre! That's the aim of every farmer. A good harvest depends primarily upon good seeding—the proper deposit of every grain in the soil—and exactly the right depth—and exactly the right distance from its neighbor

Superior Grain Drills

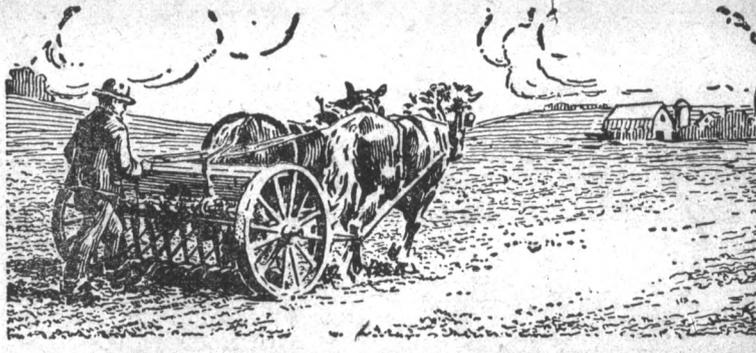
For Team or any Tractor

give your grain "the right start in life." Even spacing, uniform depth and every seed covered properly—these vitally important requisites of successful seeding are absolutely assured with the Superior Grain Drill.

For over fifty years Superior seeding has meant better seeding. The purchase of a Superior is the best investment any farmer can make.

The American Seeding-Machine Company

Springfield, Ohio, U. S. A.



TANNERS of CATTLE, HORSE, CALF, COON, FOX, SKUNK, MINK, MUSK, RAT, WOODCHUCK, DOG, CAT and RABBIT SKINS. What kind of skins have you? We make up and line Men's & Ladies' Fur Coats, Scarfs, Muffs, Capes, Collars, Robes and Mittens from raw skins. Circulars Free. Use plenty of salt on green hides. W. W. Weaver, Reading, Mich. Custom Tanner, 30 yrs. Experience.

MINERAL COMPOUND FOR SYMPTOMS OF HEAVES. In use over 50 yrs. Booklet Free. \$3 Pkg. guaranteed to give satisfaction or money back. \$1 Pkg. sufficient for ordinary cases. MINERAL HEAVE REMEDY CO., 483 Fourth Ave., Pittsburg, Pa.

BECOME A RAILWAY MAIL CLERK. Examinations soon. \$1600 to \$2300 a year. Steady life-time job. Common education sufficient. No "pull" necessary. Mail coupon for Patterson Civil Service School, Dept. 771, ROCHESTER, N. Y. Catalog. Sirs: Send me without charge your Catalog, describing this and other U. S. Government positions. Patterson Civil Service School, Dept. 771, Rochester, N. Y. Name: Address:

ST AWBERRY PLANTS \$3 per 1000, history and valuable illustrated book free. You will learn. Address MAYERS PLANT NURSERY, Merrill, Mich. FREE—To introduce our Pedigreed everbearing Strawberries we will send 25 fine plants free. Mason Nursery Company, Piedmont, Missouri.

# Yarn

100% Pure Wool

Send for FREE color card of "Homewool" Yarn — also the complete catalog of other pure wool products sold only direct to you at big savings.

Do your own knitting and save 2/3. You can make splendid sweaters, slip-ons, scarfs, tams, baby garments and other knitted things from "Homewool" Yarn.

Big skeins, full weight, Prices you cannot equal for such warm, durable, attractive yarn. Thousands of women demand "Homewool" quality. Knit for yourself and all the family.

Write for your samples TODAY

Home Woolen Mills  
204 Main St., Eaton Rapids, Mich.  
Founded 1876



## "HOMEWOL"



### May We Help You?

If your dealer cannot show you actual HIGH ROCK garments, write us and we will send you a generous sample of the fabric and a booklet describing

#### HIGH ROCK FLEECE LINED UNDERWEAR

Men who prefer the comfort and warmth of soft, downy cotton next the skin, who insist on durable, economical underwear, have for over fifty years found the greatest satisfaction in HIGH ROCK garments.

INVESTIGATE NOW—buy the garment that best fits your needs.

HIGH ROCK KNITTING CO.  
Philmont, N. Y.



## I'll Save You Big Money On This Beautiful Range

Our new low prices on Kalamazoo Ranges are the talk of the country. Greatest values ever offered. Ranges finished in beautiful gray or blue porcelain enamel. Our direct-from-factory prices save 25 to 40 per cent.



### Mail a Postal Today

Get our prices now. Steel and iron prices are going up. Better write today when we can save you the most money. 30 days' trial. Cash or easy payments. Money-back guarantee. W. S. Dewing, "The Stove Man."

Kalamazoo Stove Co.  
1113 Rochester Ave.  
Kalamazoo, Mich.

### Ditches Terraces

GRADE ROADS, BUILD DYKES, LEVEES with the *Martin* Farm Ditcher, Terracer, Grader

The Great Farm Builder Works in any soil. Makes V-shaped drainage or irrigation ditch or cleans ditches down to four feet deep. Does labor of 100 men. Make every sure pay. All steel. Reversible. Adjustable. No cog or lever to get out of. Write for free book and our proposition. Owensboro Ditcher & Grader Co., Inc. Box 315, Owensboro, Ky.

10 Days Free Trial

# What About Sunday

Our Weekly Sermon—By N. A. McCune

A YEAR or two ago, some very interesting experiments were carried on at Harvard University, by a professor in the medical school, as to the value of one day's rest in seven. This was done with electric apparatus of various sorts, to test the state of the nervous system. The doctor in charge states that "there was an unmistakable tendency for the sensitiveness to be at its highest at the beginning of the week and to sink steadily from day to day until its end, reaching the lowest point on Saturday. With the return of Monday, following the rest of Sunday, the sensitiveness was at its former high point. The repose of a single night following a day of toil, does not afford complete restoration of the impaired nervous tissues." This has been verified by other physicians. There is a gradual decline of nervous power during the week, which can only be lifted



to its normal state of vitality by a day's rest. Pioneers who went west with their prairie schooners fifty years ago, found that the oxen and horses did better service and covered more ground, when Sunday was kept for rest. Says Charles E. Jefferson: "I have seen it stated that two million people in England are obliged to labor seven days in the week. A committee reported that 300,000 men in Greater New York never have a day of rest. So long as there is in the world one human being who is deprived of his weekly day of rest, there is a wrong to be righted and a tragedy to be brought to an end."

Now the day of rest is very ancient. Long before the ten commandments were given by Moses, the weekly rest day was observed. The Code of Hammurabi antedates Moses by almost eight hundred years. The tablets of the Assyrians and Babylonians show that they observed the day of rest, while the Greeks, Homer and Hesiod used it for the quest of knowledge, several centuries before Christ.

THE question of which day to observe usually comes up in a discussion on Sunday, but it is hardly worth while to argue over it. If one prefers to keep Saturday as his day of rest and worship, by all means let him do so. The early Christians kept both days, the seventh as the day for relaxation and the first day as the day for worship. Sunday is not the successor of the Old Testament Sabbath. It rests on a new foundation, namely, the resurrection of our Lord. If we quote "Remember the Sabbath day," as being a command binding on us, we might also quote the commandments about not eating pork, or the law requiring us to keep the passover feast. Sunday is pre-eminently the day of joy and worship. At least it was so intended. It was not supposed to be a long, tedious, uninteresting day that killed people off. If kept in the right spirit, it proves a day of enjoyment now.

In America, Sunday has come to be a holiday rather than a holy day. It is observed with auto riding, picnicking, and the great national baseball games. Such things may be relaxation, but they are not worshipful, and do not leave a good after effect. Sunday ought to be used for doing good. That was the Master's way. It could be employed by hundreds of church folk as the day when they might bring some cheer into the lives of others. The matter of reading is of first importance.

Parents can do much in this respect. A little thought will provide a good book or two, which the children love to hear read aloud. Biography is splendid for this purpose. Every boy ought to know the lives of Lincoln, Washington, McKinley, Garfield, Lloyd George, Booker T. Washington, Napoleon, Helen Keller, John Howard, Elizabeth Fry, David Livingstone, William Carey, Wilfred T. Grenfell, Theodore Roosevelt, Andrew Jackson, Daniel Boone, Benjamin Franklin, Thomas A. Edison, Robert Fulton, Madame Curie, Marconi, the Wright Brothers, Luther Burbank, Andrew Carnegie, Edward Bok, Jacob A. Riis, and many others. If these are read to him or his sister, at a comparatively early age, they stick to the walls of memory. "South!" by Sir Ernest Shackleton, describing his adventures at the south pole, is a wonderful book, and will make a fellow's hair pretty nearly stand straight up. One has to give some thought in advance to all this, of course, but it pays. Then there are games for Sunday afternoon, that keep the children occupied and do them no harm.

THE question arises with many whether they should allow their youngsters to play outdoor games on Sunday. Why not? If not too rough, and no fights follow, the out of doors will do them good, not harm. It is possible to be too strict or too lax. It is the commercialization of Sunday, the use of it to make money out of, that does harm. I listened to an official in the Presbyterian denomination, a minister, as he argued that boys should be allowed to play amateur baseball in the back lot on Sunday, if they wanted to. This would be thought too much of a good thing, by many, I presume. It will require all our best thought to make the day mean its most, whether we be young or old. A prominent writer puts it thus. "The greatest foes to the proper observance of Sunday are not the seventh-day observers, nor the foreign element accustomed to the continental Sunday, nor the great mass of non-Christian pleasure seekers, but the first day Christians, who are the selfish patrons of Sunday excursions, Sunday theaters, Sunday newspapers, and such things, all of which require in a large city the labor of thousands of persons seven days out of seven."

WOMAN'S side of the Sunday question is a big one. Pa and the guests can go into the parlor and talk, after the big Sunday meal, but Ma must wash the dishes. And what is more, she has to work most of the morning, to get the big dinner ready. From what I have heard and seen, I judge that many country folks have a real grievance against their city cousins who drive up Sunday morning at ten o'clock, appetites all prepared for chicken and all that goes with it. A hundred times people have said to me "I was all ready for church last Sunday, when relatives arrived, and we had to stay at home." Why don't you tell them to bring their dinner along with them, and give them the full privilege of picnicking in the front yard? Of course, if the country folk unexpectedly drive up to the door of their city relatives, at other times of the year, turn about is fair play. But it is unfortunate and a bit thoughtless for any family to rob any other family of the privilege of going to church when they want to go.

### SUNDAY SCHOOL LESSON FOR JANUARY 7.

SUBJECT:—Jesus healing on the Sabbath.  
GOLDEN TEXT:—"It is lawful to do good on the Sabbath day."



Our new Sunlight Laboratory, one of the finest, most up-to-date in America

## Big Money Running a Store on Wheels

### Start in Business on Our Capital

If you are sober, industrious, honest, reliable and can furnish a team or auto, you're just the man we're looking for to conduct with our capital, this wonderfully profitable business of running a store on wheels—selling a big modern line of Sanitary Medicines, Toilet Goods, Perfumes, Coffee, Spices, Extracts, Stock Remedies, etc., direct to farmers and homes. You don't need to know anything about the business. Experience in selling goods not necessary. We instruct you how to earn, clear of all expenses, from \$200 to \$500 a Month

Easy then, to build up a business of from \$3,000 to \$5,000 a year net profits. Our selling plan is different from all others—wipes out all competition. We have a big line—nearly 100 different articles easy to sell—give such splendid satisfaction you can sell to same customers month after month. You don't need to be a salesman—simply leave the articles at homes, also some free samples. Ours is the simplest, easiest and most remarkable way to sell practically every house its entire supplies ever devised. Every article far superior to others and prices the most reasonable. Ours is the only company that makes up samples to leave at the homes with the goods, so customers can try samples first and be convinced that our goods are best. We manufacture our preparations from proven formulas and pure materials. Our laboratory is in charge of a Graduate Chemist and Doctor of Pharmacy with over twenty-three years practical experience. Every preparation bearing our name is not only guaranteed to comply with the Pure Food Laws, but is the best of its kind that can be produced.

### No Capital Required

A team and wagon or auto your only investment. We will also supply you, at lowest wholesale prices, with a \$500 to \$1,000 stock of goods on credit. We won't charge you a cent of interest and you can pay us as your customers pay you, keeping a liberal share of the proceeds each week for yourself. We give our salesmen the squarest deal you ever heard of. Capital and resources over \$1,000,000. We are leaders in quality—low prices and unequalled selling plan. Our big free book gives complete information. Write for it at once. Use the coupon.



Furst & Thomas  
Box 732 Freeport, Ill.

**FURST & THOMAS**  
Box 732 FREEPORT, ILL.

I would like to be a McNess man and make more money. Send me your Free Book that tells how.

Name \_\_\_\_\_

St. or R. F. D. \_\_\_\_\_

Town \_\_\_\_\_ State \_\_\_\_\_

State whether you wish to work in city or country \_\_\_\_\_

### World's Best Roofing at Factory Prices

"Reo" Cluster Metal Shingles, V-Crimp, Corrugated, Standing Seam, Painted or Galvanized Roofings, Siding, Wallboard, Paints, etc., direct to you at Rock-Bottom Factory Prices. Save money—get better quality and lasting satisfaction.

**Edwards "Reo" Metal Shingles** have great durability—many customers report 15 and 20 years' service. Guaranteed fire and lightning proof.

**Free Roofing Book** Get our wonderfully low prices and free samples. We sell direct to you and save you all in-between dealer's profits. Ask for Book No. 167

**LOW PRICED GARAGES** Lowest prices on Ready-Made Fire-Proof Steel Garages. Set up any place. Send postal for Garage Book, showing styles.

**THE EDWARDS MFG. CO.**  
117-167 Pike St. Cincinnati, O.

**FREE Samples & Roofing Book**

THE CROSS-CUT.

(Continued from page 17). enough to use their sledge and drill as weapons, they were whirled about, battered against the hanging wall, and swirling in a daze of blows which seemed to come from everywhere at once. Wildly Harry yelled as he shot blow after blow into the face of an ancient enemy. High went Fairchild's voice as he knocked Blindeye Bozeman staggering for the third time against the hanging wall, only to see him rise and to knock him down once more. And from the edge of the zone of light came a feminine voice, almost hysterical with the excitement of it all, the voice of a girl who, in her tensy, had dropped the piece of stone she had carried, to stand there, hands clenched, figure doubled forward, eyes blazing, and crying:

"Hit him again! Hit him again. Hit him again—for me!"

And Fairchild hit, with the force of a sledge hammer. Dizzily the sandy-haired man swung about in his tracks, sagged, then fell unconscious. Fairchild leaped upon him, calling at the same time to the girl:

"Find me a rope! I'll truss his hands while he's knocked out!"

Anita leaped into action, to kneel at Fairchild's side a moment later with a hempen strand, as he tied the man's hands behind his back. There was no need to worry about Harry. The yells which were coming from farther along the stope, crackling blows, all told that Harry was getting along exceedingly well. Glancing out of a corner of his eye, Fairchild saw now that the big Cornishman had Taylor Bill flat on his back and was putting on the finishing touches. And then suddenly the exultant yells changed to ones of command.

"Talk English! Talk English, you bloody blighter! 'Ear me, talk English!"

"What's he mean?" Anita bent close to Fairchild.

"I don't know—I don't think Taylor Bill can talk anything else. Put your finger on this knot while I tighten it. Thanks."

Again the command had come from farther on:

"Talk English! 'Ear me—I'll knock the bloody 'ead off you if you don't. Talk English—like this: 'Throw up your 'ands!' 'Ear me?"

Anita swerved swiftly and went to her feet. Harry looked up at her wildly, his mustache bristling like the spines of a porcupine.

"Did you 'ear 'im sye it?" he asked. "No? Sye it again!"

"Throw up your 'ands!" came the answer of the beaten man on the ground. Anita ran forward.

"Its a good deal like it," she answered. "But the tone was higher."

"Raise your tone!" commanded Harry, while Fairchild, finishing his job of tying his defeated opponent, rose, starting in wonderment. Then the answer came:

"That's it—that's it. It sounded just like it!"

And Fairchild remembered, too—the English accent of the highwayman on the night of the Old Times Dance. Harry seemed to bounce on the prostrate form of his ancient enemy.

"Bill," he shouted, "I've got you on your back. And I've got a right to kill you. 'Onest I 'ave. And I'll do it too—unless you start talking. I might as well kill you as not. It's a penitentiary offense to 'it a man underground unless there's a good reason. So I'm ready to go the 'ole route. So tell it—tell it and be quick about it. Tell it—wasn't you him?"

"Him—who?" the voice was weak, frightened.

"You know 'oo—the night of the Old Times dance! Didn't you pull that 'old-up?"

(Continued next week).

# Henry Field's funny New Puzzle!

## Try it You may WIN \$500.00 cash

**PRIZES**

	IF YOU WIN NO MONEY	IF YOU SEND \$1.00 FOR SEED	IF YOU SEND \$2.00 FOR SEED	IF YOU SEND \$5.00 OR MORE FOR SEED
1st Prize	\$10	\$100	\$200	\$500
2nd Prize	5	50	100	250
3rd Prize	3	25	50	125
4th Prize	1	10	20	75
5th Prize	1	5	15	25
6th Prize	1	5	10	15
7th Prize	1	5	10	15
8th Prize	1	5	10	15
9th Prize	1	5	10	15
10th Prize	1	5	10	15

**30 Prizes** Next 20 highest scores will get the money sent in for seeds, up to \$5.00, returned to them. Their seeds will be free.

### Fun For The Whole Family These Winter Evenings

WHEN I was a young fellow just starting the seed business, I bought me a little printing press and got some type—20 of each letter of the alphabet. I tried to set up an ad about the seeds I was selling. But right off I ran out of "e" letters. I had too many of x, q, z and v. So I rewinded the ad till I used up most of the type. It was sure a puzzle but it was a heap of fun at that. Of course I didn't try it again but went back to the printshop and bought me a hatful of type so I'd have enough next time.

Now if any of you folks hanker after something to pass

away the time these days and evenings, take a try at that. In the "type case" above there are 20 of each letter in the alphabet. See how many words you can make out of these "type." The one who gets the most points figured by the scale below will get a prize up to \$500 plus extra money for quick remittance, depending on how much seed you want to order of me. Make up the largest possible list of the longest possible words.

### "Seeds That Yield Are Sold By Field"

You'll Be Buying Seed Soon Anyway; Send Money Today; Let Order and Solution Come Later.

**Kill 2 Birds With 1 Stone.** You'll be buying seeds anyway. You'll buy some of me, of course; and maybe some from some other seed house. I want you to buy all your seeds of me. That's why I can afford to offer you this inducement. Also I get a lot of brand new customers this way, and once I get new customers, I usually keep them for life. So, since you are going to buy seeds anyway, it won't cost you a cent to try for the big prize. You might as well kill two birds with one stone!

**Ask For A Due Bill Good Anytime.** You may not know just yet what seeds you want to select—or maybe you don't want the seeds shipped until you're pretty near ready to plant 'em. Don't hesitate on that account. Send your money in and we'll send you a due bill for the amount which you can use with us any time within one year, same as cash, to pay for seeds when you want 'em.

### SPECIAL PRIZE FOR EARLY LISTS

For each week prior to February 28th, 1923 that your list is mailed, we will add an additional prize of \$25.00 per week to any first prize you win. For example, if the envelope in which your qualification is mailed is postmarked January 3rd, 9 weeks before February 28th, and your score is the highest, and is qualified by a \$5.00 order you would win \$500 plus \$225.00, or \$725.00 total. If you qualified with a \$2.00 order, and your qualification arrived three weeks before February 28th you would receive the \$200.00 prize plus \$75.00 which would make \$275.00. Therefore send in your qualification as soon as possible. If you win any of the first prizes you will receive the additional prize of \$25.00 per week.

Send your money to qualify for the different prizes today. Your list of words and score can follow later. These special prizes will count from the day that your qualification is mailed. You can order your seeds later, too, as we will send you a due bill which will be good for one year for the amount you send.

**FREE** Henry Field's "Seed Sense" and big 1923 Catalog. Whether you work out the puzzle or not send for our big free 1923 catalog. We will also send you a copy of our free magazine "Seed Sense". You will like this magazine. Most people like it better than magazines they pay for. Some think it funnier than the Sunday comic, and the kids like it too. It teaches them a lot about seeds.

If you send in an answer to this puzzle, of course you will get the magazine and the catalog, too, and the catalog will help you to select what seeds you will be wanting—but whether you send in the list answering this puzzle or not, send us your name and address so that we can send you a catalog and a copy of the magazine. It is all free. Write me today.

**SCORING SCALE**

Start with exactly 20 of each letter; 520 in all. Each Word of 3 Letters Counts 4 Points

3	16
4	16
5	25
6	35
7	49
8	64
9	81
10	100
11	121
12	144
13	169
14	196
15	225

and so on by squaring the number of letters in each word.

Additional Credit of 20 Points for each word regardless of length. 2 points off for each letter left over.

### SUGGESTIONS FOR WINNING

Lay out the alphabet twenty times on a sheet of paper. That is, put down 20 A's, 20 B's, 20 C's, etc., and as you make a word, check off the letters you use. This will help you, and will also keep you from using more than 20 of each letter.

You may have other methods to keep track of the letters you use, but this is a suggestion that we believe would be very easy to follow.

Here's a "Puzzle Ad" You Can Feel Safe in Answering

This is not like other "puzzle ads". I run these for the wholesome fun and entertainment and thrills they give my customers. I don't approve of "puzzle games" aimed to palm off articles people don't want at exorbitant prices. You folks will be buying seeds anyway, and you might as well have a little fun thrown in as we go.

If you get the highest score you win. There will be no doubt as to the real winners. Everything is plain and easily understood. If you have the most words and the longest words as per the score card, you will win, and there will be no question as to the winners of the prizes.

Of course, everybody can't win, so don't cry if you get left. But you can bet that if your answer scores highest you'll get the prize, and you'll get it as quickly as the mail will bring it when the judges finish. So let's don't take this too seriously. Send me your seed order, large or small, and have the fun of trying to win through in—maybe you'll get the big money. Who knows? If you don't like to work puzzles, send me your order for seeds anyway. I'll give you my regular square deal.—HENRY FIELD

P. S. Ask for my new seed catalog. And come and see me some time.

- FOLLOW THESE RULES**
- The answer with the largest score as per the above score scale will receive first prize. The second largest the second prize and so on.
  - In each case, amount of the prize will be determined according to the prize qualified for as shown by the above table of prizes.
  - The person winning the first prize will receive an extra special prize of \$25.00 for each week before February 28th. This will be determined by the date of the post mark on the envelope in which the qualifying remittance shows to have been mailed, regardless of the amount of money sent in.
  - Only single words, appearing in Webster's Dictionary may be used. Hyphenated or compound, obsolete, archaic, cant, slang, colloquial and foreign words, and proper names, single letters, prefixes and suffixes, may not be used. Type left over will be counted against your score, at the rate of 2 points per letter.
  - Each word will count for the number of points made by multiplying the number of letters in the word by itself. That is, words of two letters count 2 x 2 or 4; 3 letters count 3 x 3 or 9; 4 letters count 4 x 4 or 16; 5 letters count 5 x 5 or 25; 6 letters count 6 x 6 or 36; 7 letters count 7 x 7 or 49; 8 letters count 8 x 8 or 64; 9 letters count 9 x 9 or 81; 10 letters count 10 x 10 or 100; 11 letters count 11 x 11 or 121; 12 letters count 12 x 12 or 144; 13 letters count 13 x 13 or 169; 14 letters count 14 x 14 or 196; 15 letters count 15 x 15 or 225.
  - Only one prize will be awarded in any one household, but all members of the household may assist in the solution. Where it is apparent that two or more lists have been prepared together, only one prize will be given.
  - Write your words on only one side of the sheet; put your name and address on each sheet; put your unused letters and final score at the bottom of last sheet; put other correspondence and order on other sheets.
  - In case of ties, for any prize offered, the full amount of such prize will be given each tying contestant.
  - Any one may submit an answer except persons who receive their mail at Shenandoah, Iowa, our employees, or their families.
  - All answers and remittances to be considered must bear your local postmark not later than Feb. 28, 1923, the date the contest closes.
  - Name of prize winners and the winning list will be published as soon as possible after February 28th in "Seed Sense" free to all 1923 customers and to those answering the puzzle.
  - Three prominent citizens of Shenandoah will act as umpires, and their decision is accepted as final by all contestants.

