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VOLUME CLX NUMBER NINE

DETROIT, MARCH 3, 1923

CURRENT COMMENT

THE MICHIGAN FARMER SAYS:

Wholesome enjoyment is one of the best stimulants we can take and it is one of the few that is essential to our well-being.

The impressions one gets in early life are the most influential. Are you helping your children to get the right kind?

Plans are as essential in good farming as they are in good house building. Now is a good time to make plans for the coming season.

The opening of Tut's tomb reveals that one virtue of the ancients was thoroughness. They did a good job of burying Emperor Tut.

We all make sacrifices. The successful man has to make them in order to attain his success. The lazy one makes them in order to enjoy his laziness. Which is worth making sacrifices for?

Putting the Community Across

JUST this morning an old farmer likened the recent depression in farming to a case of illness. In his mind agriculture

has been sick, and is now well along on its way toward health. Recovery has come about largely through the mutual effort of those engaged in the farming business. The old spirit of independence and indifference to what other farmers are doing, has given away to the spirit of cooperation. In production, marketing and consumption, and even in rural living, this spirit has shown steady growth. It has given strength and health as well as influence to the farming order.

But this new spirit has not brought its full quota of benefits to the farming fraternity. Its service has scarcely begun. What has and will be accomplished in the way of improved marketing will ultimately measure only knee-high to what promises to come in the way of community building in agricultural specialties. Kalamazoo celery, Livingston Holsteins, Antrim seed potatoes, Alpena Guernseys, Ottawa baby chicks—these are suggestive of a wonderful possibility in sane aggressive leadership in every agricultural community of the state.

This does not mean a swing back to the one-crop idea. It does mean that the farmers select from the many crops they grow some particular one

for their special attention. They perfect this product, and then, by reason of the high quality and the quantity it becomes the medium through which the community is brought to the attention of the world.

The 1923 Sugar Outlook

MANY farmers are now asking this question: What are the prospects for the 1923 sugar campaign? Figures just published by the department of commerce at Washington indicate to us the present status of the sugar business.

In regard to production, these figures show that for the year of 1922, 18,308,000 tons were manufactured. This is 120,000 tons more than were produced in 1921, and about 800,000 tons more than the annual pre-war production.

On the other hand, consumption has also increased. Before the war the tonnage annually required was 17,500,000. In 1920 this had increased to 16,198,000 tons, the next year to 18,680,000 tons and this past year to 19,035,000 tons. From these figures it would appear that consumption is gaining on production. This is borne out by the fact that the hold-over for the present year is the smallest given in this report. Before the war the carry-over was 750,000 tons, for 1920 it was 1,700,000 tons, for 1921 the tonnage was 1,203,000 and in 1922 it shrunk to the small total of 476,000 tons.

The American producer of sugar should take into account this further consideration, that the increased consumption has been greater in the United States than in all the world taken together. It would seem, therefore, that the sugar business from the standpoint of the American producer is now resting on a sounder basis than it has been for some time.

The Broad Outlook

BUMPING over the rails the other day in a day-coach, I was impressed by the beauty of the landscape. No particular work was rushing for the moment and there was time to look up and away and let the impressions sink in. Compared with the things near at hand, how much more wonderful the world seemed. To let the vision roam over the landscape as far as the eye could see, and drink in the fullness thereof; it was like looking at pictures through a stereoscope, the whole universe was enlarged.

It came to me how prone we are to fix our vision on the things that are close at hand, how the impressions of the eye are reflected upon the soul of us and upon the mind. Our mental attitude toward the world and our love for the earth on which we live are apt to be in direct proportion to the physical view we take of it.

We wander over our little forties, or eighties, or quarter-sections, going about our work, with our attention always fixed at our feet. We see the snags that bother the plow, the buckhorn in the clover and the thistles that make us say "words." It is well that we should see these things, of course, for we cannot remove them by overlooking them and trying to deceive ourselves into thinking they are not there. But the point we should not overlook is this, that we should not tie ourselves down to a weed, a snag or the little everyday difficulties of the farm. By so doing, our intellects become dulled, our souls dwarfed and our view of things in general badly warped.