HENRY FIELD SEED CO., Dep't. 7 Shenandoah, Iowa.

## What WITTE Users Say

When You Buy a WITTE You Get the Best and Only Log Saw I Make

### Is Best Proof of WITTE Log Saw Superiority

Steadier Power—Faster Cutting

Read What They Say:

"After seeing three makes I bought a WITTE." (Cal.)  
 "Sawed fifty 18-inch trees in five hours." (Iowa.)  
 "Bigger the timber—better she works." (Can.)  
 "Wouldn't sell for double the price." (Idaho.)  
 "Outfit works to perfection on fir." (Wash.)

Log and Tree Saw do perfect work." (Nev.)  
 "My 15 year old daughter starts it." (Mo.)  
 "Everyone says 'Best they've seen.'" (Can.)  
 "No limit to the amount of work." (Kan.)  
 "Beats anything that I ever saw." (Ia.)  
 "Starts on first whirl." (Cal.)  
 "Runs fine on kerosene." (Wash.)

**ONE RIG ONLY—PRICED RIGHT—\$99.50 F.O.B. K.C.**

At Pittsburgh \$107. At San Francisco \$123.

**More Power Than Needed**

Saw cuts even and clean without excessive vibration. When used as Tree Saw, only 1 rig to handle. No time lost moving or setting. Positive lever control—Steel axles. Reversible wheels—Built for hard work. Only Log Saw sold on Lifetime Guarantee. Cash or Terms. Write us.

**WITTE ENGINE WORKS,** 2191 Oakland Ave., KANSAS CITY, MO. 2191 Empire Bldg., PITTSBURGH, PA. 131 Fremont St., SAN FRANCISCO, CAL.

### Buy Your Fruit Trees At Once

Insure variety, prompt delivery and special low prices. Our handsome, vigorous peach, apples, cherries, berries, guaranteed healthy and true to name. Order now—pay next spring. Write for our beautiful catalog. Celery City Nurseries, Box 206, Kalamazoo, Mich.

### EVERGREENS Hill's Hardy Tested Varieties

Fine for windbreaks, hedges and lawn planting. All hardy, vigorous and well rooted. We ship everywhere. Write for free Evergreen book. Beautiful Evergreen Trees at moderate prices. R. Hill Nursery Co., Box 230, Dundee, Ill.

### PEACH TREES, 20c

Apple Trees 25c each Postpaid. Send for 1923 Bargain Catalog of Fruit Trees, Plants, Vines, Shrubs, Guaranteed Garden and Flower Seeds. Special prices to large planters. ALLEN NURSERY & SEED HOUSE, Geneva, Ohio

### MEN WANTED

to sell dependable fruit trees and shrubbery. Big demand. Complete cooperation. Commission paid weekly. Write for terms. Willems, Son's Nurseries, Rochester, N. Y.

### FERRETS FOR SALE

N. A. KNAPP & SON, R. 2, New London, O.

### DOGS

**AIREDALE PUPS.** Sired by son of Champion Tintern Tip Top. From registered stock. Make fine watchdogs for farm homes and poultry. Males, \$15. Females, \$10. R. G. Kirby, R. 1, East Lansing, Mich.

### Fox Hounds,

Rabbit and Skunk dogs. All ages. Coon Hound Pups. W. E. LECKY, Holmesville, Ohio

Please Mention The Michigan Farmer When Writing to Advertisers

## A Good Old Friend

Remember the good old-fashioned mustard plaster grandma used to pin around your neck when you had a cold or a sore throat?

It did the work, but my how it burned and blistered!

Musterole breaks up colds in a hurry, but it does its work more gently,—without the blister. Rubbed over the throat or chest it penetrates the skin with a tingling warmth that brings relief at once.

Made from pure oil of mustard, it is a clean, white ointment good for all the little household ills.

Keep the little white jar of Musterole on your bathroom shelf and bring it out at the first sign of tonsillitis, croup, neuritis, rheumatism or a cold.

Sold by druggists everywhere, in jars and tubes, 35c and 65c; hospital size, \$3. The Musterole Co., Cleveland, Ohio

BETTER THAN A MUSTARD PLASTER



## 25¢ Dress Pattern FREE

Just send me your name and I will send you free and without obligation the pattern for this exquisite one-piece slip-on dress. A regular 25c pattern with full instructions for making and absolutely free! May be made of gingham, serge, taffeta, poplin or silk. Would cost ready made from \$5.00 to \$10.00. Make it yourself in two or three hours and save two-thirds. Stunning model with beautiful shawl collar and wide sash tie. Collar, cuffs and large attractive pockets to be trimmed with contrasting material. Very easy to make. The season's leading style in a one-piece slip-on dress. Sent free for only your name and address. Sizes 36 to 44.



## Book of Patterns FREE

I will also send you free and without obligation my latest book of new patterns just out showing over one hundred new Spring fashions, all patterns for which are given you free. Fashion book also contains hundreds of wearing apparel bargains for immediate and Spring wear.

## Mail this Coupon Now!

Mary Allen, Inc., 630 W. Jackson Blvd., Dept. 5919 Chicago  
Please send me absolutely free and prepaid the pattern for No. 1167 stylish slip-on dress. Also send me your latest book of patterns.  
Bust Measure \_\_\_\_\_  
Name \_\_\_\_\_  
Address \_\_\_\_\_

## Color Your Butter

"Dandelion Butter Color" Gives That Golden June Shade and Costs Really Nothing. Read!

Before churning add one-half teaspoonful to each gallon of cream and out of your churn comes butter of Golden June shade to bring you top prices. "Dandelion Butter Color" costs nothing because each ounce used adds ounce of weight to butter. Large bottles cost only 35 cents at drug or grocery stores. Purely vegetable, harmless, meets all State and National food laws. Used for 50 years by all large creameries. Doesn't color buttermilk. Absolutely tasteless.

Wells & Richardson Co., Burlington, Vt.

## Maple Syrup Makers

Profit by adopting the GRIMM SYSTEM. Sectional pans with high partitions. Light and heavy cannot intermix, insuring highest quality with least fuel and labor. 22 different sizes. Write for catalog and state number of trees you tap. We also manufacture I. X. L. evaporators and can furnish repairs for same. GRIMM MFG. CO., 3702 East 93rd St., Cleveland, O.



Producing all kinds fish. Fancy large herring newly frozen, now to be had dressed 4c per lb. Box charge 35c. Remit with order.

CONSUMERS' FISH CO., Green Bay, Wis.



# Woman's Interests



## Wholesome Cold Weather Breads

By Rebecca R. Baily

GOOD graham bread is wholesome and delicious at any time of the year, but if there is a time when it seems to just fit the appetite a little better than any other, it is when the crisp cold days of autumn and winter are with us.

In many modern homes the value of graham flour is underestimated. The graham that makes the most delicious and nut-like bread, is ground at the mill directly from the farmer's wheat. It will be slightly coarser than the sacked graham procured at the grocery and much sweeter and better flavored. By asking the miller to give your wheat what is called "the first crack" you will have a nutritious and highly delightful breakfast food. Cook this the same as cream of wheat and you will ask for nothing better.

Hot graham gems are a welcome addition to the breakfast table on a cold morning. In one family where the mother was a splendid New England cook the writer recalls that when winter approached the main part of the Sunday morning breakfast was always baked potatoes, and graham gems.

### Home Scenes

NOTHING draws at the heart strings more than pictures of home activities. They hold in themselves many pleasant memories.

This week we offer five prizes in aluminum ware for the best pictures depicting home activities, either inside the home or about the farm. The first prize will be a preserving kettle, the second a serving tray, while the third, fourth and fifth will be sauce pans with cover.

Address all letters to Household Editor, Michigan Farmer, Detroit, Michigan, before January 12.

Pictures will be returned if requested.

When you have baked beans for supper try serving hot graham gems or Boston brown bread with them.

Sandwiches from graham loaf and filled with cold roast pork, cheese or jelly, are ideal for the school lunch box.

For those troubled with poor digestion the best bread is made with yeast sponge and part or all graham flour.

The following are a few recipes for various forms of graham bread for a family of six:

#### Plain Graham Loaf.

1 quart good buttermilk  
¼ cup melted shortening  
2 teaspoons soda and one teaspoon baking powder

½ cup molasses or sugar  
1 cup white flour or one egg.

Add one teaspoon salt and enough graham flour to make a batter that will drop clean from the spoon. This will make two loaves baked in individual loaf tins.

For breakfast gems we use a plain loaf recipe and bake in well-greased gem pans in a hot oven.

#### Nut Loaf.

2 large cups buttermilk  
¼ cup melted shortening  
1 teaspoon soda and one teaspoon baking powder

1 teaspoon salt  
1 tablespoon of white sugar or light syrup

1 cup white flour  
1 egg  
1 cup chopped nut meats  
1 cup chopped raisins.  
Add graham flour to make stiff batter, beat well, put in loaf tin, let rise fifteen minutes and bake in medium oven.

Raisin loaf is combined the same as plain loaf with one cup of chopped raisins added.

#### Boston Brown Bread.

1 quart good buttermilk  
½ cup melted shortening  
1 teaspoon salt  
2 teaspoons soda and one teaspoon baking powder

1 cup molasses or sorghum  
1 cup white flour  
1 cup corn meal  
1 cup rye meal.

One egg and enough graham flour to make stiff batter. Steam three hours in pudding basin or baking powder cans and bake twenty minutes in medium oven.

#### Yeast Graham Bread.

Take the light sponge as for regular white bread, mix in two and one-half quarts of graham and enough white flour to make the hard loaf. Let rise, mold into loaves, let rise again and bake in steady oven.

To vary this bread if you like it slightly sweet, add to the sponge one cup of molasses and quarter teaspoon of soda.

## A Cake and a Story

I AM a young girl eighteen years old and would rather do the baking than be off to a moving picture show as some girls would, but my motto is: "There is no disgrace in the Family Cook Book, so learn while you are young." My grandmother taught me this when I was a little girl and I am very thankful to her.

It certainly does take a lot of cake here, as I live on a 120-acre farm and with hired help, threshing men, unexpected company, and everything else included, a heap of baking has to be done. I have done most of the baking for the last five years, having been alone for weeks at a time. It makes one wonder sometimes what to bake, but when asking my brother he always says this one cake.

I have found it a good idea when making a cake with soda in it to add about one-quarter of a teaspoonful of baking powder. It makes it much better. The cake recipe I am sending you makes two large cakes and will keep moist longer than lots of others I have made. I find it a good idea to try a cake by dropping a little of the batter on a greased tin before putting the remainder of the batter in the larger tins for then, if your cake is too rich I find it a good idea to add a little more milk or water, or a little flour. It does not make the cake tough if you are careful how much you use. I always use a level teaspoonful or cupful unless otherwise specified.

I always like good cake and think it a helpful idea to pass them on to others. A number have asked for for this cake recipe, and it is my favorite. I hope you will like it.

#### Marble Cake.

Light part:  
Whites of two eggs  
1 cup white sugar  
½ cup butter or lard  
½ cup sweet milk  
2 cups flour  
2 teaspoons baking powder.

Dark part:  
Yolks of two eggs  
1 cup brown sugar  
½ cup butter or lard  
½ cup sour milk  
½ cup molasses  
½ teaspoon cloves  
½ teaspoon allspice  
2 cups flour  
1 teaspoon soda.

Drop together and bake in a moderate oven about forty-five minutes. If you prefer you may use all lard with a

pinch of salt instead of part of each.—Miss B. D., Caro, Mich.

## Household Service

### PORK CAKE.

I am sending my pork cake recipe for the lady who asked for one a short time ago.

First carefully look over and wash one pound of English currants. Add to this two pounds of raisins, one cup of grated coconut, one cup of walnut meats and one-half pound of candied citron, cut fine.

Then sift eight cups of flour, two heaping teaspoons of ground cloves, three of cinnamon, one of nutmeg and two tablespoons, rounding, of baking powder together.

Now put one pound of clear fat pork through the meat grinder. Use the medium plate in the grinder. Put the pork in the dishpan and add one tablespoon of soda. Pour over this one pint of boiling water. Next add three cups of brown sugar and one cup of cooking molasses. Now stir in the flour and then add the fruit. Put into tins if possible, with tubes in the center. Bake one hour in a moderate oven. This makes four good-sized cakes. The cake is much better after standing. The citron can be left out if too expensive.—Mrs. F. L.

### CLEANING WITH GASOLINE.

I never have much success cleaning with gasoline. The garment usually smells and sometimes rings form. Can you tell me something that would help this?—Mrs. F. M.

When cleaning always keep a moist ring around the spot and with the sponge, work with an outward motion from the center of the spot. This will tend to prevent leaving a ring after cleaning. When the cleaning is finished put about one-third part vinegar in the water with which you dampen the cloth before ironing. This will remove the scent of gasoline and will prevent circles forming.

### BEEF BOUILLON.

Choose a piece of tender beef, weighing about three pounds. Place in a kettle, covered with about two quarts of water. Keep well covered to retain flavor. Cook until tender, then add salt and pepper to taste, and one small onion, and any other seasonings desired. Serve with crackers.

# Care of Winter Meat Supply

By the Prize Winners

**First Prize.**

Mrs. W. C. S., Grant, Michigan:  
Canning Beef.

Cut meat into pieces convenient for packing into fruit jars. Do not wash. Where cans are nearly full put in a small piece of suet and one teaspoon of salt to a quart jar and partially seal, but not tight. Put jars in a boiler containing rack, or having a board with holes in it, placed in the bottom. Boil three hours. Remove jars and tighten covers.

Pork may be canned in the same way by omitting the suet.

For Spareribs.—Boil and place in jars. Cover with lard.

Cook the soup bones and can soup. Slice the cured ham. Fry slightly. Pack in jars and cover with grease.

**Corned Beef.**

To each 100 pounds of meat use:  
6 pounds salt  
4 pounds brown sugar  
¼ pound saltpeter.

Cut meat in pieces, the size desired, and put a small quantity of the salt, sugar and saltpeter mixture in the bottom of the crock. Rub each piece with the mixture and pack tightly, sprinkling each layer with the mixture until all is packed. Place board on the meat, covered by a good weight, and the meat will make its own brine.

**Sugar Cured Hams.**

To each 100 pounds of ham, take  
5 pounds salt  
5 ounces pepper  
4 ounces pulverized saltpeter  
1½ pounds brown sugar.

Mix well, lay hams on a board where they will not freeze—flesh side up. Rub on the mixture, all that will lay on. Repeat once a week for three weeks. They are then ready for use, unless one prefers to smoke them.

**Bacon.**

Side pork may be prepared for bacon in the same way as the hams, but not using as much salt.

**To Dry Beef.**

For twenty pounds of beef:  
1 pint of salt  
¼ pound of brown sugar  
1 teaspoon saltpeter.

Mix well and divide in three parts. Rub the beef well with one part the next day rub in the second part, and the third day the third part. Place in a jar and turn every piece every day for eight or ten days. Then hang up to dry.

**Headcheese.**

Use all meat of the head except the fattest part. Soak well and clean. Add some meat from the legs if desired. Boil all the pieces until very tender. Then remove all bones, season well with salt, pepper, and sage if desired.

Have a square of cheesecloth placed in a steamer over a kettle. Pour the meat into the steamer. Let stand until cold. By pulling the cloth closely around the meat, before it starts to cool, a cake is formed.

**Mince Meat.**

3 pounds meat  
5 pounds apples  
3 pounds sugar  
2 quarts sweet cider  
2 pounds or more of raisins  
9 teaspoons each of cloves, cinnamon and allspice  
1 teaspoon nutmeg.

Have meat and apples chopped and well mixed. Boil raisins in a quart of water, then add sugar, cider and spices. Pour this liquid over the meat and apples. The mince meat may be placed in crocks and set in a cool place or where it may even freeze. Or, if preferred it may be packed and sealed in fruit jars.

**Sausage.**

30 pounds meat  
8 ounces of salt  
2½ ounces of pepper

2 cups sage if desired.

A good proportion for the meat is as follows: Two pounds of lean pork to one pound of fat pork. Grind the meat fine, mix well with other ingredients and pack tightly into sausage bags. Hang in a cold place to freeze.

**Pickled Pigs' Feet.**

Cook feet until tender. Remove the bones. Add small amount of vinegar to liquid in which feet were boiled and pour this solution over them. Stand in this liquid until cool.

**Second Prize.**

Mrs. J. E. H., Lawrence, Michigan.

My beef I can the cold-pack method. Have never had a jar of it to spoil, and it tastes like the fresh meat. Then the parts that are not so tender and nice we make into sausage.

**Bologna Sausage.**

Grind real fine:  
50 pounds of beef  
5 pounds pork  
3 pounds brown sugar  
3 pounds fine salt  
3 ounces saltpeter  
3 ounces black pepper.

Mix well and fill in muslin casings. (It must be packed tight so there are no air spaces in it). Then let it lie in a cool place where it will not freeze. After four weeks smoke it over a hot fire so as to partially roast it. We think it superior to any of the sausages we can buy at the butchers.

**Corned Beef.**

100 pounds of beef  
6 gallons of water  
8 pounds salt  
2 pounds granulated sugar  
2 ounces saltpeter  
2 ounces baking soda.

We always pickle and then smoke the four large pieces of pork. I like this way of putting down pork sausage. We put it in casings, hang it in a barrel and smoke it just a little. I then cut it in pieces the right size for the table, pack it in gallon stone jars and place them in the oven, roasting it slowly till I think the water is cooked out of it. Then take it out and put a weight on it till it is cooled, and then if there is not enough grease to cover it I use melted lard.

We always make a lot of scrapple. Take the head, shanks, liver and any odd pieces that are left, boil till very tender, remove all bones, put through the meat grinder, then return it to the liquid in which it was cooked, add more water, and when boiling stir in cornmeal, to make about half as stiff as cornmeal mush, cook for fifteen or twenty minutes, stirring all the while. Then add white flour to finish thickening, season with salt and pepper, dish out in milk pans, or anything not too deep, cut in slices about a quarter-inch thick and fry. We can eat this every morning all winter long for our breakfast. If a little melted lard is poured on the top of it after it has cooled and kept in a cool place it will keep a long time.

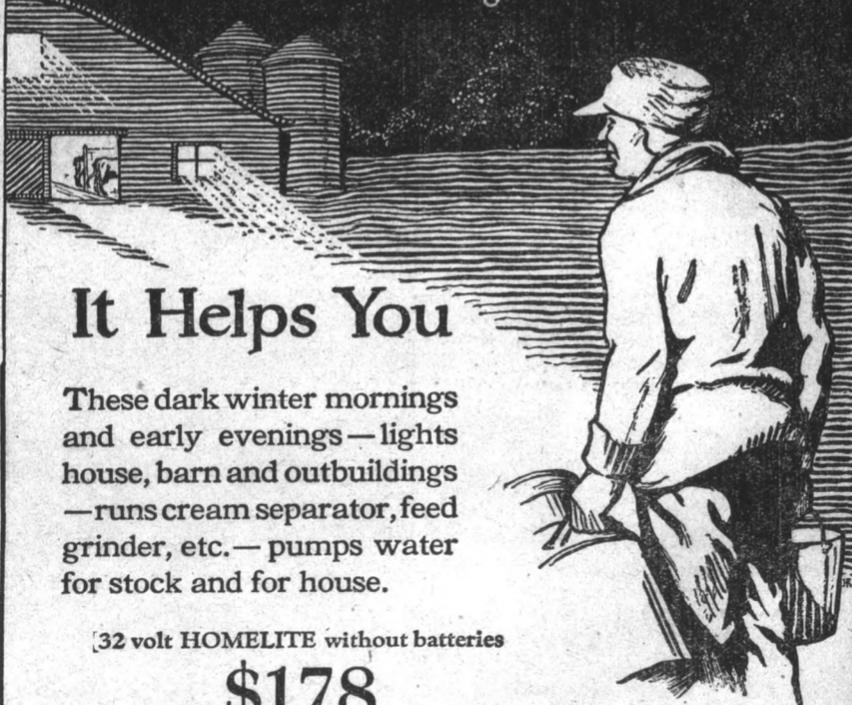
The letters written by Mrs. F. K., New Lothrop, Mich.; Mrs. D. R. W., Rochester, Mich., and Mrs. D. R., Conway, Mich., who won third, fourth and fifth prizes respectively, will be published next week.

**PUMPKIN BISCUITS.**

Beat one egg, add a cupful of milk, two tablespoonfuls of sugar, a pinch of salt, two cupfuls of sifted flour, two tablespoonfuls of baking powder. Then add two-thirds of a cupful of drained and stewed pumpkin and three tablespoonfuls of melted butter. Beat well together and bake in buttered gem pans for thirty minutes in a hot oven.—Miss H. A. L.

# HOMELITE

The PORTABLE Electric Light and Power Plant



## It Helps You

These dark winter mornings and early evenings—lights house, barn and outbuildings—runs cream separator, feed grinder, etc.—pumps water for stock and for house.

32 volt HOMELITE without batteries  
**\$178**  
F.O.B. East Orange, New Jersey

**Complete with batteries, \$245**

Weights only 100 lbs  
—needs no foundation

**The Simms Magneto Co.**  
273 North Arlington Avenue  
East Orange, New Jersey  
*Attractive proposition to live dealers*

Time payment if desired  
Write today for full particulars of this wonderful work and money saver



## A Stove for a Dime

REAL OPPORTUNITY! A stove you can use for getting an early breakfast instead of lighting the big kitchen range. Ideal for cooking, heating water, warming baby's milk and in emergencies. Hundreds of uses indoors and out for this



### STERNO CANNED HEAT FOLDING STOVE

Send 10c and this ad to Sterno Corp., 9 East 37th St., New York City, Dept. F-2 and stove will be sent prepaid.

## Salt Isn't Salt Until It Dissolves

Get the best results in butter making, meat curing, baking, cooking by using Colonial Special Farmers Salt. It's tiny soft porous flakes dissolve instantly and completely. 70 lb. bag is as big as a 100 bag of ordinary salt. Colonial Special Farmers Salt is pure salt—all salt and does not lump like ordinary salt. Get it at your dealers. Write for free booklet.

The Colonial Salt Company, Akron, Ohio  
Chicago Buffalo Atlanta

### COLONIAL SPECIAL FARMERS SALT

For Stock Salt—Use Colonial Block Salt Smooth—Hard—Lasting—Won't Chip

## 10 Cents

worth of common kerosene or coal oil will keep this Sunray lamp in operation for 30 hours. Produces 300 candle power of the purest, whitest and best light known to science. Nothing to wear; simple; safe; 15 Days' Trial

### FREE Lantern

As a special introductory offer, we will give you a 300 Candle Power Sunray Lantern FREE with the first purchase of a Sunray Lamp. Lights up the yard or barn like a search light. Write today for full information and agency proposition.

KNIGHT LIGHT CO.  
Dept. 3101 Chicago, Ill.

### QUICK EMBROIDERY ATTACHMENT

Most wonderful invention known to Embroidery world Fits any sewing machine. Child can do beautiful work which can not be detected from hand work. Requires one tenth the time as hand embroidery, works any kind of stitch. Send one dollar for attachment and directions, we will send you one attachment free. If not satisfied in three days your money will be refunded.

B.F. GILBERT MAIL ORDER HOUSE DEPT. 44, FORT WORTH, TEXAS

## Diana Yarns 13c per ounce

Send for free samples. Soft and lustrous for hand knitting. Save money—buy direct—parcel post prepaid.

Money refunded if not satisfied  
ROSLYN WORSTED YARN CO.  
Desk F, Roslyn, Penna.

### STRAWBERRY PLANTS

Priced as low as \$3.00 a thousand. Raspberries, Grapes, Currants, etc. 30 years' experience. A complete line. All plants inspected, guaranteed. Write today for free illustrated catalog.

J. N. ROKELY & SON, Rt. 6, BRIDGMAN, MICH.

Please Mention The Michigan Farmer When Writing to Advertisers

# Our Boys' and Girls' Department

## A Plucky Club Boy

*This Story Shows That Determination Wins*

IT is an achievement worthy of note for any boy to show a litter of pigs in a display where over 300 head of hogs are on exhibit and win the junior championship, but when it is done under the handicaps under which Wayne

The local county agent tells the story thus:

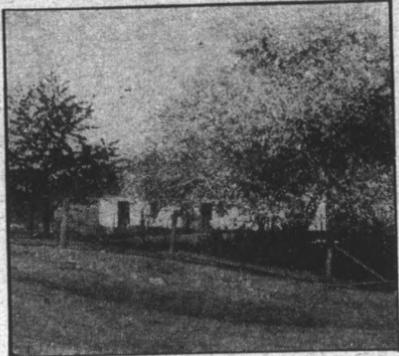
"Wayne Short, aged ten years, joined the pig club last spring, and bought a Poland China gilt through the farm bureau office. The country around where their farm is located is very low, and when the heavy floods which struck us came on, the whole farm, including the hog yard, was under water for a considerable time.

It was so muddy that at farrowing time Wayne had to build up a platform of straw about eighteen inches deep in order to furnish a dry place. The sow farrowed eleven pigs, and raised all of them. These pigs were farrowed May 28, and at the time of the hog show in the county, they averaged 160 pounds.

Wayne had no pasture whatever for his pigs, as it was all drowned out. He was, therefore, forced to carry green sudan grass, cowpeas and soy-beans nearly half a mile in order to feed this large litter.

In spite of these difficulties, he brought his litter to the swine show where over 300 head of hogs were on exhibit, some of them entered by the very best breeders of the surrounding country, and in the open class, won first prize junior boar pig and junior champion. In the club division in which there were over eighty pigs, Wayne took first prize litter over all breeds."

The story of this lad's spirit and gameness might well be an inspiration to a great many of us who are, perhaps too prone to become discouraged. Wayne Short was confronted with seemingly insurmountable difficulties, yet by sheer persistence and hard work he won out. We are glad to have him lined up with the ever-growing number of enthusiasts who are raising good and dependable Poland Chinas. He has set an example that might well be emulated by a lot of breeders much older than Wayne.



THE OLD APPLE TREE.

BY BERNICE CORNELL.

A hundred years or more it stood, And braved the winter's snows, A splendid bit of hardihood, It fears no wind that blows.

It stands alone upon the hill, It's rough, old arms tossed high, For winter winds are sharp and chill, And they pass not kindly by.

But when the springtime breezes free, Come whispering in May, Behold the rough, old apple tree, Is one huge, sweet boquet.

All through the long, hot summer day, It lends its shade to all, And there the children love to play, There sounds the night bird's call.

Oh, dear, brave, kindly apple tree, So staunch and true and fine, You're like an old, old friend to me, May I make thy standard mine?

Short worked, it becomes a feat to talk about. This ten-year-old lad showed that he has the makings of a real hog man by his pluck and perseverance.

young, and yet old enough to have good sense. Brown hair and quite good looking. Of course, I wouldn't ask you if you were handsome, because you'd probably say "No," whether you were or not.

Well, I've been talking of you about enough and will change to myself for a second or two. I'm a "boy" girl. I can do almost any kind of work with a team. I like to drive a car just as fast as it will go, ride horseback and most everything that is unlady-like. I wear overalls and a cap and folks tell me I'd make a "capital" looking boy, (if you couldn't see my face).

I am taking music lessons and expect to be a great musician some day. Ahem! Suppose I'll succeed?

My sister and I have an Airedale pup. Princess Chink Kootang is her name. We call her Chink. She can do anything but talk and we sure think a lot of her.

Well, I must close. With love, I remain your niece, Florence Isenbarger.

The imagination does run riot sometimes, doesn't it? It is fine to live a full and active life, but I think it's wise to observe the speed limits, don't you? Let's hear from the "boy girl" again.

Dear Uncle Frank:

Well, I wrote you a letter some time ago, perhaps seven months, but it is nearly time to write again. I'm not a good writer, I'll admit, but am trying hard to improve, because it's a real asset to be a good writer.

I noted in the issue of December 16 in the Boys' and Girls' Department, a letter by Miss Georgia Brown. I will second the motion about her idea of expressing ideas. She has the right idea about loafers. My idea is this: In Mecosta county, the districts pay tuition for pupils in high school. I'm one of them, probably I fool some in school but realize I shouldn't. But I don't want to be dead either. We certainly learn something while we are there, because it costs the district money.—Yours very respectfully, Arthur O'Neill, Paris, Mich.

Seven months is quite a time for even a boy to be silent. It's all right to have fun, but one must learn also, for educating young folks costs money. I would suggest, Arthur, that you be a little more careful of details.

### No Imagination

This picture was drawn by one who knows very well what Uncle Frank looks like. He is a good artist and also a good letter writer, for he wrote the following letter to go with the drawing. I think they are both good, don't you?



Hodunk, Mich.

Dear Unkel Frank:

My Paw and Maw think you be like this. I hope not. I go to Sunday school and don't play marbels for keaps. My Paw is Andy Gump, he knows you. Went to the farmers' school with you at Lansing.—Your neffew, Gimy Gump.

## Our Letter Box

THIS letter box will be where the boys and girls can express their views, tell of themselves and things about the farm, or ask advice. The most interesting letters each week will appear here. Address your letters to me.—Uncle Frank.

Dear Uncle Frank:

Please don't think me a "jabber heels," but I just can't keep still.

Is it very cold in Detroit? We went up on a hill today to go skiing and, my goodness, but up on a "pinnacle" like there is in our country, you would just about freeze.

We have a little colt as I told you in my other letter. If you ever say an ugly colt this is one. If you pinch her she will kick just awful, and if you rub her forehead she will bite just awful.

Well, don't you think my letter is getting long? I do. I will close for this time.—Forever your niece, Frances Carleton, Metamora, Mich.

I think I would kick, too, if I were pinched, but rubbing the forehead is different.

Dear Uncle Frank:

I have never written to you but have tried to get a prize but have not succeeded, but I shall not give up yet. Do any of the cousins read books? If they do, I wonder if they read "Peg-o' My Heart?" I am eighteen next spring. I have brown eyes and brown hair. I am five feet five inches and weigh 104 pounds.

I am very much disappointed not to see Uncle Frank's picture in the paper. I think the cousins ought to make a fuss about it. I wish you would have

a picture taken and put in the paper. We would like to know if you are old or young. Please tell us how old you are or if you have your picture in the paper we can guess.

Well, as this is getting long I will ring off. Hoping my letter will escape the waste basket, I remain, your niece, Irene Horton, Fowlerville, Mich., R. 1.

Your desire for my picture has been fulfilled lately, I believe. I am not as old as I look or as young as I feel. How old is Ann?

Dear Uncle Frank:

I have tried very often to win in the Read-and-Win Contest but did not. If I do not win I always think of the many others that try to win and do not. I may win some time because of the motto, "If there is a will there is a way."—Your Niece, Leona Finkbeiner, Ann Arbor, Mich., R. 3.

I like the tone of your letter. Your motto is a good one.

Dear Uncle Frank:

Gee, but I had a good laugh when the Michigan Farmer came yesterday and I saw those pictures. Some kids' imaginations differ quite a little, don't you think? I am getting quite curious, though, and you'll just have to put a picture in soon. You said Irene Genter made a poor guess. You must be quite



This man woke up in the middle of the night and wanted to know the time. To find out, he had to get out of bed, find the light chain, turn on the light and then let his eyes get adjusted to the glare before he could know.

This man had an Ingersoll Radiolite under his pillow. He knew the time at a glance. How about you? Only \$2.50

**Ingersoll**

**RADIOLITES**

Tell Time in the Dark

### A FINE FUR COAT

Made from Your Own Horse or Cow Hide.

We make this coat to measure from the hide you send. Write us for special low price.

Any Kind of Skin We make up any kind of skin to suit your needs.

Also Ladies' Coats and Furs, Robes, etc.

We have been in the tanning business since 1878 and guarantee satisfaction.

FREE Book of styles of Men's and Women's furs. Write for it today

Reading Robe & Tanning Co. 116 East St. Reading, Mich.



### GROW THE NEW MAMMOTH Cooper



The big, healthy, vigorous strawberry without a fault. Gives lasting satisfaction. Nets many of our customers \$1500.00 an acre. Beautiful color, and a flavor you can't forget. 17 to 35 fill a quart. Resists drought. Bears early and late. Many growers will discard all other kinds. We also have you money on the most thrifty and profitable varieties of Strawberry, Grape, Raspberry, Blackberry and Dewberry plants. Grown in the famous Michigan Fruit Belt. Packed to reach you fresh and vigorous. We ship direct to you at wholesale prices. Special rates if you order now. Our liberal guarantee and long experience protect you. Prepare now, and you will reap big profits next year from the growing demand for good berries. Our valuable catalog, with color illustrations, tells the whole story. Write for your copy tonight. Stevensville Nurseries, Box 58, Stevensville, Mich.

For More Berry Money

### NEW GROUND STRAWBERRIES

grown from Baldwin's plants produce luscious fruit and make money for the grower. Grown on Baldwin's Berry Plant Farms in new ground, under Baldwin's personal supervision. Large, hardy heavily rooted plants, free from disease. Send for

Baldwin's Big Berry Plant Book

enlarged to meet growing demands, splendidly illustrated. A practical fruit grower's guide giving best methods of growing strawberries, raspberries, blackberries, dewberries, grapes and other small fruits. Earliest in spring and latest in fall varieties. All true to name. Freshly dug to fill your order. IT'S FREE—Write tonight. O. A. D. BALDWIN R. R. 16 Bridgman, Michigan



### WHITTEN Strawberries Bring \$1 More Per Crate

Make \$500 to \$1500 profit per acre. Safeguard against loss. Insure larger, better yields. Famous WHITTEN plants are

Always Sure to Grow

83 years' experience guarantees healthy, heavy-rooted Strawberry and other small fruit plants. Never a failure.

FREE 1923 Catalog—Beautifully illustrated in color. Describes standard and exclusive varieties: Strawberries, Blackberries, Raspberries, Dewberries, Grape Vines, etc. Chock-full of valuable information for all small fruit growers. Tells about "Collins," "King of the Cannons" and "EATON," the market Strawberry that brings you \$1.00 more per crate. Unsurpassed in size, quality, flavor, yield. Learn from experts "How to Set and Grow Berries." Insure success—send postal now. C. E. WHITTEN & SON, Box 14, Bridgman, Mich.

# My Best Resolutions

By The Prize Winners

By Marjorie Brenne, Custer, Michigan. I agree with you that everyone needs to make a few New Year's resolutions and I am sending you five that I believe are worth while. They are as follows:

1. Begin the New Year by looking pleasant, and try to look on the bright side of things, as a happy smile will often lighten the spirits of one not so fortunate as yourself.
2. Remember the other fellow, for America is only a free country for those who do not tread upon the rights of others.
3. Lay out your plans carefully for the year and then try to do better each day.
4. Do not give way to feelings but consult your conscience when in doubt as to what is the right thing to do.
5. Try to make yourself useful to the world as well as yourself, as it is the good that people do in this world that lives after them and not the things that any one could have done.

By Faith H. Goodell, St. Joseph, Michigan.

1. Resolved, to get A marks in my studies the rest of the school year.
2. Resolved, to do my best in all I do, whether work, play or studies.
3. Resolved, to always be on time wherever I go.
4. Resolved, to always find time to help others.
5. Resolved, to do unto others as I would that others would do unto me.

### THE WINNERS.

BECAUSE of the lack of space only two of the Resolution Contest winning papers can be printed. The above two are the first two winners who get Michigan Farmer pencil boxes. The following are also winners and get the prizes indicated:

#### Nickled Clutch Pencils.

Ruby Clum, Plainwell, Mich.  
Kenneth Munson, Constantine, Mich., R. 3.

#### Maps.

Irene Warsou, 305 South Jackson Street, Bay City, Mich.  
Florence Laird, Chelsea, Mich., R. 4.  
Lola Court, Allen, Mich.  
Susie Lurtz, Fair Haven, Mich., R. 1.  
Mildred Halsey, Charlotte, Mich., R. 5.  
Leona Carpenter, Byron, Mich., R. 2.

#### WANT TO CORRESPOND.

Margaret Helmker, Prescott, Mich., R. F. D. 2.  
Dorothea Fullmer, Milford, Mich.  
Weltha Roose, Grand Rapids, Mich., R. F. D. 8.  
Alice Stokes, Coleman, Fla.

Helen Cummins, South Haven, Mich., R. F. D. 5.  
Jacob Toxopens, 37 Chestnut Street, Muskegon, Mich.

## Read-and-Win

WE will start the New Year with our favorite contest. The answers to all the questions given below can be found in this paper. Give your answers as short as is possible to give them correctly and tell the pages upon which you found the answers. It is not necessary to repeat the questions on your paper nor is it necessary to give your answers in sentence form.

To the ten most correct, neat and concise papers we will give the following prizes: The first two, Michigan Farmer pencil boxes; the next three, handsome nickled pocket pencils, and the next five, Michigan Farmer maps of the world and new Europe. The prize papers and all other correct and meritorious papers will entitle their writers to a Merry Circle button.

This contest closes January 11. Please send your letters to Uncle Frank, Michigan Farmer, Detroit, Michigan.

1. What is the ultimate purpose of the hog?
2. How much longer was the number of sheep and lambs on feed in December than a year ago?
3. How many cow-testing associations were there in operation in July, 1922?
4. What makes better nesting material than straw?
5. How much Michigan-grown alfalfa seed will there be offered for sale this year?
6. What is good to serve with baked beans for supper?
7. What should Sunday be used for?
8. Is sowing timothy with clover good for the dairy farmer?
9. What causes an increase in the wealth of a nation or an individual?
10. What kind of soil should pears grafted on Japanese roots be grown on?

Esther Short, Gobles, Mich., R. F. D. 2.  
Minnie Wallaker, Thompsonville, Mich., Box 223.  
Mabel Campbell, Traverse City, Mich., R. F. D. 5, Box 64.  
Marie Robinette, Holloway, Mich.

## The Merry Circle

THROUGH the activity of you boys and girls there has developed a real Merry Circle in this department. The name was chosen by you and the merriness has been contributed by you.

In order to show that we have a regular Merry Circle, we have made up a Merry Circle design and a club button. The illustration shows the design. The color of the button is blue and white. Those who have seen it say it is a very neat looking button. I hope you will like it.

To get one of these buttons it will be necessary for you to get all of the questions in a Read-and-Win Contest correct and in accordance with the rules given with the contest. You may also get a button by sending in papers of merit in any of the other contests, such as the drawing, poetry and little essay.

These buttons will be given to all who make meritorious answers to these contests, whether they win a prize or not. The prizes to the ten best papers in each contest will be given as usual.

The distribution of these buttons will start with the Read-and-Win Contest in this issue.

Perhaps this is just the beginning of a real Merry Circle organization. With your help it may develop into a big and worth while organization.

I will be glad to receive your suggestions. UNCLE FRANK.



# Michigan Farmer Club List

## THESE PRICES SUBJECT TO CHANGE WITHOUT NOTICE

EXPLANATION:—Figures in the first column represent the regular prices of other publications.

The figures in the second column give our prices for subscriptions to the Michigan Farmer and the other publications for one year.

The figures in the third column give the prices at which other publications can be added, if more than one is wanted in combination with Michigan Farmer. EXAMPLE:—We will send the Michigan Farmer and Detroit Free Press each one year for only \$4.50. If the same party wishes the McCall's Magazine, it will cost 60c extra, or \$5.10 for this combination.

ABOUT DAILY PAPERS:—Our rates on daily papers are made for subscribers living on R. F. D. routes, or in towns where the daily does not maintain regular news boys or carrier service. If in doubt, send us your order, and we will have it filled, if possible. Our rates on Michigan daily papers apply to the state of Michigan only.

DAILY (6 a week)			Poultry Keeper		
1	2	3	50	1 25	30
Ann Arbor Times News.....	\$3 00	\$3 50	\$2 75	1 00	1 50
Albion Evening Record.....	3 00	3 50	2 75	1 00	1 50
Battle Creek Enquirer-News.....	4 00	4 50	3 75	1 00	1 50
Battle Creek Moon-Journal.....	4 00	4 50	3 75	1 00	1 50
Bay City Times Tribune.....	4 00	4 50	3 75	1 00	1 50
Detroit Free Press.....	4 00	4 50	3 75	1 00	1 50
Detroit News.....	4 00	4 50	3 75	1 00	1 50
Detroit Times.....	4 00	4 50	3 75	1 00	1 50
Flint Journal.....	4 00	4 50	3 75	1 00	1 50
Grand Rapids Press.....	4 00	4 50	3 75	1 00	1 50
Grand Rapids Herald.....	4 00	4 50	3 75	1 00	1 50
Grand Rapids News.....	4 00	4 50	3 75	1 00	1 50
Jackson Citizens Patriot.....	4 00	4 50	3 75	1 00	1 50
Jackson News.....	4 00	4 50	3 75	1 00	1 50
Kalamazoo Gazette.....	4 00	4 50	3 75	1 00	1 50
Lansing State Journal.....	4 00	4 50	3 75	1 00	1 50
Lansing Capitol News.....	4 00	4 50	3 75	1 00	1 50
Monroe News.....	3 00	3 50	2 75	1 00	1 50
Manistee News Advocate.....	5 00	5 00	4 75	1 00	1 50
Niles Daily Star.....	4 00	4 50	3 75	1 00	1 50
Ontonagon Argus-Press.....	4 00	4 50	3 75	1 00	1 50
Pontiac Daily Press.....	3 00	3 50	2 75	1 00	1 50
Port Wayne Times Herald.....	4 00	4 50	3 75	1 00	1 50
Sault Ste. Marie Evening News.....	4 00	4 50	3 75	1 00	1 50
Saginaw News Courier.....	4 00	4 50	3 75	1 00	1 50
Traverse City Record Eagle.....	4 00	4 00	3 75	1 00	1 50
Toledo Daily Blade.....	4 00	4 50	3 75	1 00	1 50
Toledo News-Bee.....	4 00	4 50	3 75	1 00	1 50
Toledo Times.....	4 00	4 50	3 75	1 00	1 50
Fort Wayne News Sentinel.....	4 00	4 50	3 75	1 00	1 50
Fort Wayne Journal Gazette.....	4 00	4 50	3 75	1 00	1 50
South Bond Tribune (7 days a week).....	5 00	5 50	4 75	1 00	1 50
Chicago Herald Examiner.....	6 00	6 25	5 75	1 00	1 50
Chicago Daily Drivers Journal.....	5 00	6 00	5 00	1 00	1 50
Chicago Tribune.....	7 50	7 50	7 00	1 00	1 50
TRI-WEEKLY (3 a week)			SEMI-WEEKLY (2 a week)		
New York, N. Y. World.....	1 00	1 60	75	2 00	2 50
Chelsea Tribune.....	2 00	2 50	1 75	2 00	2 50
Mason County Enterprise.....	2 00	2 50	1 75		
WEEKLY					
Almont Herald.....	1 50	2 25	1 50		
Belleuve Gazette.....	1 50	2 25	1 50		
Bloomfield Advance.....	1 50	2 25	1 50		
Capper's Weekly.....	1 50	2 00	1 25		
Clinton Co. Republican.....	1 50	2 00	1 25		
Chesaning Argus.....	1 75	2 50	1 75		
Charlotte Leader.....	1 50	2 25	1 50		
Cedar Springs Liberal.....	1 50	2 25	1 50		
Clare Currier.....	1 50	2 00	1 25		
Elk Rapids Progress.....	2 00	2 75	2 00		
Galesburg Argus.....	1 50	2 25	1 50		
Grand Rapids Sentinel.....	2 00	2 50	1 75		
Lenox Standard.....	1 50	2 00	1 50		
Lowell Ledger and Alto Solo.....	2 00	2 75	1 75		
Millington Herald.....	2 00	2 50	1 75		
Missaukee Republican.....	1 00	1 75	1 00		
Munising News.....	2 00	2 50	1 75		
Nation Tribune.....	2 00	2 50	1 75		
Noble Co. Ind. Democrat.....	1 50	2 00	1 25		
Portland Observer.....	1 50	2 00	1 25		
St. Johns News.....	1 50	2 00	1 25		
Sault Ste. Marie News and U. P. Farm Journal.....	1 50	2 00	1 25		
Sanilac County Republican.....	1 50	2 25	1 50		
South Haven Herald.....	1 50	2 00	1 25		
Toledo Weekly Blade.....	75	1 40	50		
Ypsilanti Record.....	1 00	1 50	75		
CATTLE, SHEEP, SWINE, POULTRY, ETC.					
American Bee Journal.....	\$1 50	\$2 00	\$1 25		
American Canary Journal.....	2 00	2 50	1 75		
American Fruit Magazine.....	1 25	1 50	1 00		
American Swineherd.....	1 00	1 50	65		
American Sheep Breeder.....	1 00	1 50	65		
American Poultry Advocate.....	1 00	1 50	50		
American Thresherman.....	1 00	1 50	65		
American Herford Journal.....	1 00	1 75	85		
Breeder's Gazette.....	1 00	1 50	60		
Bee Keeper's Review.....	1 00	1 75	85		
Chester White Journal.....	1 00	1 60	70		
Capper's Farmer.....	50	1 25	25		
Cloverland Magazine.....	1 00	1 50	75		
Iowa Corn Belt Farmer.....	50	1 25	30		
Everybody's Poultry Magazine.....	75	1 40	50		
Fruit Belt.....	1 00	1 50	75		
Game Breeder.....	2 00	2 00	1 25		
Garden Magazine.....	3 00	3 00	3 00		
Gleanings in Bee Culture.....	1 00	1 85	90		
Gurnseys Breeder's Journal.....	2 00	2 60	1 75		
Holstein-Friesian Register.....	1 00	1 50	70		
Hoards Poultryman.....	1 00	1 75	85		
International Plymouth Rock.....	50	1 25	30		
Inland Poultry Journal.....	1 00	1 50	60		
Jersey Bulletin and Dairy World.....	2 00	2 60	1 75		
Market Growers Journal.....	1 50	1 75	1 00		
O. I. C. Swine Breeders Guide.....	50	1 25	30		
Pet Stock Journal—Hares & Rabbits.....	1 00	1 65	75		
Poultry Magazine.....	1 00	1 50	60		
Poultry Guide.....	50	1 25	30		
Modern Poultry Breeder.....	50	1 25	25		
Poultry Item.....	1 00	1 50	60		
Poultry Success.....	1 00	1 50	60		
Power Farming.....	1 00	1 50	60		
Rabbit & Poultry Journal.....	1 00	1 50	60		
Reliable Poultry Journal.....	1 00	1 50	60		
Swine Breeders Journal.....	50	1 25	35		
Swine World.....	1 00	1 50	60		
Trotter & Paecer.....	3 00	3 00	2 25		
Tractor & Gas Engine Review.....	50	1 25	35		
HOUSEHOLD MAGAZINES, ETC.					
Adventure.....	\$6 00	\$6 25	\$6 00		
Ainslee's Magazine.....	2 00	2 70	2 00		
All Outdoors.....	2 50	3 00	2 25		
American Golfer.....	5 00	5 00	4 50		
American Boy.....	2 00	2 50	1 75		
American Builder.....	2 00	2 00	1 50		
American Cookery.....	1 50	2 00	1 25		
American Magazine.....	2 50	3 00	2 50		
American Woman.....	50	1 25	30		
Argosy—All Story Weekly.....	4 00	4 60	3 75		
Beautiful Womanhood.....	3 00	2 65	2 00		
Boy's Magazine.....	1 00	1 50	50		
Boy's Farming.....	2 00	2 35	1 50		
Commonwealth.....	2 00	2 00	1 50		
Century.....	5 00	5 00	4 50		
Christian Herald.....	2 00	2 00	1 50		
Christian Standard.....	2 00	2 50	1 65		
Christian Endeavor World.....	2 00	2 75	1 85		
Colliers Weekly.....	2 50	2 75	2 50		
Commoner (Bryan's).....	1 00	1 50	75		
Country Life.....	5 00	5 00	4 50		
Current Events.....	60	1 50	55		
Current Opinion.....	4 00	4 00	3 50		
Cosmopolitan.....	3 00	3 00	3 00		
Dearborn Independent (Ford's).....	1 50	2 00	1 10		
Delimitator.....	2 00	2 60	1 75		
Designer and Woman's Magazine.....	1 50	2 15	1 25		
Detective Story Magazine.....	6 00	6 40	5 50		
Educational Review.....	3 00	3 50	2 75		
Etude.....	2 00	2 30	1 50		
Everybody's.....	2 50	3 00	2 25		
Every Child.....	1 50	1 75	75		
Film Fun.....	2 00	2 40	1 50		
Forest and Stream.....	3 00	3 00	2 50		
Gentlewoman.....	20	1 10	15		
Good Stories.....	25	1 15	15		
Good Housekeeping.....	2 50	2 50	2 50		
Health Builder.....	3 00	3 00	2 25		
Household Magazine (Capper's).....	25	1 15	15		
Harper's Bazaar.....	4 00	4 00	4 00		
Hearst's Magazine.....	3 00	3 00	3 00		
Hunter, Trader & Trapper.....	2 00	2 50	1 50		
Independent.....	3 00	3 00	2 25		
Illustrated World.....	3 00	3 25	2 75		
Judges Weekly.....	5 00	5 00	4 50		
Junior Home Magazine.....	2 50	2 50	1 75		
Love Story.....	6 00	6 40	5 50		
Life.....	5 00	5 25	4 75		
Literary Digest.....	4 00	4 00	3 90		
Little Folks Magazine.....	2 00	2 00	1 25		

**DARLINGS MEAT SCRAPS Are Better**

**The Standard for 30 Years**

—the feed recommended by owners of successful poultry farms, breeders of fancy stock and dealers everywhere. Darlings' Meat Scraps are clean and wholesome, contain over 60% protein, brings health and strength to chicks—more eggs and bigger hens.