The beauties of our neighbors' fields, the woods across the section, or the hills on the horizon are ours to enjoy whether we own the deeds to the land or not. The birds in the hedgerows

sing for us, the flowers along the borders bloom for us, the aroma of the meadows reaches out to us, and they are as free as the air we breathe if we can lift up our heads, open up our eyes, our hearts and our souls and comprehend them. No greater satisfactions are there in life; no, not in Wall Street, nor in the White House.

The Gasoline Tax

THE auto has brought a great change in most everybody's attitude regarding roads. We all want good ones, but hate to pay for them. But we cannot get something for nothing and, therefore, the manner of paying for them is one of the questions of the hour.

Some urge an additional tax on the auto so the user of the road will help pay for it. But others say that is not fair to the one who uses his machine only occasionally and is favorable to trucks, busses, and others who use the road every day in the year.

Others say that a tax on gasoline will eliminate that inequality and will make the user pay in accordance to the amount of traveling he does. The opponents to this say that users of stationary engines are discriminated against by such a tax. But the amount of gasoline used in stationary engines is small compared to that used in autos. It would seem, therefore, the injustice here would not be nearly as great as in the case of the occasional auto user.

Furthermore, the auto tax would not include the thousands of tourists who travel the state in the summer, whereas the gasoline tax would get them to pay at least a share in the upkeep of the roads they help to wear out.

We believe the fairest tax is that which makes those pay who get advantage of the improvement made by the use of the tax money. As a gasoline tax seems to fulfill the requirements in this respect, we are in favor of the one which will enable us to enjoy within reason the comforts of present day travel.

Pure Breds at Auction

THE practice of selling pure-bred live stock at auction is a very old one. It is a most excellent way for the breeder of pure-breds to dispose of his annual production. For many people it is much more satisfactory than the mail order method. It may not bring in any more money, and many times not so much, but it confines the breeder's selling activities to a very brief period instead of spreading them throughout the year; it cleans up his surplus animals at one sweep, and brings the money in in a bunch.

Pure-bred stock sales have not been so general or so numerous in our state as in the corn belt proper, due, no doubt, to the fact that Michigan live stock interests, like her other agricultural industries, are very much diversified. It takes around forty animals to justify the expense of a public sale and great numbers of our breeders are not able to spare that many suitable animals at one time. Michigan is full of small breeders, men who devote only a small part of their energies to any one line of live stock. These men in many instances are combining their resources and holding combination or association sales with results that are proving very satisfactory.

The growth of the pure-bred stock sale in Michigan is very healthy at the present time, and we appear to be entering upon a period of success and rapid development along this line. If there is any one thing that contributes more than any other toward the permanent and future success of this bus-

ness it is confidence. Confidence on the part of the buying public can not be maintained except by absolutely square business, and a conduct that is clean, straight, open and above reproach. Questionable methods are to be deplored and are sure to act eventually as a boomerang, coming back to injure the thing they are supposed to help.

"By bidding" will, in a very few years, put an end to successful sales for the man who practices it; auctioneers who run bids on buyers are doomed to extermination as soon as the public gets wise to them, and it will sooner or later. Boom prices are sure to have their reaction.

An even run of sales at fair prices, bona fide bidding, and honest stock, will insure a future for public sales in Michigan, that will mean a rapid development of the pure-bred live stock industry, a lucrative business for the breeder, and satisfaction to the buying public.

Prunes and Prunin'

SOMEbody says you should prune when your knife is sharp. The other day I got Sammy to work the grindstone so I got my knife sharp enough to sharpen my pencil. With my pencil sharp, I'm going to engage in the great indoor sport of prunin' on paper.

Now, prunin' is the cuttin' out of waste, and the cuttin' out of waste is one of the essenshull factors in economy and effichuncy. (Sounds like I know a lot, don't it?) But it ain't said 'cause a feller makes a noise like a pefessor he is one, too, does it?



Prunin' is the cuttin' out of a lotta ingrowin' limbs and rubbish the tree don't need, and what is interferin' with the sunshine gettin' in. Prunin' is all right, but it ain't used generally enough. For inst., we could prune our dairy herds and chicken flocks and get rid of a lotta rubbish what is interferin' with our profits and keepin' the sunshine outa farmin'.