**"Feeding Secrets"**

of famous poultrymen—now published in book form and sent free to poultrymen. Tells facts and gives advice never universally known before. Book is compiled, edited and printed to assist poultry raisers—to make chicken raising more profitable. Send us your dealer's name and we will send you your copy of this book free. Write for it now.

**Darling & Company**  
U. S. Yards - Dept. E  
Chicago, Illinois



**BOWERS Colony Brooder**

**More Chicks—Less Cost**

This brooder is a chick-saver and a money maker. It raises more and better chicks, at less cost than other brooders. Stove is best in the world to hold fire—air-tight and self-regulating. It burns soft coal—the cheapest brooder fuel—perfectly. Cuts fuel costs in half. Stove will also burn hard coal, wood, coke, etc. Regulator maintains even heat night and day. No trouble. Sizes for 500 or 1000 chicks. Low priced. Write TODAY.

**F. M. Bowers & Sons Co.**  
1423 W. Wash. St.

**INDIANAPOLIS, IND.**



**140 Egg Incubator \$13.25**  
30 Days Trial

Both Machines Made of California Redwood

Freight Paid east of the Rockies, Hot water, copper tanks—double walls—dead air space—double glass doors—a real bargain at \$13.25. Shipped complete, set up ready to use.

**140 Egg Incubator and Brooder - \$17.75**  
**160 Egg Incubator Alone - 15.75**  
**180 Egg Incubator and Brooder - 22.00**  
**250 Egg Incubator Alone - 22.75**  
**250 Egg Incubator and Brooder - 31.00**

Made of California Redwood—last a lifetime. Positively the best value on the market today. Order the size you want direct from this ad. 30 days trial—money back if not pleased. If not ready to order now, don't buy until you get our new 1923 catalog. (3)

**WISCONSIN INCUBATOR CO.** Dept. 116 Racine, Wis.



**NEW KIND OF INCUBATOR**

Wonderful new incubator hatches Nature's way. Gives bigger, better hatches. Saves work, time, money. 16 famous patented features make it practically self-operating. Only 3 minutes a day. Built round like a hen's nest. No cold corners. Fill lamp only once to hatch. Built-in moisture attachment and complete circuit radiators mean moist, even heat all ways. Hinged top makes it easy to turn eggs and vents. Shipped direct from factory, freight or express prepaid. Our FREE Book describes other money-saving features, and new CUT PRICES. Write for copy NOW.

**RADIO ROUND INCUBATOR CO.**  
241 Woods St. Wayne, Neb.



**DON'T LET THEM DIE!**

ACT QUICK! SAVE THEIR LIVES BY USING **SMOKE-EM**

**SMOKE-EM—THE GUARANTEED ROUP CURE.** A scientific drugless cure for roup, colds, croup, diphtheria, and other respiratory ailments. A discovery of the world's most famous home of Holsteins, Berkshires, and Leathers, worth of \$100,000. After losing thousands of dollars worth of out-trapped birds from roup, we were determined to discover a cure. Since discovering and testing "SMOKE-EM" for three years we have not lost a chicken from roup. Sold under a money-back guarantee. Thousands of testimonials. You owe it to yourself and your poultry to write or wire us today for our large catalog fully describing this wonderful roup cure. The price is low.

**H. M. Spahr Breeding Estate, Dept. 38-G, Thornton, Maryland**



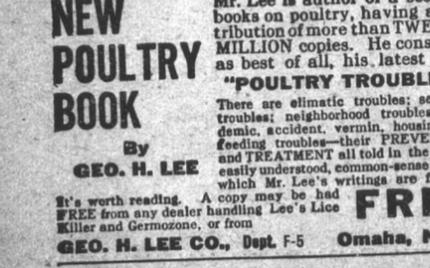
**NEW POULTRY BOOK**

Mr. Lee is author of a score of books on poultry, having a distribution of more than TWENTY MILLION copies. He considers as best of all, his latest book **"POULTRY TROUBLES"**

There are climatic troubles; seasonal troubles; neighborhood troubles; epidemic, accident, venereal, and feeding troubles—their PREVENTION and TREATMENT all told in the plain, easily understood, common-sense way for which Mr. Lee's writings are famous.

It's worth reading. A copy may be had FREE from any dealer handling Lee's Lice Killer and Germozone, or from

**GEO. H. LEE CO., Dept. F-5 Omaha, Nebr.**



**Chicks and Eggs**

44 breeds world's most famous strains. All grades from selected utility up to international egg contest and great prize winners. All orders shipped direct from this large plant. Beautiful catalog and special prices free.

**Fleming Brothers,**  
Dept. 6, Shelbyville, Ill.



**Poultry**

**January Poultry Notes**

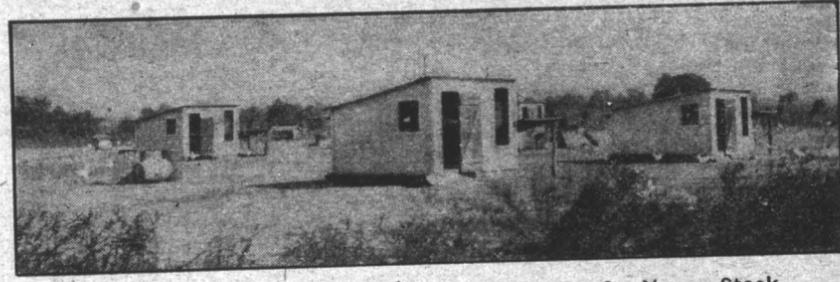
By R. G. Kirby

IT is best to have breeding flocks mated at least ten days to two weeks before the eggs are saved for hatching. This is apt to eliminate the results of previous matings and guarantee a satisfactory per cent of fertility. If several cockerels are mated with a range flock it pays to watch the birds until they become acquainted and serious fighting stops. A fine young cockerel is often seriously injured by being constantly chased from the feed hoppers. Because a cockerel is not good enough to lick the boss of the flock it does not mean that the bird might not be a useful breeder under other conditions.

There is not enough profit in artificial lighting to risk trying it on the

certain ingredients for the home-mixed mash. At the same time the elevators cannot be blamed for not carrying things that farmers will not buy. It is much easier for them to keep a stock of ready mixed mash on hand. There is a fine chance for many sections to practice more cooperation in the purchase of such articles as ready-mixed mash, oyster shell, beef scrap, fish scrap or high-grade tankage.

Try placing a forkful of clover hay or alfalfa in each section of the laying-house and watch the pullets work it over. It gives them something to make life more pleasant on cold winter days. They obtain a lot of useful green feed from the hay and very little is wasted, as even the tough stalks are a good



W. C. Eckard, of Paw Paw, Likes Colony Houses for Young Stock.

breeding flock. It is all right for the flock of matured pullets that are being forced for winter eggs. The breeders need their strength to produce strong chicks. When a farmer has 100 hens or less and uses most of them for the spring breeding flock I think he is gaining by leaving poultry house lighting strictly alone.

In a recent experiment with 100 hens without lights and 100 hens with lights the hens without lights made a return of \$197.90 during a period of seven months from December to June inclusive. The hens with lights brought receipts of \$235.38 in the same length of time. The figures are from the M. A. C. Quarterly Bulletin. The increase in receipts was \$37.48 due to lights. After deducting the cost of the lights that would surely not be enough profit to warrant a farmer with 100 hens to risk injuring the breeding stock. It would be all right for the commercial poultryman with a few hundred pullets to be forced for winter egg production.

**Winter Greens Essential**

Sometimes a flock that is heavily fed on mash and grain will seem to be lacking in appetite. I knew a poultryman who found his flock showing no interest in their evening ration. So he stopped passing out the corn and simply sliced up a few mangels and scattered them in the litter. The hens went to bed with only salad for supper on a cold winter night. But the next morning they were hungry and ready to make their straw litter fly as they dug for the grain.

On some western poultry farms they are making great egg records and one of the main reasons seems to be the number of days per year the hens can use the range. Such birds readily obtain green feed and it seems to keep them laying and the eggs are fairly fertile. In this state we must feed green food to produce fertile eggs for the early hatching. The green feed adds bulk to the ration and helps to keep hens healthy when they are on a heavy winter ration of grain and mash.

I think it would pay some elevators to carry a larger variety of poultry feeds. It is often difficult to obtain

addition to the scratching litter. Add new litter to the nests often enough to prevent the bare boards from showing. Hens are constantly pecking at the litter and removing it from the best of nests. It is soon broken up and packed in the corners. Twisted hay packed into the nests seems to last longer than straw. Any material is all right if there is enough of it. One broken egg costs more than a heap of nesting litter. Broken eggs in the nests soil the good eggs and may start the egg eating habit.

**Treating Frozen Combs.**

Do not bring a bird with a frozen comb into a warm room for treatment. Rub the parts with snow until they are thawed and then apply vaselene. The wattles of male birds seem to freeze easily when the drinking water is constantly touching them on a freezing day. Rubbing the wattles with suet seems to help prevent frosting as the water does not remain long on the surface of the skin protected in that way.

Severe freezing of the comb and the wattles seems to devitalize the male birds and reduce their vigor. This is a serious problem when eggs are being saved for early hatching. Hen houses must be protected enough to prevent serious freezing of the combs if many winter eggs are obtained and they show a high per cent of fertility. The male bird with frozen wattles suffers when they touch the sides of a mash hopper and such a bird is apt to exist on a reduced ration when plenty of feed is needed to maintain vigor.

If cockerels were banded last fall with spiral bands be sure that the bands are not resting beneath the spur and very tight. Such bands may cut off the circulation in a bird's foot and cause the foot to freeze. Even if freezing does not occur, lameness will result. The bands for cockerels must be large and they rest more comfortably above the spur.

It will soon be time to save hatching eggs for early incubation. This means frequent gathering of the eggs to prevent chilling. Store the eggs where the temperature will range between fifty and sixty degrees. Eggs placed in a

**Winter Eggs, By the Bushel**

Mrs. Holsclaw Tells How Don Sung Made Her Hens Shell Out Eggs.

"In October, I started giving Don Sung to our 50 hens. It promptly brought them from 2 eggs a day up to 25 a day. My next \$1 box brought them up to 36 and 38 eggs a day right through January. Now (Feb. 17th) I am using my third \$1 box and I expect it will bring them up to 45 or even 50 a day. Our hens are in the best condition and the eggs are the largest and finest we ever had."—Mrs. W. T. Holsclaw, North Vernon, Ind.

Nearly 3 dozen every day for Mrs. Holsclaw, in November, December, January and February. Certainly not a bad increase for hens that were only laying 2 eggs a day, is it?

She started just as we're asking you to start, by accepting this offer: Give Don Sung to 15 hens. Then watch results for 30 days. If it doesn't show you a big increase in eggs, if it doesn't pay for itself and pay you a good profit besides, tell us and your money will be promptly refunded.

Don Sung (Chinese for egg laying) acts directly on the egg-laying organs, and is beneficial in every way. It makes hens healthy and happy. They scratch and sing. Pullets develop earlier. The whole flock lays regularly in any season, in any weather, when eggs are scarce and high.

Can you afford to ignore the wonderful reports you are hearing from Don Sung users everywhere? Why not let us show you the same results, with your own flock? Don Sung is no trouble to use. It costs nothing to try. All we ask is a chance to prove our claims, entirely at our risk. Get Don Sung from your local dealer, or send 50 cents for package by mail prepaid (large size, \$1, holds three times as much).

**Burrell-Dugger Co., 424 Columbia Bldg Indianapolis, Ind.**

**140 EGG Incubator** Only **\$13.85**

Made of California Redwood, covered with galvanized iron, double walls, air space between, built to last for years; deep chick nursery, hot water heat, copper tanks. Shipped complete, set up, ready to run, freight paid.

**140 EGG INCUBATOR WITH BROODER \$19.75**  
**260 EGG INCUBATOR, ALONE, ONLY 23.50**  
**260 EGG INCUBATOR, WITH BROODER 32.90**  
30 days' trial—money back if not O. K.—FREE Catalog  
**Ironclad Incubator Co., Box 91 Racine, Wis.**



**\$13.95 Buys 140-Egg Champion Belle City Incubator**

Hot-Water, Copper Tank, Double Walls Fibre Board, Self Regulated. \$6.95 buys 140-Chick Hot-Water Brooder. Or both for only **\$18.95**

Express Prepaid

East of the Rockies. Guaranteed. Order now. Share in my \$1,000 in Prizes, or write for Free Book "Hatching Facts." It tells everything. Jim Roman, Pres.

**Belle City Incubator Co., Box 14 Racine, Wis.**



**Keep Your Hens a-Laying**

Trust your hatching to time-tried and tested **"SUCCESSFUL"** Incubators and Brooders

Used by the big money-makers who stay in business year after year. Poultry Lessons Free. Booklet, "How to Raise 48 Out of 50 Chicks," 10 cents. Catalog Free. Write today.

**30 Years Making Good**

**DES MOINES INCUBATOR CO. 268 Second Street, Des Moines, Iowa**



**Detroit Incubator \$12.45**

140-Egg Size—Guaranteed—has double walls, copper tank, full-size nursery, automatic regulation thermometer held so that chicks cannot break it when hatching. Detroit Brooders, too. Double walled, hot water heated. Write for special low price on both machines.

**Detroit Incubator Co.**  
Dept. 11 Merritt St., Detroit, Mich.



**POULTRY TRIBUNE**

**Best Poultry Paper**

Showing Champions in all Breeds and Full Page Art Chicken Pictures, natural colors, suitable for framing, FREE with several issues during year.

**3 Months' Trial 15c**

US 10 stamps accepted

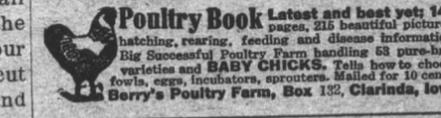
Monthly 80 to 120 pages. Practical articles by foremost poultrymen. 1 yr. \$1; 2 yrs. \$1.50; 3 yrs. \$2.

**Poultry Tribune, Dept. 36 Mt. Morris, Ill.**



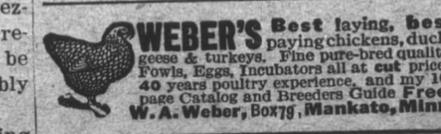
**Poultry Book** Latest and best yet; 144 pages, 216 beautiful pictures, hatching, rearing, feeding and disease information. Big Successful Poultry Farm handling 63 pure-bred varieties and **BABY CHICKS**. Tells how to choose four, eggs, incubators, sprouters. Mailed for 10 cents.

**Berry's Poultry Farm, Box 132, Clarinda, Iowa**



**WEBER'S** Best laying, best paying chickens, ducks, geese & turkeys. Fine pure-bred quality. Fowls, Eggs, Incubators all at cut prices. 40 years poultry experience, and my 100 page Catalog and Breeders Guide Free.

**W. A. Weber, Box 79, Mankato, Minn.**



**GUARANTEED BABY CHICKS**

From World's Champion Layers. Certified, Trap-Nested, Pedigreed, Snowden's English White Leghorns, 250-291 Egg records. Superb and 231 Egg strain Anconas. Guaranteed strong healthy chicks. Real money makers. Beautiful Catalog FREE.

**FRANK A. VAN BREE, Box 32 Zoeland, Mich.**



warm room soon deteriorate. The freshest eggs seem to produce the largest per cent of plump livable chicks. They seem to lose rapidly in hatchability after becoming a week old.

**MICHIGAN WINS INTERNATIONAL POULTRY JUDGING CONTEST.**

**I**n the poultry judging work at the International Live Stock Show at M. A. C., a senior student, J. A. Hanna, of Grand Rapids, won the high place among the individuals. He won first in exhibition judging and second in egg production judging among twenty-seven other contestants.

The M. A. C. team, which consisted of Mr. Hanna, A. Dinsmore, of Highland Park, and Earl Sindecuse, of Albion, got fourth place in the final ranking of the team judging work.

**INCUBATOR PATENTS.**

I have an incubator of a hot water make. Have been informed by the maker of it that it will take care of 2,400 more eggs. Would I have the right to build an incubator like it and attach it to my machine? Would I have the right to sell the chicks that I hatch in it?—L. H. S.

Most incubator companies have their machines fully covered by patents. The poultry papers have recently reported a case between one incubator company and a poultryman in California who built their machines for his own use. In this case the company won and the poultryman was forced to stop making and using the machines that infringed on the company patents.

Of course, there are certain principles of artificial incubation which are the property of everybody, but before imitating any special make of machine it might be necessary to hire a patent attorney and spend more money than it would cost to buy the needed equipment direct from the manufacturers. Of course, without seeing a model of your plan I could not say as to the amount of infringement on any of the patents.

**LAME HENS.**

Over two months ago one of my hens got lame and gradually others became lame also, until there were seven of them. Their combs were red and all appeared in a healthy condition. They only limped a little at first, but gradually got so lame they could hardly get around and did not care to eat. Two have died. Our hen house is dry and kept reasonably clean.—I. D.

Lameness is a symptom of tuberculosis and also rheumatism. In such cases it pays to make a postmortem examination of the internal organs. If the liver is covered with the greyish nodules the birds probably have tuberculosis. This is not curable and any birds showing symptoms of lameness and rapid emaciation should be killed at once to prevent the disease from spreading. If you have a valuable flock in which tuberculosis is suspected it will pay to have a veterinarian inspect the birds and make recommendations.

**FATTENING GEESE.**

Will you please tell me the best way to fatten geese? Should they be left on range?—R. G.

Geese are very often fattened on the range, preferably in a cornfield. They are given plenty of water and a shed for shelter and make their gains by eating all the corn and fodder which they will consume. Buyers of geese for fattening often use this simple method for finishing them.

Geese are sometimes pen fattened. About twenty or thirty birds are penned in each flock where exercise is reduced and food consumption encouraged. A moist mash of two-thirds corn meal and one-third shorts can be given each day. Two feeds per day of corn and oats can supplement the mash. When geese are pen fattened they

must not be disturbed and the pens are sometimes darkened. Even during the fattening period they will need vegetables or some form of roughage and it pays to keep the pen bedded with oat straw. The bedding helps to keep the birds clean and they will eat a part of it.

Geese can be fattened by forced feeding with noodles and this is often done for the highest-class markets. However, I think that the cornfield method of fattening saves a lot of labor and is generally satisfactory.

**FATTY HEART.**

The sack that the heart is in is filled with a yellowish matter and large yellow chunks. One was as full as the sack could hold. The roosters only are affected. Does this hurt the meat and will they do for breeding purposes. They all seem well and the liver and lungs look all right.—Mrs. J. G.

Possibly the yellow lumps around the heart are only fat and if the bird is in otherwise good condition it would be all right for food. Birds are also subject to inflammation of the heart membranes and exposure to dampness and cold is considered the usual cause of such trouble. Fowls also have inflammation of the heart sac and this is often called dropsy of the heart. These heart difficulties cannot be diagnosed while a bird is alive so no treatment can be given.

If the other birds in your flock seem strong and vigorous they are probably suitable for breeding purposes in spite of any heart difficulties you have found in birds you have killed. I could not pass on the value of such a carcass for food.

**POULTRY TROUBLES.**

I would like to know if I am over-feeding my hens? I find a healthy dead one about once a week when I go out in the morning. They seem to have no colds or anything wrong. Last summer one had white spots all over her liver. They have clean houses and plenty of straw to scratch in. I keep pans of warm water all day for them, dry ground oats in a self-feeder with bran among the oats. In morning feed the whole eighty-eight get about ten quarts of screenings with a quart of wheat as a scratch feed. Clover chaff, a few boiled potatoes and peelings is the noon feed. At night one and one-half quarts of shelled corn. Oyster shells are available all the time. The hens seem to be fat. Some of the hens have scaly feet also.—Mrs. J. F. M.

A hen that dies suddenly may have suffered an internal rupture caused by straining in laying. Apoplexy is a cause of sudden death among heavily fed hens that are overweight and underexercised. The hen with spots on the liver may have had tuberculosis. Lameness and rapid emaciation are other signs of that disease.

Scaly legs are caused by mites which burrow under the scales. They can be destroyed by rubbing the legs with a cloth soaked in kerosene oil. In severe cases it pays to wash the scales with warm soapy water to remove the incrustations and then apply the kerosene.

**OLD TURKEYS DIE.**

I have a flock of turkeys, but for the last two years they die when matured. I intend to do away with all but the gobbler, or would it be better to dispose of him also? Have had two the last two years.—Mrs. J. H. W.