There's lotta things we kin prune, but the biggest job a prunin' we got is with ourselves. When we let ourselves grow, we get just like the trees do. We accumulate what you call a lotta rubbish what is interferin' with our effichuncy and enjoyment. There ain't any of us but what would feel better if we would cut out lotta habits of appetite and disposishuns what grow in instead of out. All these ingrowin' disposishuns and such rubbish is hinderin' us, besides they keep the sunshine from gettin' into our souls.

There's another thing about prunin'. Don't leave no stubs, 'cause what you leave will rot into the good part. So when we cut off limbs, habits and such like we should cut them all off or suffer what you call the consequences.

When you don't prune, you get a scrubby lookin' tree and you can't get no good fruit from a scrub. Likewise there's lots a folks what is called "you poor prune" 'cause they ain't done a job of prunin' to themselves. Now, if you wanta get a higher social standin' in the prune family, you have gotta do a good job of self-prunin', and that kin be done by prunin' when your knife is sharp and keepin' your knife sharp all the time.

Now, in what you call conclushun, this preachment didn't come from the pulpit, but from what you call a prune pit.

HY SYCKLE

Some Profitable Nuts for the North

A Neglected Possibility for Every Michigan Farm

By V. R. Gardner,

Professor of Horticulture, M. A. C.

THE early history of the horticulture of this country is replete with the records of those who sought to duplicate here the plantings and the products of Europe. Attempts to grow the European or wine grape, all unsuccessful, were numbered by the thousands. It was little dreamed that in the native grape lay the possibility of developing varieties superior to most of those grown in the Old World.

The English gooseberry, a prized fruit in northern Europe, was tried repeatedly, until it was realized that mildew made its culture in America entirely impracticable. Little was it suspected that eventually the native gooseberry would yield varieties of value.



European varieties of the red raspberry were introduced with but indifferent success. It took a hundred years to convince us that our own wild raspberries are worthy competitors of their Old World cousins.

The European cob nut or filbert was introduced at an early date and it has been reintroduced hundreds of times.

It blights and is practically a total failure, except on the Pacific Coast. No one seems to have thought that our native hazels offer a good starting point for the breeding of improved va-



The Grand Rapids Seedling.

rieties that will equal in quality and size those which we now import.

Attempts to grow the English or Persian walnut in the eastern United States have met with rather general failure. That we prize it, that we would grow it if we could, is evidenced by the fact that each year we consume 60,000,000 to 10,000,000 pounds. Michigan's average annual consumption is upwards of 2,000,000 pounds. The price which the consumer pays for these nuts is probably not far from thirty cents per pound, a total of a

half million dollars a year in this state alone.

That it should occur to the average consumer that one of our native nuts might be substituted for the imported article is not to be expected. The consumer gives little thought to where his food products originate. It is, however, a little surprising that the farmer who has nut trees scattered over his farm has not thought about the latent possibilities that these trees may contain. If he has thought of them he has kept his thoughts to himself. It is still more surprising that the professional horticulturist and plant breeder have almost totally ignored the native nut crops.

Certainly the native black walnut is no more inferior to the best of the English walnuts than the average wild grape is to the Tokay or the Malaga. Indeed, the confectionery trade cheerfully pays more for seedling black walnut meats than for the meat of named English walnut varieties. If a Concord or a Niagara can be developed from the native wild grape, can't something equally superior be developed

from the native black walnut or hickory nut?

Fortunately, this question is already answered, though few people know the answer. Tell the man on the street, the farmer, the fruit grower, or even two-thirds of the professional horticulturists, that there are improved black walnut varieties better than a good share of the named English walnuts and the statement will be met by a vacant stare, a look of incredulity. They haven't heard of such a thing. Yet such varieties are in existence, are being propagated by certain nursery firms and both trees and cion

(Continued on page 300).



Stabler, a Promising Black Walnut.

Efficient Farming In Denmark

Necessity Has Made the Danish Farmers the Best in the World

By Chris L. Christensen

Of the Federal Bureau of Economics

THE Danish farmer is being investigated, and rightly so, for he has accomplished wonders during the last few decades. When I was in Denmark a few months ago studying the agriculture of the country and the cooperative marketing methods of the farmers I met economists from all over the world doing the same thing.



Some Milking Shorthorns Found on the West Coast of Jutland.