You give no symptoms which might indicate whether the turkeys had blackhead or some other disease. If the gobbler you own is apparently vigorous he may be all right to mate with unrelated hens which you can purchase from another breeder. But if you think this gobbler is lacking in vigor due to in-breeding or disease it will pay to dispose of him. Many losses in turkey raising are prevented by using only strong vigorous stock which have not deteriorated through in-breeding.



# Send No Money

**PRICE \$1.75**

**EXTRA EGGS** Soon Pay For This Wonderful Automatic Self-Heating Fountain

Keeps water always fresh, clean and pure. Large 2-gal. size. Safe kerosene heater prevents freezing. Uses less than quart of oil a week. Water always at right temperature night and day. Pays for self quickly in increased egg yield. Requires but little attention. Cannot accidentally tip over. Saves time, trouble and work. Made of heavy galvanized steel. Won't rust. Lasts lifetime. A wonder for simplicity, durability and utility. Also made in 8 and 4-gallon sizes. Get one for your hen house. Send no money—just mail coupon.

**AGENTS WANTED** Mrs. Miller sold over 2 dozen right in own neighborhood. Send for our splendid proposition.

**C. A. S. Forge Works, P. O. Box 604, Saranac, Mich.**

**JUST MAIL COUPON!**

**C. A. S. Forge Works, P. O. Box 604 Saranac, Mich.**

Gentlemen:—Send at once one of your 2-gallon Automatic Self-Heating Poultry Fountains. I will pay \$1.75, factory price, and postage on arrival, with understanding I can try fountain for one week, and if not as represented, I can send it back and you will promptly refund my money.

Name \_\_\_\_\_  
Address \_\_\_\_\_

**RHODES DOUBLE CUT PRUNING SHEAR** Cuts from both sides of limb and does not bruise the bark.

Made in all STYLES & SIZES. All shears delivered free to your door. Send for circular and prices.

**RHODES MANUFACTURING CO., 305 Division Ave. GRAND RAPIDS, MICH.**

**For More and Better Chicks**

Use Petaluma Electric Incubators and Brooders. It is easier to raise strong, healthy chicks that are full of "pep" and that's the only kind our system produces. It will pay you to investigate our methods. Send for Bulletin C-3.

**PETALUMA ELECTRIC INCUBATOR CO., Petaluma, Calif.**

**64 BREEDS** Most Profitable chickens, ducks, turkeys and geese. Choice, pure-bred northern raised. Fowls, eggs, incubators at reduced prices. America's great poultry farm. 30th year. Valuable new 100-page book and catalog free.

**R. F. NEUBERT Co., Box 814, Mankato, Minn.**

**EVERLAY BROWN LEGHORNS**

The beautiful business hen! Wonderful winter layers. Big white eggs. World Record layers. American Egg Contest! Greatest winners New York Chicago. Hardy, vigorous money makers. Stock Eggs, Chicks, shipped safely. Catalog free.

**EVERLAY FARM Box 22 Portland, Ind.**

## CHICKS

**That Grow, Lay and Pay**

Barron English White Leghorns, Brown Leghorns, and Anconas.

Purchase this year's crop of chicks from tested layers, headed by large vigorous 260 to 288 Pedigreed Males.

Customers Report Big Profits with these wonderful layers.

Write today for our large illustrated catalogue. It tells all about them, its free.

**Wingarden Hatchery, Box M, Zeeland, Michigan**

## Whittaker's R. I. Reds

Michigan's Greatest Color and Egg Strain. A flock average of 24 eggs per hen is reported by Mr. Jay B. Deutch, Big Bay, Mich., for the month of January, 1922. We will give 100 Grade "A" chicks to the customer who will beat this record, with Whittaker's Reds, during January, 1923. Write for particulars, also prices of chicks and eggs for next season. Our hatchery is small, we produce QUALITY not QUANTITY, so order early to avoid disappointment.

**INTERLAKES FARM Box 39 Lawrence, Mich.**

## Baby Chicks

Hardy free range stock—a Pure Bred Practical Poultry especially adapted to the farmer poultryman: stock that has proved of exceptional practical value on Michigan farms.

**PULLETS**

A limited number of S. C. White and R. C. Brown Leghorns, and White Rocks; also pen of fine Anconas. Write for quotations.

**STATE FARMS ASSOCIATION 201 Chase Block, Kalamazoo, Michigan.**

## Pullets and Hens

Barron Strain S. C. W. Leghorns and Parks strain B. Rocks. Large pullets starting to lay \$1.75 each 12 weeks old, pullets \$1.25 each. \$1.15 per 100. Selected S. C. W. Leghorn hens \$1.00 each. \$95 per 100. Good healthy birds no culls or weaklings.

**PINE BAY POULTRY FARM, Holland, Mich.**

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

Order Now For 1923

WHITE LEGHORNS AND MOTTLED ANCONAS Also Black Leghorns, Brown Leghorns, Buff Leghorns, Black Minorcas, R. C. Rhode Island Reds, Barred Plymouth Rocks, White Plymouth Rocks, Silver Wyandottes, White Wyandottes. WE HATCH eggs from Hoganized flocks on free range on separate farms. Send for Price List.

**CRESCENT EGG COMPANY**

Allegan Michigan

## JUST-RITE LOOK!

Baby Chicks

POSTAGE PAID, 95¢ live arrival guaranteed. MONTH'S FEED FREE with each order. 40 Breeds chicks, 4 breeds ducklings, select and exhibition grades. Catalog free, stamps appreciated.

**NABOB HATCHERY, Dept. 15, Gambier, O.**

## Rural Chicks

from MICHIGAN CERTIFIED stock. S. C. ENGLISH STRAIN White Leghorns, Brown Leghorns, and Anconas. BUY DIRECT from our large rural poultry institution and save money. L. I. B. E. A. L. DISCOUNT allowed on all orders booked now. ACT QUICKLY. Ask for our free valuable catalogue and attractive prices. Our chicks are shipped postpaid and we guarantee 100% live delivery.

**RURAL POULTRY FARM & HATCHERY ZEELAND, R. I. Dept. M. MICHIGAN.**

**PEDIGREED WHITE LEGHORNS** FREE

Lay 265 to 301 eggs per year. Winners at 50 shows. Chicks, eggs, pullets, hens and males shipped C.O.D. at low prices. Write today for catalog and complete information to the World's Largest Leghorn Farms.

**GEO. B. FERRIS, 934 Union, Grand Rapids, Mich.**

## Order Your Baby Chicks Today

We can supply you with chicks from carefully selected stock of the following varieties: S. C. White Leghorns, White Wyandottes, R. C. Rhode Island Reds, Foreman Strain Barred Plymouth Rocks.

**THE MILAN HATCHERY, Milan, Mich.**

## 5 to 6 lb. White Leghorns

Larger hens, better winter layers. Send for free catalog full of information.

**A. W. WAUCHEK, Gobleville, Mich.**

## Barred Rocks

egg contest winners, eggs from s. rain with records to 290 a year. \$2.00 per setting prepaid by P. P. Circular free.

**FRED ASTLING, Constantine, Mich.**

## Barred Plymouth Rock

Cockerels \$5.00 each. Prize winning laying strain.

**J. A. BARNUM, Union City, Mich.**

## RHODE ISLAND WHITES

win over all breeds at the egg laying contest. 30 eggs \$5; 50 \$8; 100 \$15 order from this ad. Some chicks, H. H. JUMP, R. 5, Jackson, Mich.

## S. C. White Leghorns

Cocks and Cockerels

**RALPH S. TOTTEN, Pittsford, Mich**

## Bred-To-Lay White Wyandottes

Special sale of cockerels from 200 egg hens for \$5.00 if taken early. EVERGREEN POULTRY FARM, Blanding & Sons, Greenville, Mich.

## FOWLER'S BUFF ROCKS

Thirty day special 50 utility cockerels \$2.50 each on two or more.

**R. B. FOWLER, Hartford, Mich.**

## CHICKS

12 Leading Varieties. Bred for heavy egg production. 100% safe arrival. 15-000 Chicks per week. Also hatching eggs. Write for prices.

**SMITH BABY CHICK CO., Berne, Ind.**

## CHICKS

from good selected heavy laying flocks of S. C. Buff Leghorns. We keep just the one breed. Write for circular. Willard Webster, Bath, Mich.

## Single Comb

Black Minorcas. Few choice cockerels, grandsons of our 12. lb. cock.

**R. W. MILLS, Saline, Mich.**

## Special

Sale of R. C. Br. Leghorn c'kr's from winners at Mad. Sq. and State Fairs. \$1.50 to \$3.00 each. Mrs. Claudia Betts, Hillsdale, Mich.

## White Wyandotte

Cockerels. Finest Bred-to-Lay Stock.

**HOWARD GRANT, Marshall, Mich.**

## Bourbon Red Turkeys

We have them. Order your Birds and Eggs now.

**SMITH BROS., R. 3, Augusta, Mich**



**Cured! Eager to Do His Best**

**WE** give a signed **GUARANTEE** to cure even so-called "incurable" cases of **SPAVIN, Ringbone, Thoropin, or, Shoulder, Knee, Ankle, Hoof and Tendon Disease.**

**SAVE THE HORSE**

cures while horse works, as more than 350,000 satisfied users testify. **FREE**, valuable 96-page **BOOK** tells how to locate, understand and treat every kind of lameness. Send for it today, together with sample, **MONEY-BACK GUARANTEE**, and expert veterinary advice—all **FREE**.

**TROY CHEMICAL CO.,** 320 State St., Binghamton, N. Y. At Druggists and Dealers with Signed Contract or sent prepaid.

**ORDER NOW SAVE MONEY**

Do not put off ordering your Silo until next spring or summer—but order to-day and get the Big Money-Saving Benefit of Our Low Winter Prices.



**MICHIGAN CONCRETE STAVE SILO**  
H. A. SMITH PATENTS

**Fireproof—Windproof—Lasts forever**

No painting. No guy wires. No tightening of hoops. Erected for you in a few days by expert constructors sent direct from our factories.

On request we will gladly send you our illustrated catalogue containing facts and proofs

**MICHIGAN SILO CO.**  
Kalamazoo, Mich. Peoria, Ill.  
Bloomfield, Ind.  
General Offices, Kalamazoo  
Agents wanted in unoccupied territory

**SMASH GO PRICES on FENCE GATES, POSTS, ROOFING-PAINTS**

Right now I'm making another SLASH in my prices—a slash that will open your eyes. I've cut my usual low-prices way down to enable my farmer friends everywhere to replace their fences, gates, and paint buildings that have long been neglected because of war-time prices. Write today for 96-page cut price catalog giving my low **FREIGHT PREPAID**

prices. Everything slashed way down—Fencing, Barb Wire, Steel Posts, Gates, Roofing and Paints at real bargain prices. Everything guaranteed. Write for catalog today. **Jim Brown BROWN FENCE & WIRE CO.** Dept. 2810, Cleveland, Ohio

**Ropp's New Calculator FREE**

Handy farm book to land owners who write for **Square Deal Fence** catalog that tells why Square Deal never bags or sags and always stands tight and trim; why Square Deal Lock never slips and how careful fence buyers save money on this long life fence. Write for these 2 Free Books. **KEYSTONE STEEL & WIRE CO.** 4904 Industrial St., Peoria, Ill.

**KITSELMAN FENCE**

GET IT FROM THE FACTORY DIRECT

Elford Parski, Kearsarge, Houghton Co., Mich., says: **"Saved Half by Ordering of You"**

Cut your own fence costs to the bone by buying direct from us at Lowest Factory Prices. **We Pay the Freight.**

Write today for Free 100-page Catalog of Farm, Poultry and Lawn Fence, Barbed Wire, Gates, Posts, and latest low prices. **KITSELMAN BROS., Dept 278 MUNCIE IND.** America's Oldest Fence Manufacturers.

**Dairy Farming**

**GETTING AT DAIRY TRUTH.**

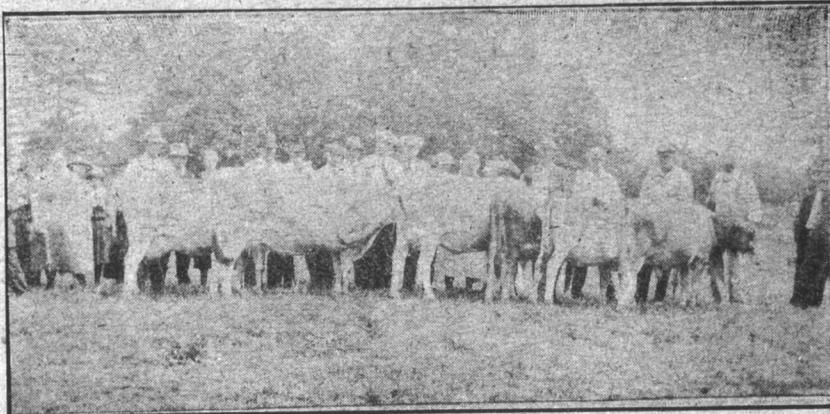
**COW-TESTING** associations have brought out a grist of information on the possibilities of dairy-cow improvement and on the efficiency of various methods and practices. Every jump of fifty pounds in annual butter-fat production was accompanied by an increase of about \$16 in income over cost of feed. The more fat produced, the bigger this income. A few heavy producers are better than a larger number of light yielders.

The average production of the 21,234 cows whose twelve-month records have been studied, was 6,077 pounds of milk and 248 pounds of butter-fat, or about fifty per cent more than the average of all the dairy cows in this country. The records show that selection of animals and better methods of feeding raise

address by B. F. Beach, of Detroit, assistant secretary of the state association. Mr. Beach told how the state association is helping the milk producers to solve their marketing problems. He said that in some cities the milk distributors are glad to deal with an association of milk producers, such as the units of the state association, because then each distributor knows just what his competitor is paying for milk and he is able to deal collectively with the producers on a business basis.—Mills.

**THE FARMERS KNEW FIRST.**

**A FACTOR** often overlooked in mixing dairy rations is the item of digestibility. Long before chemists found it out, the American farmer knew from his own experience that



By Giving Much Care to the Selection of His Sires H. M. Atwater Has Developed an Unusually Fine Herd on His Kalamazoo County Farm.

average production rapidly during the first year or two that the cow-testing association is in operation, but the figures for subsequent years show small gains. This is proof enough that there is still much room for improvement in the breeding of cow-testing association cows.

Each year more farmers realize the value of the testing association as a basis for herd improvement. On July 1, 1922, there were in operation 513 associations, including 12,458 herds and 215,321 cows, as compared with 452 associations the previous year. The number of associations in Michigan has grown rapidly this past year.

**SAGINAW MILK PRODUCERS ORGANIZE.**

**NEARLY** one hundred milk producers of Saginaw county organized the Saginaw branch of the Michigan Milk Producers' Association December 20, at the court house. A board of directors comprising seven members was chosen as follows: George Deindorfer, Henry Doerr, W. W. Dunham, Edward Watson, John Cowles, Timothy O'Hearn and William Steckert. This board will meet later to elect officers from among the directors.

In organizing as a branch of the state association, the local farmers have in reality become members of the latter organization, and also have created a county unit through which many of the affairs will be conducted. The local milk producers, however, made the reservation that they will not attempt to deal with milk distributors until their membership has been brought to within seventy-five per cent of all county farmers who supply milk for Saginaw.

A constitution for the county organization was adopted. The second Tuesday of December was agreed upon as the date for the annual meeting of the branch association.

A good part of the meeting consisted of a discussion of conditions and an

corn, oats and flaxseed made a good feed for fattening cattle. Later, however, the chemists discovered that the digestibility of these grains accounted for success attained by the farmers.

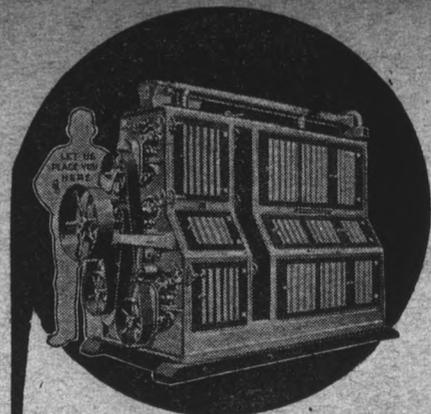
In one locality here in Michigan, I found considerable buckwheat shorts were being fed. These shorts cost almost as much as oil meal. The feeding value, however, was scarcely more than half that of the meal.

In figuring a ration for best returns this matter of digestibility is of prime importance. It does not seem hard to remember that corn, oats, bran, cottonseed meal and gluten make an ideal grain mixture. If it is fed liberally with silage and clover or alfalfa hay, it will give satisfactory returns. My observation in the cow-testing work shows that the best returns are made where the dairyman feeds a well-balanced ration.

Strange as it may seem, there are a lot of farmers who do not feed their cows as well as they know how. The tester in his monthly rounds helps these farmers to put their knowledge in practice. Little changes often mean a great difference in the net returns at the end of the month. In going over the records carefully the tester is able to show definitely where the farmer is losing out by following wrong feeding methods. In mixing good rations emphasis must be placed time and again, upon digestibility of feeds.—S. P. S.

**NEW DAIRY SPECIALIST AT M. A. C.**

**MR. P. H. ADDY**, who was formerly cow-tester in Allegan county, has joined the M. A. C. dairy extension forces to take care of the field work in six southwestern Michigan counties. He will make his headquarters at Allegan. While he was cow-tester he was the first one to bring the total yearly average of the butter-fat production of every cow under his supervision above the 300-pound mark.



**You Can Make \$500.00 to \$1000.00**

**a Month Milling "Flavo" Flour**

in your community on this New Wonderful Mill—no previous milling experience necessary.

A North Dakota miller writes: "I cleared \$500.00 last month on my 25 bbl. Midget Mill."

A Tennessee customer says: "My books show a gross profit of \$23.00 per day for my Midget Mill."

A Kansas man with no milling experience says: "My Midget made me over \$8,000.00 net profit the first eight months."

Be the Mill owner and have a permanent business that will earn you steady profits the entire year. Grind the home-grown wheat in your mill, supply community with flour and feed.

You save the freight out on the wheat and on the incoming flour and feed. You make the regular milling profits and extra added profits by milling a "Better Barrel of Flour Cheaper" on the new and wonderful "Midget Marvel" self-contained, One-Man Roller Flour Mill that is revolutionizing milling because of its big yield of high-grade flour at low cost. When you purchase a Midget Marvel Mill from us you have the right to use our nationally advertised brand

**"Flavo" Flour "Famous for its Flavor"**

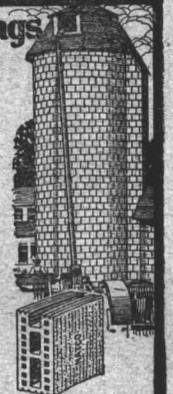
3,000 communities already have Midget Marvel Mills. There is a demand in your community right now for "Flavo" Flour. It is the most pleasant, digested and profitable business in which you could engage. It will make you financially independent. Start with a 15, 25 or 50 bbl. Midget Marvel Mill, according to the size of your community. You can do so with comparatively little capital. This is a real life-time, red-blooded proposition—are you the right man? If you are, then we will sell you one on 30 days free trial. Write for the free "Story of a Wonderful Flour Mill" and full particulars. Do it now before some one else takes advantage of this wonderful money-making opportunity in your community.



**THE ANGLO-AMERICAN MILL COMPANY**  
2316-2322 Trust Bldg.  
OWENSBORO, KENTUCKY

**Greater Savings**

Natco Silos save in extra butter fat, more milk, more beef or mutton. They save in upkeep—no painting or repairs—no hoops to tighten—air tight—resist frost and dampness. Easily and quickly erected.



Write for the new Natco on the Farm Book, and ask for prices, terms and guarantee.

**NATCO DOUBLE SHELL TILE**  
NATIONAL FIRE-PROOFING COMPANY  
1298 FULTON BUILDING :: PITTSBURGH, PA.

**KELLY DUPLEX GRINDING MILLS**

made with a double set of grinders or burrs. Have a grinding surface of just double that of most mills of equal size, therefore,

**Do Twice as Much Work.**

Grind oat corn, shelled corn, oats, rye, wheat, barley, kafir corn, cotton seed, corn in shucks, sheaf oats, or any kind of grain, coarse, medium or fine. Require 25% less power. Especially adapted for gasoline engines. Write for new catalogue.

**DUPLEX MILL & MFG. CO., Box 308, Springfield, Ohio**

**FREE BOOK on CONTAGIOUS ABORTION**

Describes cause, effects and treatment; tells how farmers in all parts of U. S. are stopping the ravages of this costly malady.

Write for free copy today. **ABORNO LABORATORY** 44 Jeff Street, Lancaster, Wis.

**Ear Tags FOR STOCK**

Tag your stock—best and cheapest means of identification for Hogs, Sheep and Cattle. Name, address and number stamped on tags. Catalog mailed free on request. **F. S. Burch & Co. 146 W. Huron St. Chicago**

READING AN ASSET IN THE DAIRY BUSINESS.

IN my rounds as a cow-tester I have unusual opportunity to study the habits of farmers. It is natural that I associate these habits with their success in the dairy business. I have observed that farmers who read are generally more successful with their dairy herds than are farmers who do not consult the printed page.

My observations are upheld by the following census which was taken some years ago: Of 100 farms there were sixty-one whose owners read papers on dairying. The cows in these sixty-one herds returned \$1.40 for every dollar invested in feed; whereas, in the other thirty-nine herds, whose owners did not read, the returns from each dollar's worth of feed was only ninety-four cents.

These little sidelights would seem to bear out the old saying that "The eye of the Master fatteneth his cattle."—Sexton.

WHAT ARE HOLSTEINS WORTH?

THE following letter which is self-explanatory has just been received from C. L. Bolander, the active and aggressive county agent of Livingston county:

"Your letter in regard to price quotations for dairy cattle in Livingston county has been received, and appreciate your suggestion very much. From figures taken from outside buyers, and also local prices today, will put the average price on the different Holstein cattle as follows:

"Pure-breds.—Springing cows with no A. R. O. backing, \$125 and up; fair to good individuals with average A. R. O. records, \$150@200; good A. R. O. record cows, good individuals, good condition, \$175@300; springing two-year-olds, good condition, no A. R. O. backing, \$100@150; good A. R. O. backing, good condition, \$100@250; yearlings, good condition, unbred, \$50@125; heifer calves, \$40 and up, depending on A. R. O. backing; yearling bulls, good A. R. O. records, \$50@200.

"Grade Holsteins.—Thin and backward springers, \$40@75; young cows, good condition, close-up springers, \$90@125; good close-up springers practically sold out.

"Sales.—Two cars of pure-bred Holsteins, average condition, small, average price \$120.

"This information, to my estimation, is very good to get out to the Michigan farmers in an effort to keep them posted on their home markets. I will do everything possible in order to cooperate on this work."

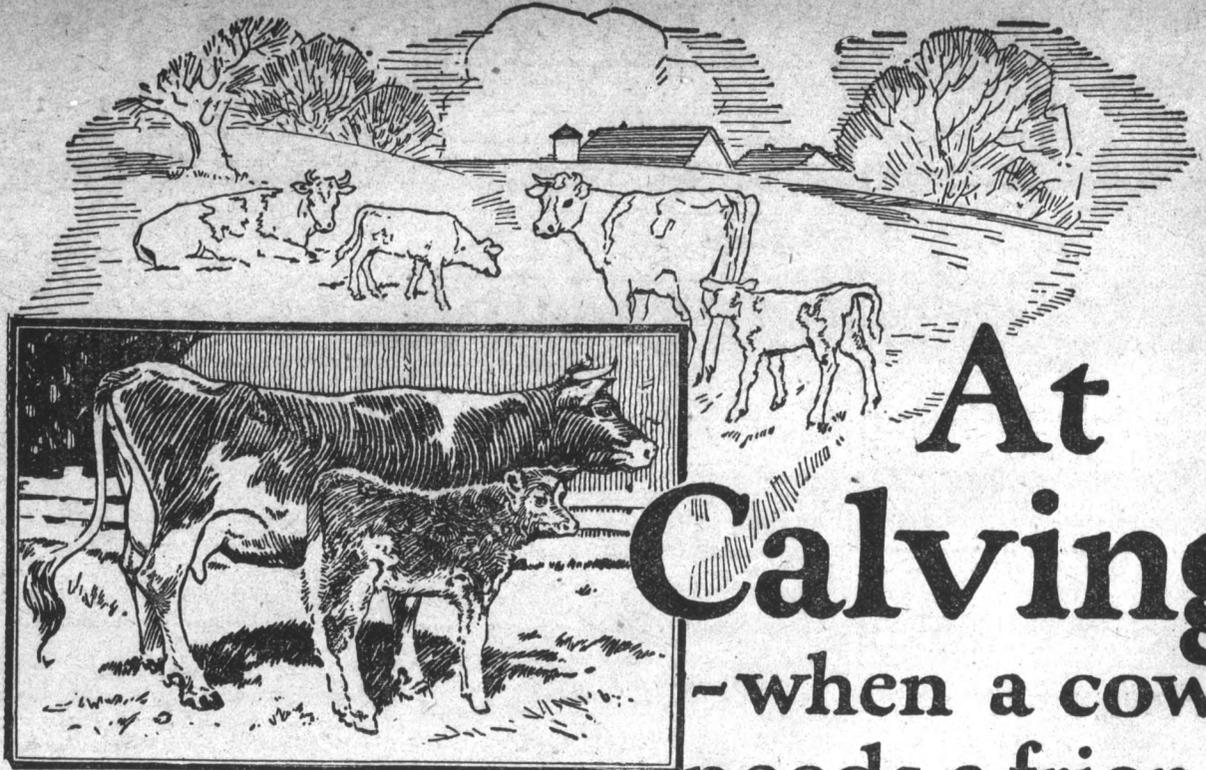
PLAN SAGINAW COUNTY GRAIN SHOW FOR JANUARY.

PLANS for a county grain show, to take place in Saginaw the second or third week in January, are being made by the newly organized Saginaw County Grain Growers' Association. Saginaw farmers have been invited to exhibit corn and small grains, though seeds of all varieties may be entered.

Arrangements for the show are in charge of the new officers of the association: President, Edward Davis; first vice-president, A. W. Johnson; second vice-president, Frederick Kueffner; secretary, Douglas Bow; treasurer, Lawrence Bannan.

I am wondering if the milk pail does not come from the stable where the cows are placed in comfortable and attractive surroundings, a little fuller than it does where the barns and yards are constantly in the height of disorder.

Orders for nursery stock sent to reliable companies now will bring the goods when they are wanted.



# At Calving - when a cow needs a friend

## "The Home Cow Doctor"

—this is the title of a genuinely authoritative book on cow diseases, and how to successfully treat them at home.

We want you to have a copy of this book, and will send it free on request. We merely ask you in return to give us the name of your local dealer.

Drop us a postal today for your copy. The book has been worth hundreds of dollars to many cow owners by telling them just what to do at critical times.

NO NEED to tell you that calving is a severe strain on the vital organs of even the most vigorous dairy cow. In the shock and strain lurk many hazards to health and milk-giving.

The genital and digestive organs, carrying the burden of this function, need help. They need a real friend—before, during and after.

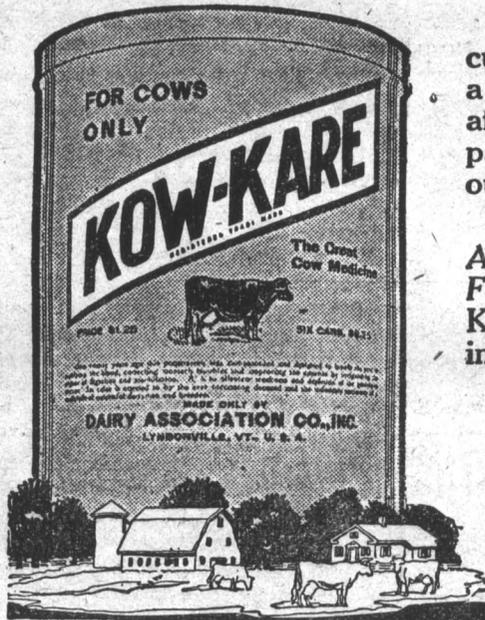
Here is where *Kow-Kare* comes in strong. It contains the medicinal properties to build up the genital organs to vigor, and regulate the digestive functions as nature requires. Because of its success in bringing cows safely thru calf-birth in perfect condition its use in this emergency is known in most well-regulated dairies.

The use of *Kow-Kare* is neither expensive nor difficult. Just a tablespoonful of the medicine in the feed twice a day for two weeks before and for two or three weeks after calf-birth. A few cents spent to assist nature will repay you with a healthy, productive milker and a vigorous calf.

*Kow-Kare* is equally effective in treating *Retained Afterbirth, Abortion, Barrenness, Scouring, Bunches, Milk Fever, Loss of Appetite, etc.* Many dairymen feed *Kow-Kare* one week each month to every cow, and realize big increases in milk yield thru the added vigor of the herd.

Try *Kow-Kare* and you will use it always. Feed dealers, general stores and druggists sell it; large size \$1.25, medium, 65 cts. Sent prepaid if dealer is not supplied.

DAIRY ASSOCIATION CO, Inc.  
Lyndonville, Vt.



## The Real Estate Market Place

### RATES

For Real Estate Advertising On This Page

35c a line per issue on 4 time orders  
40c a line per issue on 1 time orders

Special discount given when used in combination with 7 other Capper Publications. Write for special real estate advertising rates on these papers which reach over a million and a half families

PAY NO ADVANCE FEE; don't give option or tie up real estate for any kind of contract without first knowing these you are dealing with are absolutely honorable, responsible and reliable.

### 80 Acre Black Loam Farm

2 Horses, 5 Cows, 2 Heifers, 50 Chickens  
Long list farm tools, splendid equipment, crops to winter stock; located only 2 miles to town with stores, school, churches; handy to large cities; 48 acres productive loamy hillage, 32 acres wire fenced pasture, wood for home use; new 2 story 7-room cement block house, fine well water, maple shade; hip roof barn, ties 8 head, 3 stalls, hay fork barn No. 2, granary, corn crib, poultry house and tenant house. Old age forces owner to make low price of \$3500 for all, part cash, balance easy. Write or see Harold N. Merritt, 124 1/2 W. Main St. Midland, or see MICHIGAN FARM AGENCY, 623 MF Ford Bldg., Detroit, Mich.

### Municipal Lands For Sale By The District.

No agents, no commission; interested only in getting home-builders on the project. Longest growing season in the northwest. Gardens and fruits thrive; schools, highways and railroads the best. Junction Snake and Columbia rivers. Write for terms and folder. Address Burbank Irrigation District No. 4, Burbank, Washington.

### 200-Acre Lakeside Farm

#### 4 Horses, 12 Cattle, Crops

Poultry, implements, tools included to settle now; one of the best opportunities in Michigan; schools, stores, churches, good roads, splendid neighbors; 117 acres heavy-cropping fields, muck land for truck, big pasture, woodland; 160 apple trees, 1 1/2 acres berries; excellent 5-room house overlooking lake, barn with frost-proof basement, silo, poultry houses. Because of family reasons, \$7,000 takes all, part cash. Details page 65. Illustrated Catalog Selected Farms. Copy free. STROUT FARM AGENCY, 514BC Ford Bldg., Detroit, Mich.

### Eighty Acres

clay and gravel loam soil in high state of cultivation all tillable except three acres of high class timber, good buildings & location close to school and church, also 80 A. of first class pasture land. For full description and price write owner.  
EDWARD SWADLING, North Branch, Mich.

### 80 Acres Improved

\$6,800; 40 acres, Improved, \$3,200; 160 acres, Improved, \$16,000. All near Ottawa. Offered at bargain prices. Write for description and list.  
Mansfield Land Company, Ottawa, Kansas.

New Jersey Farm Catalog Free Fully described, stocked and equipped. Finest photos, many schools. Hundreds of bargains. VINELAND FARM AGENCY, 549 NN Landis Ave., Vineland, N. J.

Twenty Acres Orange Grove and truck land near Tampa, Florida. Fine home, market, all year crop season, ideal climate. Very reasonable price and terms. F. B. DAVIS, Suite 509 Monon Bldg., Chicago, Ill.

I Have Cash Buyers for Salable farms. Will deal with owners only. Give description and cash price.  
MORRIS M. PERKINS, Columbia, Mo.

Poor Man's Chance \$5 down, \$5 months by buys 40 acre. productive land near town. Some timber. Price \$225. Other bargains. Box 425-Z, Carthage, Mo.

Farms Wanted Give full description and cash price. Quick sales. Leaderbrand Sales Agency, B-40, Cimarron, Kansas

If you want to buy, sell or exchange property, write Jerome Propst, Ann Arbor Mich.

Want to hear from party having farm for sale. Give particulars and lowest price.  
JOHN J. BLACK, Copper St., Chippewa Falls, Wis.

We Have Cash Buyers for farms at real bargain prices. Describe fully. Central Land Bureau, New Franklin, Mo.

Wanted To hear from owner of land for sale J. K. HAWLEY, Baldwin, Wisconsin  
Please Mention The Michigan Farmer when writing to advertisers

**BREEDERS' DIRECTORY**

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



**5 Grand Champions**  
28 FIRSTS

and other prizes. Such was the remarkable performance of our animals at the 1922 Michigan State Fair. What could be better proof of the unvarying quality of our animals or more representative of the ideal for which we have striven? Our success is the natural culmination of our efforts and our reward for years of careful and costly breeding. Ours is symbolic of the best. Mediocrity is not tolerated.

Our success can also be yours. Our young animals are the finest examples of breeding and will do much to improve your herd. Get the blood of the King of Sires **EDGAR OF DALMENY** into your herd and you will have individuality, distinction and quality. The services of our Grand Champion Stallion, **GEORGE HENRY** are available.

Your correspondence and inspection are invited.

**WILDWOOD FARMS**  
ORION, MICHIGAN

W. E. SCRIPPS, Prop. SIDNEY SMITH, Supt.

**BUTTER BRED JERSEY BULLS**  
CRYSTAL SPRING STOCK FARM.  
Silver Creek, Allegan County, Michigan.

**FOR SALE:** Jersey bulls ready for service. All cows Register of Merit. Accredited herd. **SMITH AND PARKER, R. 4, Howell, Mich.**

**Lillie** Farmstead Jerseys For sale, 3 heifers bred to freshen this fall, 2 bull calves, 6 to 9 mo. old. **Colon C. Lillie, Cooperaville, Mich.**

**Registered Jersey** cattle, young bulls, for sale. Herd accredited. **J. L. CARTER, Lake Odessa, Mich.**

**HEREFORDS**

For Sale at Farmer's prices. 5 yearling bulls 8 yearling heifers 10 of the above sired by our \$5200 Repeater bull. We have others not related. This is an opportunity to start in good stock at a moderate price.

**ALLEN BROS.**  
616 So. West St., Kalamazoo, Mich.

**For Sale** Hereford cows and heifers bred to and young bulls by Woodford 100th. **LEARNED & SON, Hamilton, Ind.**

**Herefords For Sale**

5-2 and 3 year old registered Polled heifers, with heifer calves by side, price \$150 to \$175 each. Also 2 bull calves born in April, price \$75 each. **COLE & GARDNER Hudson, Mich.**

**HEREFORD** Herd Header for sale, a 2000 lb. tried sire, can show his progeny. Can't use longer, priced to sell. **E. J. TAYLOR, Fremont, Mich.**

**Public Auction**

ON **Jan. 23, 1923**

3 miles east of Lennon, 2 miles north and 2 miles west of Swartz Creek or 9 miles west of Flint on Lennon road.

5 Polled Shorthorn cows and heifers; 5 Shorthorn cows and heifer and 1 Shorthorn bull. O. I. C. Hogs, 6 tried sows, 3 bred gilts, 3 open gilts, 6 fall sows and 6 fall boars.

**Andy Adams, Auctioneer**  
Catalogue on Request.  
**Claxton Bros., & Dieck**  
Swartz Creek, Mich.

**BIDWELL SHORTHORNS**  
BUY A BULL

that will put weight on your dairy calves—the difference will soon pay for the bull. Now selling good Scotch and Scotch-topped yearlings, reasonably priced. We guarantee every animal to be a breeder. Federal Test. One hour from Toledo, Ohio, N. Y. C. R. R.

**BIDWELL STOCK FARM,**  
Box D, Tecumseh, Michigan

**Milking** Shorthorns priced reasonably. An accredited herd selected for beef and milk. **Beland and Beland, Tecumseh, Michigan**

**FOR SALE**

**Polled Shorthorn Cows & Heifers** in calf and calf by side. Also a few young bulls. Herd headed by Victor Sultan and Royal Nonpareil.

We can please you in richly bred cattle with quality at farmers' prices. **GEO. E. BURDICK, Mgr.**  
Branch County Farm, Coldwater, Mich.

**Richland Shorthorns**

Special offer on several bulls at Farmers' prices. Suitable for grading up purposes where beef is required. Also several high class herd headers of the best of breeding.

**C. H. Prescott & Sons,**  
Office at Tawas City, Mich. Herd at Prescott, Mich.

**Central Mich. Shorthorn Breeders' Assn** offer for sale both milk and beef breeding, all ages. Write **M. E. MILLER, Sec'y, Greenville, Mich.**

**Milking Shorthorns** Bull calves for sale. Also 2 cows. **ROSEMARY FARMS, Williamston, Mich**

**Clayton Unit** Shorthorn Breeders' Assn. Scotch, Scotch Top and Milking Shorthorns for sale all ages. **W. J. Hinkley, Sec'y, Flushing, Mich.**

**Shorthorn Bull** for sale, white first prize-winner, by Imported Sire. **J. A. BARNUM, Union City, Mich.**

**BROWN SWISS BULL** calves from 1 to 7 mos. **E. T. SPENCER, R. 1, Sunfield, Mich.**

**HOGS**

**BROOKWATER DUROC JERSEYS**  
Ready for Service Boars

Sired by Panama Special 55th and Big Bone Giant Sensation. **BROOKWATER FARM, Ann Arbor, Michigan**  
**H. W. Mumford, Owner, J. B. Andrews, Lessor.**

**Duroc Fall Yearling** and spring boars. Some real herd prospects sired by O. C. K. Col. 2nd. All Col. of Sangamo and Diamond Joe. Priced to sell. Fall pigs either sex. Write for description and prices. **W. C. TAYLOR, Milan, Mich.**

**WILL THE BIG TYPE HOG GET TOO BIG?**

(Continued from page 3).

height of back, etc.; the auctioneer from the block talks of these features and papers enlarge on them. Very few of them lay any stress on the rate of growth, evenness of fleshing, dressing percentage or the proportion of high-priced cuts in the carcass, and the like. One would think that all the desirable qualities of a hog were embodied in length, height and arch of back. We have always thought that the function of a hog was to produce bacon, ham and lard and the type of hogs that would produce these in the greatest amount, of the best quality and with the least possible cost, is the type of hog the American breeder is looking for.

If one unfamiliar with hog type were to study the advertisements and editorials on present-day big type hogs, he would surely never guess that they were trying to develop a better pork producer; he would no doubt feel that they were attempting to produce a marathathon or derby contender. Surely the present-day breeders are not going to lose their heads to the extent that they will again simulate the ancient type of wild hog which was so fleet of foot, but short on pork. Men of influence with the breeders should point out these dangers constantly and do all that they can to bring about a normal way of thinking concerning present-day hog types. Study the history of early types and the changes that have taken place; consider that the ultimate purpose of the hog is "to be born, grow fat and be killed," and we feel sure that you will see the handwriting on the wall and turn from the present tendency of greatly exaggerated big type swine.

**PRESCOTT SHORTHORNS AT THE INTERNATIONAL.**

AT the big International held at Chicago early in December, the cattle entered from the Shorthorn herd of C. H. Prescott & Sons, of Tawas City, did their duty in making known to the world that Michigan is a good place to breed cattle.

Entries from this herd won first in the junior yearling bull class; second in the two-year-old bull class; second on the best pair of bulls bred for exhibitor; fourth in the get-of-sire class, and seventh in the young herd class.

The white bull recently advertised in this journal was sold to Remington & Graham, of Caro, and Peter Zimmerman and Son, of Traverse City. The first prize junior bull mentioned above was also sold to the Allen Cattle Co., of Colorado for \$2,000. Prescotts re-

port that prospects for business in Shorthorn circles this coming spring are most promising.

**MEAT CONSUMPTION INCREASES.**

AMERICANS are eating more meat than they did seven years ago. Statistics show this. In 1915 the low point of consumption was reached. It had been going down from 1911. Since 1915 the tendency has been in the other direction. In 1911 the per capita consumption for the country was 163 pounds. By 1915 it had dwindled to 138½ pounds. The increase of wages then began having its effect and the use of meat gradually became more popular. It is now calculated that the use of meat will average 150 pounds per person for the year of 1922.

**MORE LIVE STOCK FED.**

A SURVEY made by the department of agriculture indicates that there were twenty-seven per cent more cattle being fed in eleven corn belt states December 1 than a year ago. Iowa led with an increase of fifty per cent, followed by Illinois with thirty-five per cent, and Nebraska, Missouri and South Dakota twenty-five per cent increase each. All of the states showed increases except Michigan and Minnesota. Outside the corn belt there appears to be a fifteen per cent increase in Utah, ten per cent in Lancaster, Pa., district, and a slight increase in Montana. On account of the decrease in acreage of sugar beets there is a considerable falling off in cattle on pulp in Colorado, Nebraska and Wyoming.

The number of sheep and lambs on feed December 1 was twenty per cent greater than a year ago. The largest increase is in the irrigated region. In the eleven corn belt states the survey showed a ten per cent increase. Michigan led with twenty-five per cent more sheep and lambs than in 1921.

Cost data on 500 droves of cattle obtained in five corn belt states for the winter feeding season of 1921-22 is about tabulated in the bureau of agricultural economics. The figures show that the financial returns for last winter's feeding were very satisfactory as compared with the previous season. In western Iowa and eastern Nebraska an average profit of \$15 was realized.

R. D. Jennings, who conducted the investigation, says that since cattle feeding is a method of getting corn to market, the price returned by corn fed to cattle may be compared with the market price of corn in determining the relative profitableness of the two methods of disposing of corn. These Iowa and Nebraska cattle returned about sixty-five cents a bushel for the corn fed them, or nearly twice its farm price.

**WINNWOOD HERD**

Registered Holsteins



Ask us about a Real Bull a Maple Crest or an Ormsby.

**JOHN H. WINN, Inc., Rochester, Mich.**

**The Traverse Herd**

We have what you want in BULL CALVES, the large, fine growthy type, guaranteed right in every way. They are from high producing A. R. O. ancestors. Dam's records up to 30 lbs. Write for pedigrees and quotations, stating about age desired.

**TRAVERSE CITY STATE HOSPITAL**  
Traverse City, Mich.

**Holstein** Friesian heifer and bull calves, purebred registered and high-grade. Price \$20 up. Splendid individuals and breeding. Write us your requirements. **Brownoff Farms, McGraw, N. Y.**

**COLANTHA BULLS**

All ages, from high-producing dams. Also a few registered and high-grade Holstein cows at farmers' prices. Pedigrees and prices upon request. A clean herd under Federal supervision. **WHITNEY FARMS, Whitney, Mich**

**\$50 a year** gets daughter of Hazellet Idleaze. His two nearest dams average 36 lbs. butter 588 lb. milk 7 days, age 48 months. Herd Federal tested. **M. L. McLAULIN, Redford, Mich.**

**For Sale King Segis Breeding**

Nine months old bull, whose seven nearest dams average 27.72. This is the last of my nineteen of this age. The others are all sold.

**Grand River Stock Farms**  
Corey J. Spencer, 111 E. Main St.  
**JACKSON, MICHIGAN**

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

**REGISTERED HOLSTEINS**

Young Bulls that will please you in breeding, individuality and price. Some of them are very desirable for heading pure bred herds. Federally accredited. **I. M. SHORMAN, Fowlerville, Mich.**

**HOLSTEIN** bull calf, big stocky, dam by Pontiac. **Kornadyke** Lad, sired by a 30 lb. bull, \$40. Satisfaction or money back. **B. E. KIES, Hillsdale, Mich.**



This Aberdeen Angus Steer, Exhibited by W. E. Scripps, of Orion, Took the Grand Championship Honors at the Recent Detroit Fat Stock Show.

**DETROIT LIVE STOCK RECEIPTS.**

**T**HE increased consumption of meat in Detroit, due to the rapidly growing population, has developed the stock yards of the city as a more prominent place for the shipment of live stock. The shipments for the month of November amounted to 23,589 cattle and calves, 61,485 hogs and 58,261 sheep. All classes of stock show substantial increases over the shipments of a year ago except for sheep.

**WATCH SOWS' WINTER RATIONS.**

**T**HE ration that the brood sow receives in the winter and the last half of the period in which she is carrying her litter will largely determine the strength of the pigs when they are born and the success that she will have when farrowing.

Sows need some legume forage and of these alfalfa is by far the best, but if this is not to be had red clover hay will do well. This may well be fed in a small rack in the lot. This provides much of the mineral requirement in the ration. When once this method is tried it is not discontinued. When fed in this manner sows will consume from two and one-half to three and one-half pounds per day.

Corn should make about half the grain ration. It should not be fed alone, for the sows will have more or less trouble at farrowing time and the litters will not be as strong and healthy as when other grain mixtures are fed. For a 100-pound ration the following is a good one: Shelled corn, fifty pounds; ground oats, forty pounds; tankage, five pounds, and linseed meal, five pounds. Another is mixed as follows: forty pounds of shelled or ground corn; thirty-five pounds of ground oats; twenty pounds of middlings, and five pounds of tankage. This should be fed at the rate of about one pound for each 100 pounds of body weight during the first half of pregnancy period. Gradually increase then until this amount is doubled during the last half of the period. Do not feed in a self-feeder as the animals will get too fat.

A good mineral mixture to be fed with these feeds would be equal parts of salt and bonemeal or raw rock phosphate. The raw rock phosphate should be finely ground. This mineral mixture should be kept in a self-feeder and as dry as possible.—G. H. Conn.

**Veterinary.**

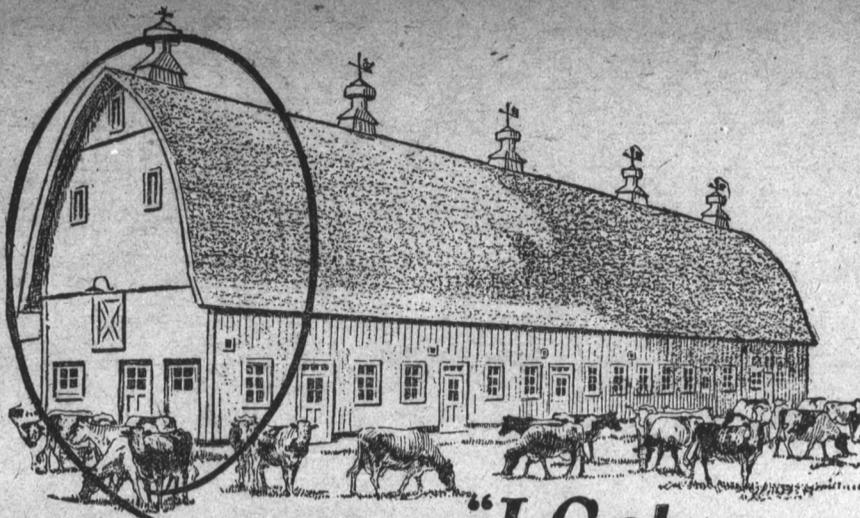
CONDUCTED BY DR. W. C. FAIR.