I am sure they will be as full of praise for the farmers of this little country as I am, and I hope I may give to the farmers of the United States as much helpful information regarding Danish methods as these foreign economists will give to their countrymen.

If I should tell you that I had confined my studies all these months to an area no bigger than one-fifth of the state of Nebraska, you would not think I had traveled very far, or that I had seen very much. Although Denmark is no larger than that it has three million people, and they are as industrious and far-sighted when it comes to acting together, as any similar number of people on the globe.

They are producers who do not neglect the marketing end of their business. For instance, forty per cent of the butter imported by the English people comes from Denmark. They

also send to the English market fifty per cent of the bacon and almost half of the eggs which they import. Their shipments to that country are greater than those of any other European

country, and yet their farming area could be tucked away in any one of the thirty of our states and we would hardly miss it.

The Danes practice what I call rational farming. They have put agriculture on a business basis. They control production, quality of their products, and to a marked extent the distribution. Forty years is not a very great span of time, yet during that period the Danes have increased their butter exports seven times, their bacon twelve times, and their eggs eighteen times. During the same four decades they have developed a surplus of meats, horses and seeds. The horses and meats find a ready outlet in southern Europe and the seeds go to America and elsewhere.

Danish Cooperation a Necessity. The latter half of the last century, witnessed the opening up of vast fer-

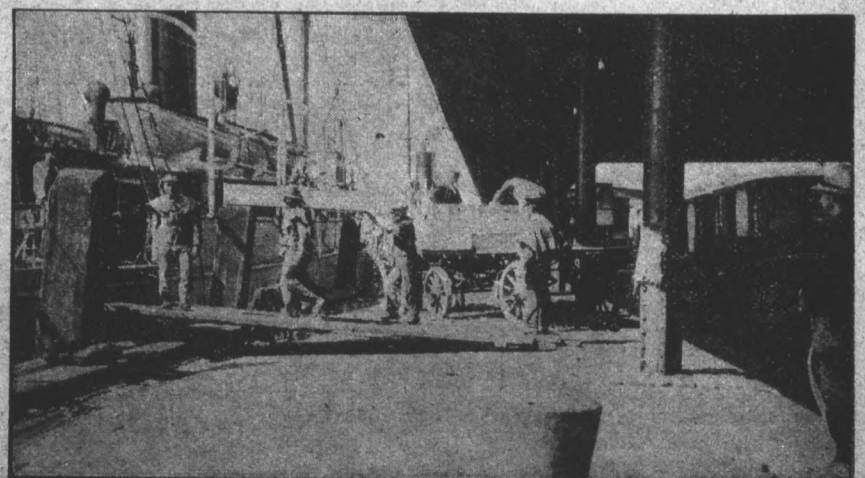
tile agricultural areas in the new parts of the world, as a result of perfecting modern transportation. America commenced to produce grains on a large scale—this appearance of cheap grains on the European markets—shifted the grain production from western and northern Europe to the new parts of the world. Cheap grains from the fertile regions of the new world, forced the Danish farmer on his light soils to abandon his old system of grain production, to animal products. The Danes cast their lot with the dairy cow and may we judge from their present development, it was a wise choice. In the eighties it became apparent that they must standardize dairy product, and produce it in a quantity sufficient to make an impression on the foreign markets. In order to do this they had to recast their farm practices and produce a grade and quality of dairy products such as the markets demanded.

To an American the farms in Denmark are small. Eighty per cent of the Danish farm are under seventy

acres, while half do not contain more than thirty acres. Practically all farms are worked according to the same system, as a rule they carry a stock of cows, pigs and chickens. Now, the marketing problem confronting the average farmer in the eighties is well illustrated by the experience of a small farmer with six cows, who sent his butter to a large butter exposition which was held in London. He produced a first-class article and won the first prize. However, this recognition at the world butter market did not give him a higher price for his small weekly butter production. But, like many other individual farmers who sent only small amounts, he did not receive the top price regardless of the fact that he was selling a premium quality butter. The English butter merchants did not have time to sample and inspect a large number of small batches of butter. They not only first looked for shipments of butter which arrived in large quantities of one grade, but they paid higher prices for much larger shipments.

The large estate farms, of course, were much better equipped to meet this market demand. The larger unit

(Continued on page 315).