Advice through this column is given free to our subscribers. Letters should state fully the history and symptoms of each case and give name and address of the writer. Initials only are published. When a reply by mail is requested the service becomes private practice and \$1 must be enclosed.

**Open Blood Vessel.**—I have a cow due to freshen April 10, that occasionally gives bloody milk from one quarter of udder. This blood comes for a day or two, then she is all right for four or five days. I have treated her for garget but she failed to improve. W. J., Sand Lake, Mich.—Gentle milking is the only remedy for her, the blood vessel must be allowed to remain closed.

**Partial Paralysis.**—I have a sow that got hurt while driving her into the barn. She remained down for ten days, got well enough to stand, but is unable to walk. The whole trouble is in the right hind leg, she has been in this condition for five weeks. O. N. G., Ovid, Mich. Her recovery is doubtful, therefore, all things considered, you had better butcher her for meat. Her hip bone may be fractured.

**Nervousness.**—Heifer due to freshen the second time in early part of March acts nervous, shifts position while we milk, but has no teat or udder trouble. W. F. C., Munising, Mich.—Give her half a dram of ground nux vomica, a teaspoonful of salt and a tablespoonful of gentian at a dose in soft feed twice daily. Feed her when you commence to milk, and while eating she will perhaps be contented and stand still.



**"I Got this part of my Barn Free with Jamesway Service"**

"This end of the barn shown above contains two silos, a two-story feed room big enough for all the storage space the barn needs, a feed elevator, power plant for the milking machine and a number of other units. Compared with my original plans I can figure that I got this end of the barn free after submitting my ideas to the Jamesway engineers," writes the owner of this Jamesway-planned, Jamesway-equipped and Jamesway ventilated modern dairy barn.

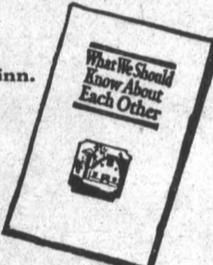
**Send Us Your Barn Problem**

Do you need a new barn? Or are you planning to remodel your old one? Write and tell us about it. Let the Jamesway engineers give you the benefits of their experience in planning and designing thousands of barns and farm buildings. Let them build your barn on paper—plan for you the most practical, work-saving features—provide plenty of storage space, sanitary feeding and cleaning arrangements and, most of all, give you plans and specifications which you can hand to any good contractor and be sure of getting a building that will give you the most for your money in good materials and labor. Also get Jamesway ideas on hog houses and equipment.

**Make Money on Poultry Too**  
Raise more poultry and make hens lay

Ask for Book No. 75

**The Jamesway Farm Engineers**  
JAMES MANUFACTURING COMPANY  
Elmira, N. Y. Ft. Atkinson, Wis. Minneapolis, Minn.  
Address Nearest Office



**SAW YOUR OWN LUMBER**  
with a Howell Portable Saw Mill. Turn your standing timber into high price building lumber at the mere cost of sawing. Big demand for lumber, lath and shingles. Keep your engine busy the year round making Big Money in Custom Sawing for your neighbors. Howell saw mills are made in several sizes suitable for tractors of any size. Also Edgers, Planers, Lath and Shingle machines. Write for free Catalog, B-8.  
**R. R. HOWELL & CO., Mfrs. Minneapolis, Minn.**

**HOGS**

**Woodlawn Farm** Duroc Hogs meet present day requirements, length, size and quality. Young stock for sale at reasonable prices and fully guaranteed. Write your wants. W. E. BARTLEY, Alma, Mich.

**DURO -JERSEY** Choice fall pigs and sows bred for Mar. and April farrow, priced right. RUSH BROS., Romeo, Mich.

Undeclared under year Duroc boar of Michigan and junior champion at state fair and a number of other boars for sale. Sensation and Pathfinder breeding predominating. Michigan Farm, Pavilion, Mich.

**Duroc** spring boars, gilts, summer and fall pigs guaranteed. Reasonable prices and satisfaction guaranteed. Jesse Bliss & Son, Henderson, Mich.

**DUROC-JERSEYS** Do you want a good Pathfinder boar pig? E. D. HEYDENBERG, Wayland, Mich.

**DUROC-JERSEYS** Spring Boars for sale. CAREY U. EDMONDS, Hastings, Mich.

**Durocs** Prolific, big bone, best breeding, \$17 to \$15. Write for description. Satisfaction or money back. B. E. KLES, Hillsdale, Mich.

**BIG TYPE CHESTER WHITES**  
The prize winner kind, from the best prize winner bloodlines. Early developers, ready for market at six months old. I have started more breeders on the road to success than any man living. I want to place one hog in each community to advertise my herd. Write for agency and my plan. G. S. BENJAMIN, R. F. D. 10, Portland, Mich.

**Chesters** We are sold out of Boars. Choice spring pigs. For immediate shipment of spring pigs, write WEBER BROS., Royal Oak, Mich., 10 ml. and Ridge Rds., Phone 408.

**CHESTER WHITE BOARS**  
Prize winners, from prize winning stock, for sale at reasonable prices. F. L. Bodimer, Reese, Mich.

**Chester** Whites. Choice spring gilts bred to Giant, 2nd prize boar at State Fair. Also fall gilts. LUCIAN HILL, Tekonsha, Mich.

**Registered O. I. C. Boars**  
J. CARL JEWETT, Mason, Mich.

**O. I. C.** 50 last spring pigs either sex not free, 1/2 mile west of Depot, Otis, Phone. OTTO B. SCHULZE, Nashville, Mich.

**O. I. C.** & Chester White Swine strictly big type with quality. The kind that grow large. A few spring pigs either sex. Newman's Stock Farm, R. 4, Marlette, Mich.

**O. I. C.'s** Spring gilts and service boars for sale. Prices right. A. J. BARKER & SON, Belmont, Mich.

**O. I. C.'s** Spring pigs. Pairs not akin. Also July, August, and Sept. pigs. MILDRED PETERSON, Elmhurst Farm, Ionia, Mich. Oitz Phone

**O. I. C.** 20 large growthy gilts farrow in Mar. also fall boar pigs. CLOVER LEAF STOCK FARM, Monroe, Mich.

**O. I. C. GILTS** bred for April farrow at reasonable prices. C. J. THOMPSON, Rockford, Mich.

**O. I. C.'s** 10 sows bred for early spring litters. 17 ready, August and Sept. pigs. MILDRED PETERSON, Elmhurst Farm, Ionia, Mich. Oitz Phone

**Registered O. I. C. Boars**  
H. W. MANN, Dansville, Mich.

**Spring Boars Now Ready To Ship**  
H. O. SWARTZ, Schoolcraft, Mich.

**Lone Maple Farm** L. T. P. C. March Boars and gilts ready. Prices reasonable, stock as represented. F. R. Davis & Son, R. 3, Belding, Mich.

**Big Type** P. C. Spring boars and gilts ready for new homes, also sows and pigs. CLYDE FISHER, St. Louis, Mich.

**Large** Type Polands. Spring boars and gilts, sired by Michigan Liberator and Big Checkers. Immuned by double treatment. Also fall pigs both sexes. George F. Aldrich, R. 6, Ionia, Michigan

**LARGE TYPE P. C.**  
Largest in Mich. Pig ready to ship, why not order from the herd that has given so many their start in the hog business, the kind that makes good, they have quality as well as size.  
W. E. LIVINGSTON, Parma, Mich.

**LARGE TYPE POLANDCHINAS**  
Boars and gilts for sale from one of the best herds in Mich. Sired by B's Clansman Mich. 1921 Grand Champion. Alasha, M and W's Orange and Daddy Long Legs 2nd. Give us a visit and look them over if not write to N. F. BORNOR, Parma, Mich.

**L. T. P. C.**  
Choice Gilts \$25 to \$40. Boars \$30. Fall Pigs \$15. HART AND CLINE, Address F. T. HART, St. Louis, Mich.

**Francisco Farm Poland Chinas**  
Spring Gilts sired by a grandson of National Grand Champion Sow and bred to a grandson of National Grand Champion boar. Now ready to ship.  
P. P. POPE, Mt. Pleasant, Mich.

**BIG TYPE POLANDS**  
A few choice boars of March farrow sired by Emancipator 2nd. Double treated for cholera, and ready for service. Come over, or write.  
WESLEY HILE, Ionia, Mich.

**Leonard's Big Type P. C. gilts** sired by Leonard's Liberator and Orange Clansman and fall Pigs at bargain prices. E. R. LEONARD, St. Louis, Mich.

**Large Type Poland Chinas**  
Spring boars sired by Foxy Clansman 1922 Grand Champion and by F's Clansman 1920 Grand Champion Mich. State Fair. Also two choice 1921 fall boars. All immune by double treatment. Come and see them or write. A. A. FELDKAMP, Manchester, Mich.

**Boars at Half Price** From Mich. Pioneer herd of Big Type Poland Chinas ready for service weighing over 200 lbs. Sired by Hover's Liberator 1st prize Jr. yearling at Tuscula, Sanilac and Saginaw fairs. Also fall pigs at \$15 each. Shipped on approval. Gilts held for Public Sale, Feb. 1.  
D. HOVER, Akron, Mich.

**Big Type Poland China** spring boars ready for service weighing over 200 lbs. Sired by Hover's Liberator 1st prize Jr. yearling at Tuscula, Sanilac and Saginaw fairs. Also fall pigs at \$15 each. Shipped on approval. Gilts held for Public Sale, Feb. 1.  
D. HOVER, Akron, Mich.

**L.T.P.C.** Gifts bred or open, two good boars and will again. Write for my plan of selling.  
M. M. PATRICK, Ga. Ledge, Mich.

**Choice Boars** ready for service. Priced to sell. Also sows and gilts.  
C. E. GARNANT, Eaton Rapids, Mich.

**Walnut Alley Big Type P. C. gilts** now ready to ship they are bred to the best boar I have seen this fall. A. D. GREGORY, R. 3, Ionia, Mich.

**Big Type Poland Chinas**  
G. A. BAUMGARDNER, R. 2, Middleville, Mich.

**Hampshires** spring boars and bred gilts from 25 sows to select from. Place your order now or you may be too late. 10th year.  
JOHN W. SNYDER, R. 4, St. Johns, Mich.

**Hampshire** Bred gilts \$20, \$25; bred sows \$30. \$50. Guarantee safe delivery, registered free.  
C. F. LUCKHARD, Bach, Mich.

**For Sale**  
1-3 yr. old Percheron Filly  
4-10 yr. old Percheron Mares  
2-5-9 yr. old Belgian Mares  
4-9-11 yr. old Percheron Geldings  
**MICHIGAN AGR'L. COLLEGE**  
R. S. Hudson, Farm Supt.

**SHEEP**  
**Kope-Kon Farms**

Offers the best in yearling Shropshires of course. Also choice of the best lot of Ram Lambs you will see this year. Follow M 29.  
**S.L. Wing, Coldwater, Mich.**

**For Sale** Oxford rams and ewes all ages, guaranteed breeders. Write or call at farm.  
Geo. T. Abbott, Palms, Mich., Tel. Deckerville 78-3.

**Cotswolds** 50 head Rams and Ewes all ages, no better flock in State. Write or phone  
A. M. BORTEL, Britton, Mich. Phone no. 706.

**Reg. Delaine** ewes and ewe lambs for sale.  
CALHOON BROS., Bronson, Mich.

# LATEST MARKET REPORTS

## GRAIN QUOTATIONS

Tuesday, January 2.

**Wheat.**  
 Detroit.—No. 2 red, \$1.34½; No. 2 mixed \$1.32½; No. 2 white \$1.32½.  
 Chicago.—No. 2 hard \$1.17½@1.19½; December \$1.18¼.  
 Toledo.—Cash \$1.33.

**Corn.**  
 Detroit.—Cash No. 2 at 77c; No. 3 yellow 76c.  
 Chicago.—No. 2 mixed at 71@71½c; No. 2 yellow 70¾@72c.

**Oats.**  
 Detroit.—Cash No. 2 white at 50c; No. 3, 48½c.  
 Chicago.—No. 2 white 43@43½c; No. 3 white 41¾@42½c.

**Beans.**  
 Detroit.—Immediate and prompt shipment \$7.40.  
 New York.—Choice pea at \$8@8.50; red kidney \$8.25@8.50.

**Buckwheat.**  
 Clean-milling grain \$2.25 per cwt.

**Rye.**  
 Detroit.—Cash No. 2, 91c.  
 Chicago.—87¾@88c.  
 Toledo.—91c.

**Seeds.**  
 Detroit.—Prime red clover cash at \$13.30; March \$13.45; alsike at \$10.75; timothy \$3.40.  
 Toledo.—Prime red clover cash at \$13.35; alsike \$10.95; timothy, new, at \$3.50; old, \$3.55.

**Hay.**  
 Detroit.—No. 1 timothy \$16.50@17; standard \$16@16.50; light mixed \$16@16.50; No. 2 timothy \$14@15; No. 1 clover \$14.50@15; rye straw \$11.50@12; wheat and oat straw \$11@11.50 per ton in carlots.

**Feeds.**  
 Bran \$34@34.50; standard middlings \$33@34; fine do at \$35; cracked corn \$35.50@36; coarse cornmeal \$34; chop \$29.50@30 per ton in 100-lb sacks.

**Fruit.**  
 Apples.—Jonathans \$5.50@6 per bbl; Wageners \$4.50; Greenings \$5@5.25 a bbl; Kings \$4; Northern Spies \$5.50@6; Baldwins \$4.75@5; cranberries at \$5.50.

## WHEAT

The long continued advance in the wheat market has been checked and a sharp setback occurred in the last few days. The advance had been due in part to speculative activity based on supposed needs of Europe and the prospect of governmental aid to foreign buyers. The decline likewise was caused partly by disposal of speculative holdings when foreign interests failed to buy wheat in volume and the possibility of credits from our government to foreign purchasers began to look remote. Again primary receipts of wheat in the United States instead of declining nearly 50 per cent from the first of November as they normally do at this season have increased slightly as a result of a freer car situation and the attraction of higher prices. Last week they were the largest on record for the corresponding period. In spite of all change of emphasis in the wheat market, a prolonged downward price trend is not anticipated as there is no accumulation of consequence in the United States, stocks of Canadian wheat in advantageous position for winter export are not unusually heavy and foreigners show increased interest in purchases on moderate breaks.

## CORN

The corn market weakened even sooner than wheat when the demand slowed down but the decline has gone far enough to attract export buying and bring about resumption of sales to the western feeders as well as to the eastern distributing trade. Receipts at primary markets last week were the largest on record for the corresponding week. In spite of the heavy farm consumption it appears that the movement to market will be relatively heavy.

## RYE

Exports of rye during November totaled 5,431,000 bushels and practically the same amount was cleared during December. In spite of the increase in the crop and the heavy movement the visible supply of rye at the terminal markets presents no problem.

## OATS

Beyond an increase in the eastern demand, the oats market shows no special feature but follows the trend in other grains.

## SEEDS

Clover seed prices have recovered slightly from the recent slump. Quotations are a little lower than at this time a year ago when an advance of about \$2 a bushel followed during the winter. The increase in demand as a result of improved conditions generally may entirely offset the increase in the crop. The new tariff also is a decided check upon imports. Producers who have not already sold are rather confident and are not offering seed freely.

## HAY

This market is running quietly with the receipts light due to small country loading. As a result, prices show but little tendency to fluctuate and are now ruling about as reported in recent weeks. In New York timothy of No. 1 grade brings \$26.50; Philadelphia \$22; Pittsburgh \$19; Cincinnati \$17; Chicago \$22 and Kansas City \$12.50.

## FEEDS

There is general dullness in the feed trade with little evidence of improvement in the west. Stocks in the interior seem adequate to meet the small demand, while production appears of sufficient volume to keep stocks up. In a few sections dealers are now anxious to be relieved of some of their supplies. Hominy feed is down, while linseed and cottonseed is being held fairly firm.

## POTATOES

During the holiday week, potatoes were steady on leading markets. At northern shipping points, a little weakness showed, however, the movement has not been large. In the eastern markets northern potatoes have been selling at \$1.05@1.35, while in Chicago the range has been from 75@90c. At shipping points prices run from 55@65c.

## APPLES

Just now there is only a light wire

inquiry for apples, but the trade is holding about steady with movements moderate. Supplies are moderate also. Michigan A-2½-inch Baldwins command \$4.50@5 on the Chicago market; 2½ inch Greenings are mostly at \$5; Spies \$5.50@6.

## BEANS

The bean market is quiet but prices are holding. Wholesale grocers are mostly busy with inventories and are doing little buying while few are being offered from producing sections. The choice hand-picked whites are quoted at \$7.65 per 100 pounds f. o. b. Michigan, shipping points while red kidneys are \$8.

## BUTTER

On recent days trading in butter has been barely steady. A dull demand has followed holiday activities and dealers have been a little more free to let go at slight concessions to keep stocks from accumulating. Fairly good-sized arrivals from Denmark are reported in New York. Closing prices for 92-score are: New York 53½c; Boston 54c; Philadelphia 55c; Chicago 50c; Detroit 46@48c.

## DETROIT CITY MARKET

There was no market on New Year's Day. The most active calls on the market have been for apples, cabbage, poultry, cauliflower and celery. Beets, potatoes, hogs and veal are in only moderate popularity among buyers, while carrots, parsnips, onions, pumpkins and squash are very slow getting out of the hands of the grower into those of the consumer. The supply of apples has been heavy with fancy moving at \$2.25; No. 1, \$1.50@2; No. 2, 75c@1; a moderate supply of beets are selling at \$1@1.50 per bushel; red cabbage is bringing \$1@1.25 per bushel; dry onions range from 75c@1.25 according to quality; parsnips \$1@1.25; potatoes 50@60c; turnips at \$1@1.50; veal brings 16@17c; hogs 14c; live poultry 23@25c; ducks 27@30c; geese 28c; turkeys 45c. These prices represent wholesale values and do not refer to sales in small quantities which generally rule a little above those quoted.

## GRAND RAPIDS

After sagging to 35 cents a dozen and then rebounding to 36 cents, the Grand Rapids egg market steadied just before New Years and consequently began the season in a little better tone. Receipts are larger and predictions are being made that production will show a 10 per cent increase with April and May eggs selling around or under 20 cents. Prices on all farm products except potatoes and eggs were higher this week than during the same period a year ago. Wheat is 16 cents higher, rye seven cents; corn 20 cents, buckwheat 25 cents; beans \$3.50 per cwt., hogs \$2 per cwt. and lambs \$5 per cwt. higher. Leaf lettuce market is quiet with production heavy. Potatoes continue dull with more of them being fed to live stock.

## THE MICHIGAN EGG-LAYING CONTEST.

During the last week in December Mr. E. E. Shaw's pen of White Leghorns gave up first place to the Leghorns of J. A. Hansen, of Corvallis, Oregon. Mr. Hanson's Leghorns have laid a total of 303 eggs so far. Mr. Shaw's Leghorns have a total of 296. The next tie comes the pen of Wyandottes from the Evergreen Poultry Farm, of Greenville, Mich., with a total of 236 eggs. Then come the Plymouth Rocks owned by H. E. Dennison, of East Lansing, with a total of 279 eggs. This concludes the second four-week period during which the Evergreen Poultry Farm White Wyandottes lead with a production of 170 eggs. W. H. B. Kent's Plymouth Rocks came next with a total of 155 eggs, and third is J. A. Hanson's White Leghorns with 179 eggs. During this period Mr. Shaw's White Leghorns laid 130 eggs. According to the records the heavier breeds are gaining on the Leghorns in their egg production in this contest.

## COMING LIVE STOCK SALES.

Shorthorns and O. I. C.'s.—January 23, Claxton Brothers & Diecks, Swartz Creek.  
 Chester Whites.—March 8, Alexander & Bodimer, Vassar.  
 Poland Chinas.—February 1, Doris Hover, Akron; February 17, Witt Bros., Adrian; February 27, J. E. Mygrants, St. Johns; February 28, Charles Wetzal & Sons, Ithaca; March 1, Archie Ward, Breckenridge.

# Live Stock Market Service

Wednesday, January 3.

## DETROIT

**Cattle.**  
 Receipts 482. Market steady.  
 Best steers ..... \$ 8.50 @ 8.75  
 Handyweight butchers ... 7.50 @ 8.00  
 Mixed steers and heifers 5.50 @ 6.75  
 Handy light butchers.... 5.25 @ 6.00  
 Light butchers ..... 4.00 @ 5.00  
 Best cows ..... 4.50 @ 5.50  
 Butcher cows ..... 3.00 @ 4.00  
 Common cows ..... 2.75  
 Cannors ..... 2.25 @ 2.50  
 Choice bulls ..... 5.00 @ 5.50  
 Bologna bulls ..... 4.25 @ 4.75  
 Stock bulls ..... 3.00 @ 4.00  
 Feeders ..... 5.50 @ 6.50  
 Stockers ..... 4.50 @ 6.00  
 Milkers and springers... \$ 40 @ 70.00

**Veal Calves.**  
 Receipts 1,040. Market is generally 50c lower.  
 Best ..... \$14.00@14.75  
 Others ..... 7.50@13.00

**Sheep and Lambs.**  
 Receipts 1,900. Sheep slow; lambs 25c lower.  
 Best lambs ..... \$14.50@14.75  
 Fair lambs ..... 13.00@13.50  
 Light to common ..... 9.00@11.00  
 Fair to good sheep..... 6.50@ 8.00  
 Culls and common ..... 2.50 @ 4.00

**Hogs.**  
 Receipts 4,406. Market steady.  
 Mixed hogs ..... \$ 8.85 @ 8.90  
 Pigs and lights ..... 8.00 @ 9.00  
 Roughs ..... 7.50  
 Stags ..... 4.50 @ 5.00

## BUFFALO

**Cattle.**  
 Receipts 80 cars. The market is steady. Shipping steers at \$10@11.50; butcher grades \$8@9; cows at \$2.50@5.25.  
 Calves, receipts 1,500. Market is strong. Cull and choice \$15.50.  
**Sheep and Lambs.**  
 Receipts 40 cars. Market is lower.

**Choice lambs \$15.50; cull to choice \$8 @14.50; yearlings \$11.50@13; sheep at \$3@9.25; wethers \$8.50@9; ewes at \$6.50@8.**

**Hogs.**  
 Receipts 90 cars. Market is strong. Yorkers \$9.25; pigs \$9.25@9.35; mixed \$9.10@9.25; heavy \$9.15; roughs \$7@7.50; stags \$5@5.50.

## CHICAGO

**Hogs.**  
 Estimated receipts today are 33,000; holdover 11,235. Market fairly active and 10@15c lower. Bulk of sales \$8.40 @8.65; tops \$8.75; heavy 250 lbs up \$8.40@8.75; medium 200 to 250 lbs at \$8.40@8.60; light 150 to 200 lbs \$8.50 @8.75; light lights 130 to 150 lbs at \$8.40@8.70; heavy packing sows 250 lbs up \$7.50@7.35; packing sows 200 lbs up \$7.40@7.75; pigs 130 lbs down \$7.75@8.40.