Danish Eggs Are Packed in Standard Cases for Shipment to England.

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I pulled 74 stumps in one day, without help, at a cost of less than 4 cents each. My stumps run up to two feet in diameter.

(Signed) J. F. Sherrill, Shulls Mills, N. C.

Our Kirstin One-Man Puller is a wonder. It does our work for one-third the former cost. George McKinley, Supt. of Parks, Flint, Mich.

Writes J. F. Sherrill, "At Cost of Only 4c Each."

Read Mr. Sherrill's letter opposite and what others say. Think of it! He pulled 74 stumps—a lot of them big ones, too, in a single day without help, with his KIRSTIN One-Man Stump Puller. Prove to your own satisfaction, on your own stumps, that the KIRSTIN is the most powerful One-Man Puller made. See how the KIRSTIN gives enormous power to pull your stumps without help. Know the facts—how the KIRSTIN will increase the value of your land, give you greater income, turn waste acres into profit.

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You take no risk with a KIRSTIN. This One-Man Puller is guaranteed to make good all claims. Easy to operate; easy to move. Four speeds. Automatic take-up; extra long cable enables you to pull many stumps without moving. Try it for 30 days in your own stump field and be convinced.

Kirstin One-Man Stump Puller

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Washington Letter

By Senator Capper

THE railroads have done the biggest year's business in their history, despite the high rates. Business can pass these costs on. The farmer couldn't. When freight charges alonetake ten to twenty per cent from gross prices which scarcely meet the cost of the farm products, no sort of juggling with figures can soften the blow to him. The farmer's return comes from what he gets for his output.

The number of cars loaded during 1922 was the greatest in railroad history. But not a dollar of excess earnings netted by probably sixty big railroad systems under the rate clause of the Cummins-Esch law, has been paid to the government. This law requires that half of the excess must be used for the benefit of the weaker roads. Section 15-a of this law puts the entire agricultural prosperity-making area of this country under the blight of excessive freight rates to overpay the highly prosperous railway systems, that the less important, poorly conducted or inefficiently managed roads may be sustained in their inefficiency.

February 1, I again addressed the senate on the necessity of repealing the so-called guarantee and rate-making clause of this law, in connection with the joint resolution adopted by the two houses of the Kansas legislature petitioning congress to enact the Capper repeal bill. The sooner we repeal the so-called guarantee clause of the Cummins-Esch act and also give state railroad commissions more coordinate power to adjust rates fairly, the better for the roads and the country.

Board of Trade Must Clean Up.

Members of the Chicago Board of Trade are urged to "end evil practices" and clean house, and big manipulators of the market are warned to discontinue unfair methods, by John J. Stream, the board's new president, in a remarkably candid inaugural address in which he declared the Capper-Tincher law must be obeyed in letter and spirit if upheld by the supreme court. He urged farmers be admitted to membership on equal terms.

President Stream's address throughout amounted to a frank acknowledgment of the abuses charged against the grain gamblers and an admission that the advocates of the Capper-Tincher law were right.

We Can Help Europe Make Peace.

With Europe still wasting and destroying—that eleven billions of war debt it owes us is the greatest peace-persuader we have. The powers are ample able to pay this debt if they will reduce their large armies and navies. To cancel it is to compel the American people to tax themselves for Europe's new militarism. So far as I can see, Europe needs no such encouragement to continue fighting. At the present moment one European power is buying privately millions of dollars worth of arms and ammunition in the United States.

The best thing we can do for Europe is to call an economic conference of nations that will make it possible for Europe to go to work and further reduce its armaments. We can have no assured good times in the United States until Europe recovers and its markets are restored. The falling off in our exports of foodstuffs alone, last year, was more than \$277,000,000, or more than forty per cent. Our farmers need peace in Europe almost as much as the Europeans.

Forty Roads Charging Too Much.

It costs a farmer twice as much to ship a carload of apples as it does a coal operator to ship a carload of coal the same distance, and the farmer only gets forty-five and one-half per cent of the price, the remainder, or fifty-four and one-half per cent, goes to the railroads for hauling the apples.