**Cattle.**  
 Estimated receipts today are 10,000. Killing classes steady to 25c higher; top beef steers \$11.50; beef steers medium and heavy weight 1100 lbs up at \$11.50@12.75; do medium and good at \$7.85@11.50; do common \$6.35@7.85; light weight 1100 lbs down at \$9.75@12.25; do common and medium at \$6@9.75; butcher cattle heifers at \$4.50@10.50; cows common and medium \$3.85 @8; bulls bologna and beef \$4@6.35; canners and cutters cows and heifers \$2.75@3.85; do canner steers at \$3@4; veal calves light and handyweight at \$9.75@11.75; feeder steers \$5.75@7.50; stocker steers at \$4.25@7.50; stocker cows and heifers \$3.25@5.25.

**Sheep and Lambs.**  
 Estimated receipts today are 13,000. Fat lambs very slow; classes bidding lower; others classes steady. Lambs 84 lbs down \$13@15; do culls and common \$9.50@15; spring lambs \$9.50@13.25; ewes \$6@8.65; ewes cull and common \$3.50@6; yearling wethers at \$12.75@14.65.

**LOOK! ONLY 17¢ A Rod Up DIRECT FROM FACTORY**

# Don't Pay More

**Peerless FENCE NOW SOLD DIRECT From FACTORY to FARM**

New Peerless direct-from-factory selling plan cuts prices on highest quality Fence, Gates, Steel Posts, Barb Wire, Paints and Roofing. Prices begin at 17c per rod! Think of it! Peerless quality, famous for 25 years, guarantees your satisfaction.

**FREE** Big 104-page book of Peerless Factory-to-you bargains is now ready. Don't buy until you compare Peerless prices and quality with others. See what Peerless quality means! Note the enormous SAVINGS in PRICE.

PEERLESS WIRE & FENCE CO. Dept. 2909 Cleveland, O. Factories at Cleveland, Ohio; Adrian, Mich.; Memphis, Tenn.

## THICK, SWOLLEN GLANDS

that make a horse Wheeze, Roar, have Thick Wind or Choke-down, can be reduced with



# ABSORBINE

also other Bunches or Swellings. No blister, no hair gone, and horse kept at work. Economical—only a few drops required at an application. \$2.50 per bottle delivered. Book 3 ft free.

ABSORBINE, JR., the antiseptic liniment for mankind, reduces Cysts, Wens, Painful, Swollen Veins and Ulcers. \$1.25 a bottle at dealers or delivered. Book "Evidence" free.

W. F. YOUNG, INC., 268 Temple St., Springfield, Mass.

# HAYES Fruit Fog Sprayers

## Guaranteeing Top Prices for Fruit

Hayes "Fruit Fog" guarantees best prices for your fruit—more fruit in bad years, better fruit in good years. Tremendous pressure (300 lbs. guaranteed) breaks the spray into a fog which completely penetrates every crevice of twig, leaf, bark and bud.

### Prices Slashed to Bottom

Hayes Power Sprayers vary in capacity only. The smallest maintains same pressure and, except as to quantity, is as efficient and satisfactory as the largest size.

### FREE New Folder—Advice of Spraying Experts

We make full line of power and hand sprayers. Tell us your requirements. Distributors and Dealers in all principal cities.

**HAYES PUMP AND PLANTER CO.**  
No. 61 Calva, Ill.



# \$7.50 After 30 Days Free Trial

## The Belgian Melotte Separator

30 days' free trial—then, if satisfied, only \$7.50 and a few easy payments—AND—the wonderful Belgian Melotte Separator is YOURS.

### No Money Down!

Catalog tells all—write. **Caution!** U. S. Bulletin 201 shows that vibration of the bowl causes cream waste! The Melotte bowl is self-balancing. Positively cannot get out of balance therefore cannot vibrate. Can't remix cream with milk. The Melotte has won 24 Grand and International Prizes.

### Catalog FREE

Write for new Melotte catalog containing full description of this wonderful cream separator and the story of M. Jules Melotte, its inventor. Don't buy any separator until you have found out all you can about the Melotte and details of our 15-year guarantee which is infinitely stronger than any separator guarantee. Write TODAY.

**The Melotte Separator, H. B. Babson, U.S. Mgr.**  
Dept. 3101, 2643 W. 19th Street, Chicago, Ill.



# NEW LAMP BURNS 94% AIR

## Beats Electric or Gas

A new oil lamp that gives an amazingly brilliant, soft, white light, even better than gas or electricity, has been tested by the U. S. Government and 35 leading universities and found to be superior to 10 ordinary oil lamps. It burns without odor, smoke or noise—no pumping up, is simple, clean, safe. Burns 94% air and 6% common kerosene (coal oil).

The inventor is offering to send a lamp on 10 days' FREE trial, or even to give one FREE to the first user in each locality who will help introduce it. Write today for full particulars. Also ask us to explain how you can get the agency and without experience or money make \$250 to \$500 per month. Address

**J. O. JOHNSON, 609 W. Lake St., Chicago, Ill.**

# War Time Prices

are over on Tanning

## Hides and Furs

and making them into FINE FUR COATS, FUR SETS, ROBES, ETC. Our Prices for doing this WORK are on a level with what the Farmers received for this year's crops. Our CATALOG is Free, it tells how you can be the Wearer of a Fine Fur Coat, etc., at the lowest prices quoted in years for Custom Fur Work. Address

**W. G. White**  
The Blissfield Tannery,  
Blissfield, Mich.



### LISTENING TO THE SOIL.

SOME new angles to fertilizing practices of farmers have resulted from work recently done at the experiment station at Geneva, New York. Nine soils in different parts of the state were treated with fertilizers and manure. Treatment was also given a highly productive soil and also to very poor one. Barley was the test crop.

One of the results reported by the specialists is that in all the soils commercial fertilizers gave much larger yields of barley than did the stable manure. The amount of nitrogen, phosphorus and potassium applied per acre was the same for the manure as for the commercial product.

Another interesting fact brought out was that when commercial fertilizers were added the amount of water-soluble plant food in the soils was greatly increased, especially nitrogen and potassium. If no crop was grown on the soil this increase was maintained at the same level for several months; while on the other hand, after producing two crops the water-soluble materials were greatly reduced. Also, before the crop had completed its growth the soluble plant food in the soil was reduced to a level which was maintained during further growth.

These results are thought to indicate that plants accumulate a large amount of the nitrogen and mineral ingredients required by them during the early stages of growth, and that in greenhouse culture and vegetable gardening, and for the production of such crops as cabbages, potatoes, and wheat an adequate supply of immediately available plant food would seem to be essential to successful crop production.

### CORRECTION IN LIST OF OFFICERS.

AN error was made in the publication of the officers elected at the recent annual meeting of the State Association of Farmers' Clubs. The secretary-treasurer is Mrs. I. R. Johnston, of Rushton, and the corresponding secretary is Mrs. Sara Brodebeck, of Ithaca. Club workers should see that their lists are corrected as above.

### MORE VEGETABLES FOR FARMERS.

WHY is it that the average farmer and his family go without the many good things that the city dweller considers a necessity. The city man pays large prices for things which the farmer declares he cannot afford, when all they cost him is the trouble of growing?

Spinach from May until September—asparagus fresh until June by having a bed heavily mulched for late bearing, rhubarb fresh from Thanksgiving until June, by taking up the roots; letting them freeze and putting them in a lighted cellar for winter growth. Peas and other summer vegetables all summer instead of for a few weeks, by successive plantings of different sorts. Lettuce and radishes from May until Thanksgiving, by planting in the cold frame—an average size frame will furnish many treats of out-of-season dainties. If the everbearing strawberry and raspberry is planted you will have these delicious berries from May until severe freezing weather comes in the fall—and once you plant them you will never use any other kind (that is if you buy a good variety).

Then there is corn salad, artichoke, Chinese cabbage, cauliflower, salsify, collards; cress, endive, sorrel, parsnips, parsley, sweet peppers, and many other dainty green vegetables that the average farmer never uses.

If one should judge the edible vegetables by the average farmer's garden, I am afraid that many vegetarians would decide on change of diet.

# \$24.95 American Cream Separator

On trial. Easy running, easily cleaned. Skims warm or cold milk. Different from picture which shows larger capacity machines. Get our plan of easy MONTHLY PAYMENTS and handsome free catalog. Whether dairy is large or small, write today.

**AMERICAN SEPARATOR CO.**  
Box 1061, Sainbridge, N. Y.



# SAVE YOUR MAPLE TREES

Earn money by making maple syrup. Great demand for quality product.

## CHAMPION EVAPORATOR

Produces finest quality. Saves time, fuel and labor. Pays for itself in a couple of seasons—lasts for many years.

Sap Spouts, Tanks, Full Line of Sugar Maker's Supplies.

Order EARLY Write for free ill. catalog and mention how many trees you tap.

**Champion Evaporator Co., Hudson, Ohio**



# WE TAN

and make to your order from your cattle, horse and all kinds of hides and furs, men's fur coats, robes, caps, gloves, and mittens, ladies' fur coats and fur sets. Remodeling and repairing in latest styles. Ship us your work and save one-half. New Galloway coats, robes, gloves and mittens for sale. We are the oldest Galloway tanners; 34 years continuous business. Free style catalog, prices and samples. Don't ship your hides and furs elsewhere until you get our proposition.

**HILLSDALE ROBE & TANNING CO., Hillsdale, Mich.**

**HAY AND PRODUCE SHIPPERS, Ship to E. L. RICHMOND CO., Detroit, Mich. 30 years in business.**

# CLASSIFIED ADVERTISING

This classified advertising department is established for the convenience of Michigan farmers. Small advertisements bring best results under classified headings. Try it for want ads and for advertising in this department at classified rates, or in display columns at commercial rates.

Rates 8 cents a word, each insertion, on orders for less than four insertions; for four or more consecutive insertions 6 cents a word. Count as a word each abbreviation, initial or number. No display type or illustrations admitted. Remittances must accompany order.

Real estate and live stock advertising have separate departments and are not accepted as classified. Minimum charge, 40 words.

### Rates in Effect October 7, 1922

Words	One time	Four times	Words	One time	Four times
10	\$0.80	\$2.40	26	\$2.08	\$6.24
11	.88	2.64	27	2.16	6.48
12	.96	2.88	28	2.24	6.72
13	1.04	3.12	29	2.32	6.96
14	1.12	3.36	30	2.40	7.20
15	1.20	3.60	31	2.48	7.44
16	1.28	3.84	32	2.56	7.68
17	1.36	4.08	33	2.64	7.92
18	1.44	4.32	34	2.72	8.16
19	1.52	4.56	35	2.80	8.40
20	1.60	4.80	36	2.88	8.64
21	1.68	5.04	37	2.96	8.88
22	1.76	5.28	38	3.04	9.12
23	1.84	5.52	39	3.12	9.36
24	1.92	5.76	40	3.20	9.60
25	2.00	6.00	41	3.28	9.84

### Special Notice

All advertising copy discontinuance orders or change of copy intended for the Classified Department must reach this office ten days in advance of publication date.

### MISCELLANEOUS

**SILVER FOXES.** We are making very special prices on nineteen twenty-three pups if bargained for now. Our stock is very best quality, all pedigreed and registered. Victory foxes are Good foxes. Buy now, pay later, save one-third. Volman & Hughes, Muskegon, Michigan.

**HOMESPUN TOBACCO.** Chewing: 5 pounds, \$1.75; 10 pounds, \$3; 20 pounds, \$5. Smoking: 5 pounds, \$1.25; 10 pounds, \$2; 20 pounds, \$3.50. Send no money, pay when received. Co-operative Tobacco Growers, Paducah, Kentucky.

**NATURAL LEAF TOBACCO.** Chewing: 5 Pounds, \$1.75; 10 pounds, \$3; 20 pounds, \$5. Smoking: 5 Pounds, \$1.25; 10 pounds, \$2. Pay when received. Tobacco Growers' Union, Paducah, Ky.

**COAL BURNING BROODER STOVES.**—Real ones; none better. They'll save your hatch. Guaranteed. 30 days' trial. Prices "way down. Folder free. Co. Wettschurack, Lafayette, Ind.

**KENTUCKY TOBACCO** Three year old leaf. Pay for tobacco and postage when received. Chewing 5 lbs. \$1.45; smoking 10 lbs. \$1.50. Farmers' Grange, D.H.S. Hawesville, Ky.

**FOR SALE.** Millions of Strawberry and other plants Standard varieties, Everbearing Strawberries, Raspberries and Blackberries; Asparagus roots, Shrubs, Roses, etc. Alexander Co. Nurseries, McClure, Ill.

**FREE CATALOG** Carpenter's Auction School. Largest in world. Terms, Opens soon. Tuition \$100. Hall Bldg., Kansas City, Missouri, and Atlanta, Georgia.

**FOR SALE.** Registered American Bull Terriers and Collies—Hayneshurst Kennels, Jackson, Mich.

**POULTRY**

**DON'T BUY CHICKS & HATCHING EGGS UNTIL** you get our catalog and prices on Barred Rocks, White Leg, Anconas. Write today. Discount on early orders. Model Poultry Farm & Hatchery, R. 4, Zeeland, Mich.

**BUFF ORPINGTONS.** Barred Rocks, Young's White Leghorns, Guinea. Illustrations. Fenner Bailey, Montgomery, Mich.

**SINGLE COMB Black Minorca Cockerels** guaranteed \$4-\$10. Chas. Schook, Allenton, Mich.

**GET EVERGREEN POULTRY FARM'S** cheap prices on pure bred poultry, chickens, turkeys, ducks, geese, guineas, baby chicks best laying strains. Illustrated catalog free. Evergreen Poultry Farm Hatcheries, Hampton, Iowa.

**BABY CHICKS.** Save \$3 to \$10 per 100 by placing order now. Pullets lay at 4 months age. Write for free catalog. D. T. Barrow Chickeries, Successors Farrow-Hirsh Company, Peoria, Illinois.

# STRAWBERRY PLANTS

\$3.50 Per Thousand, and up. Our strong, tremendous bearing plants guarantee big crops of luscious berries. Best varieties for all kinds of soils. Many new varieties such as Eaton, Bun Special, Premier, Marvel, and Cooper. The world's greatest new Everbearing Strawberry CHAMPION. Full line of Raspberries, Blackberries and Asparagus. Greatly Reduced Prices. Our customers are making up to \$1200.00 per acre from small fruits. Large stock of good Grape Plants at \$85.00 per thousand.

Beautiful new color catalog free. Write Today.

**BRIDGMAN NURSERY CO., Box 25, Bridgman, Michigan**

# EARLY-BIG YIELD STRAWBERRIES

Make as high as \$1200 per acre with my plants. Ask for GIBSON, the hardest, the EATOR, the exquisite. Reasonable prices; quality guaranteed. Write for free catalog today.

Lists best varieties Strawberries, Raspberries, Blackberries, Grapes, Etc.

**LAKE SHOE NURSERIES, R. R. 1, Bridgman, Michigan**



# HEAVES

Is your own horse afflicted? Use 2 large cans. Cost \$2.50. Money back if not satisfactory. ONE can at \$1.25 often sufficient. In powder form. Most for cost.

## NEWTON'S

A veterinary's compound for Horses, Cattle and Hogs. Heaves, Coughs, Distemper, Indigestion, Worm expeller, Conditioner. At dealers' or by parcel post.

**THE NEWTON REMEDY CO., Toledo, Ohio**



# 1400 Breeding Ewes FOR SALE

in lots of 50 or more, black faced, from 1 to 4 yrs old; no broken mouths, in good condition, located 22 miles S. W. of Detroit on Detroit and Toledo electric and Dixie Highway. Telegraph address, Rockwood. Almond B. Chapman, So. Rockwood, Mich.

**Registered Delaine Ewes Bred**  
F. H. RUSSELL, Wakeman, Ohio

# WHITE LEGHORN CHICKS

from pedigreed cockerels direct from Hollywood Farms, every breeder personally selected by Prof. Foreman of M. A. C. Quantity Limited. Quality the very best. Circular free. Maple Haven Farm, R. 5, Jackson, Mich.

**QUALITY CHICKS AND EGGS.**—25,000 Standard Bred Breeders. 12 varieties. Best laying strains. Incubate 15,000 eggs daily. Catalog free. Reasonable prices. Free live delivery. Missouri Poultry Farms, Columbia, Mo.

**STERLING QUALITY CHICKS** from 14 Varieties, Pure Bred Certified Stock. Prices Right. F. F. Clardy, Mammoth Hatchery, Highland View Poultry Farm, Box 6, Ethel, Mo.

**MANY VARIETIES** pure bred poultry, baby chicks and pigeons at low prices. 100 page book in colors describes them. Mailed for 5 cents. Frank Foy, Box 9, Clinton, Iowa.

**CHICKS.** From free range selected flocks bred to lay. All popular varieties. Prices right. Send for catalogue. 100% delivery guaranteed. Homer Hatchery, Homer, Michigan.

**SILVER LACED and White Wyandotte Cockerels,** \$3.00, two for \$5.00. Extra choice, \$5.00 each. Satisfaction Guaranteed. C. W. Browning, R. 2, Portland, Mich.

**BABY CHICKS** strong, healthy, hardy. White, Barred Rocks, R. I. Reds, Wyandottes, easily raised because they are properly hatched. Cronks Farm Range Chick Hatchery, Charlotte, Mich.

**SELECTED CHICKS** from best strains at living prices. All popular varieties. First hatch in January. Hatching eggs. Write for circular and price list. Litchfield Hatchery, Litchfield, Mich.

**QUALITY CHICKS** for delivery each week after March 1st. S. C. White and Brown Leghorns, 100% live delivery. Catalog free. Standard Hatchery, Box B, Zeeland, Mich.

**SILVER Spangled Hamburg Cockerels** at \$2.00, \$3.00 and \$5.00 each. J. G. Philpott, Port Huron, Mich. R. F. D. 1, Box 44.

**68 VARIETIES** Fine pure bred chickens, ducks, geese, turkeys, stock eggs, chicks. Large catalog 5c. A. A. ZIEMER, Austin, Minn.

**BARRED ROCK Cockerels** for sale. Henry Vickery, Fennville, Mich.

**MICHIGAN'S Best Giant Bronze.** Large vigorous birds from America's best strains. Both utility and fancy. Furnish unrelated stock. N. Evelyn Ramsdell, Ionia, Mich.

**TURKEYS.** Mammoth Bronze Beauties. Mrs. Eugene Ramsdell, Hanover, Mich.

**GIANT BRONZE TURKEYS.** Vigorous purebred stock. Best strains, large type, fine coloring. Unrelated stock. Write Mrs. Perry Stebbins, Saranac, Mich.

**200 GIANT S.C. Black Minorca cockerels** none better \$2.25 each. Mike Schaefer, R. 1, Essexville, Mich.

**GEESE.**—Toulouse, African, Emden. **DUCKS.**—Pekin, Rouen, Runner, Muscovy. Price reasonable. John Hass, Bettendorf, Iowa.

**PEAFOWLS.** Pheasants, Bantams, Pigeons, Guinea Figs. John Hass, Bettendorf, Iowa.

**HELP WANTED**

**YOUNG MAN** 23 years old. Was forced to quit Michigan Agriculture College on account of being partially deaf. Desires a position with a progressive, successful farmer. Box G-71, Michigan Farmer.

**WE PAY \$200 monthly salary** and furnish rig and expenses to introduce our guaranteed poultry and stock powders, Bigler Company, P. O. 883, Springfield, Illinois.

**Olde Tan  
Harness**



# Double Wear Certain! Metal-to-Metal Does It

**WRITE** for the free Harness Book which tells you why Olde-Tan harness wears twice as long as any other high grade harness.

Every spot where there is excessive wear, strain or pull is protected by tough metal, shaped and fitted so that rounded metal parts are adjusted one against the other, thus taking away all corner pulls and sharp strains. No patching or mending of this harness because there are no places for Olde-Tan Harness to wear out. When you buy Olde-Tan Harness you do away with repair bills.

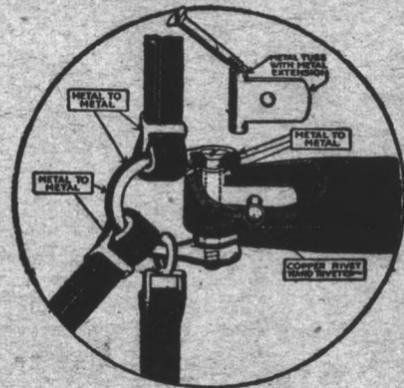
There is 70 year-old tanning skill behind Olde-Tan leather. Three generations of tanner-manufacturers have supervised the production of Olde-Tan Harness, following every step through the tannery and harness factory until the harness is ready for your horses. No wonder that it is known throughout America for its superior quality!

Olde-Tan Harness has every adjustable feature—yet few buckles are used. These are placed only where

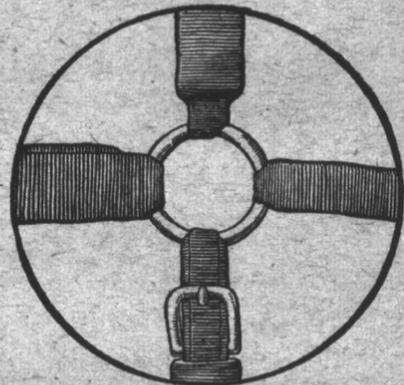
convenience in putting on and taking off the harness is essential. No place where there is excessive strain or pull will you find a buckle on Olde-Tan harness.

You don't have to worry about your harness, if you are sure about the quality of the leather and if it has metal-to-metal construction. Olde-Tan Harness is nothing radical or "new style". We just recognize the fact that nothing wears like metal. We merely place metal against metal to make sure of longer wear. Then, in addition to that, the finest leather that can be tanned is used.

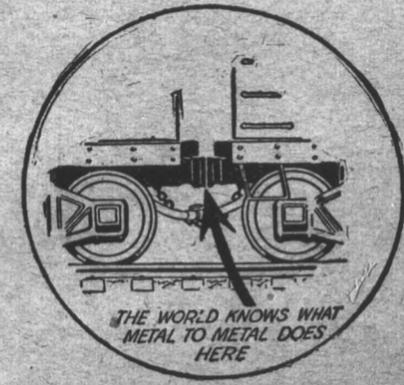
Every Olde-Tan Harness is sold under a guarantee which protects you during the entire life of the harness. Make no mistake. Find out all about Olde-Tan before you buy another set of harness. Write for the free Harness Book today. You may as well have the last word in harness—especially when it costs no more than any other harness you would buy.



Metal-to-metal construction. Metal bushing. Leather held tight without play or friction. Note special riveted metal extension in breeches.



Never this in metal-to-metal construction. All pull strain and wear is on metal.



THE WORLD KNOWS WHAT METAL TO METAL DOES HERE

**\$7.50** Puts This Harness  
**Down** On Your Horses

Write today for Free Olde-Tan Metal-to-Metal Book which tells you how for only \$7.50 down you put this Olde-Tan Metal-to-Metal harness on your horses. You will find in this book information which any man buying harness should know. The Olde-Tan Harness book tells how Olde-Tan Leather is tanned, all the different processes from

the raw hide through the liming and washing pits into the tanning drums and out again, finally to be made into what leather experts declare is the finest leather to be found in the whole world. Remember, our offer is to send you an Olde-Tan Harness absolutely no money down. After the first payment of \$7.50, you may pay the balance in easy monthly installments.

**Babson Bros., Dept. 9101**

19th Street and Marshall Blvd., Chicago, Ill.

Please send me free your Olde-Tan Harness Book and all about your \$7.50 down and easy monthly payment offer on Olde-Tan Harness.

My Name.....

My Address.....

# Write—

**FREE** Ask for our free harness book. Get your copy even if you don't expect to buy harness right away. Learn about how metal-metal construction—and

Olde-Tan leather have doubled the life of a harness. Learn why you should buy a tanner-manufacturer harness. Mail coupon today and free book will be sent to you at once.

**Babson Bros.** 19th Street and Marshall Blvd.  
Dept. 9101 Chicago, Ill.