Recently in the senate, in a speech demanding lower freight rates for farmers, and the repeal of the rate-making clause of the transportation act by which the high rates are kept up, I referred to the evident prosperity of the great railroad systems and was promptly contradicted by a number of eastern publications.

Subsequently, I introduced a resolution in the senate asking the Interstate Commerce Commission to report the number of Class I railroads which were earning more than a fair return and were not returning any of the surplus to the government required by the law. The commission reports there are forty, and possibly more, of these roads.

Railroads rank second to agriculture, measured by the amount of money invested and importance to the nation. Yet for more than two and one-half years we have let the tail wag the dog, in this case; although it is quite necessary for a tail to have a dog, also to treat the dog right. I

Europe Must Quit Fighting.

But the nations of Europe might as well understand right now:

That the United States on no consideration will cancel foreign war debts or any of them; that these billions were borrowed from the American people and must be returned to them, no other alternative existing.

That the United States will not pay nor finance any European war debt or indemnity.

That the United States will join no European political league or alliance.

That the United States will send no more troops to Europe.

That the United States will go far to find ways and means to help the people across the sea if they will abjure militarism and go to work.

Arthur Capper

WASHINGTON, D. C.



Central West's Seed Farm

Good Market Awaits the Michigan Grower of Qualified Seeds
By Our Field Editor

DO Michigan farmers fully realize the opportunities that are their's along the line of high-class seed production? Let us talk it over. There are four distinct factors that are essential to the highest success in the seed industry. They are each dependent upon the other three and we have them all here in Michigan in a thriving condition. The first of these essentials is

Superior Seed.

Without a system of developing new varieties of seeds that are superior to the old, the industry would be foiled at the beginning. In our own Profes-

sor Spragg and his able staff of assistants we have, at the state experiment station, an outstanding group of plant breeders. They are constantly selecting, developing and propagating new varieties of field seeds that are being tested out under field conditions by members of the Michigan Crop Improvement Association. New strains of the different farm seeds are thus being discovered that are adaptable to farm conditions and greatly superior to the old standard stocks. Secondly:

Climatic Conditions.

It is well understood by those who have given the subject consideration that Michigan is endowed with a soil and climate that makes her the natural producer of seeds of exceptional hardiness and strong vitality. Farther comment here is uncalled for, except to state the fact that her seeds invariably prove their superiority when shipped into other states. Given the seed and the climate, the third essential must be

The Grower.

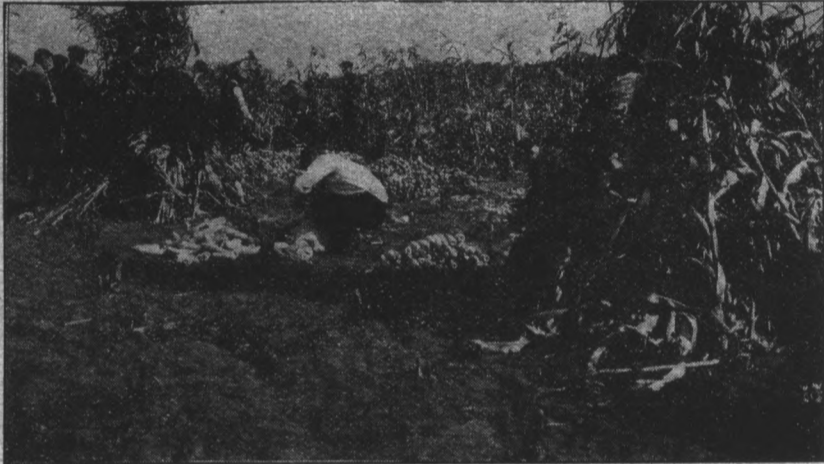
That is you, the farmer of Michigan. Success in a big way requires that you produce the seed. A lot of us are doing it already and reaping the benefits, but there is room for many more. Understand, producing high-class seeds requires high-class farming. Shiftless methods don't go. The inspector who comes to look over your growing crops and finds weeds and

disease and mixtures and carelessness writes on your slip, "Rejected."

However, the way is wide open for you who take pride in your work to enter your fields along with those of your more progressive neighbors in the greatest farm seed industry in the central west. One great cooperative seed farm covering the state of Michigan, that is what it amounts to. But you say, "How am I to go about it to sell the goods?" And here comes in the fourth dimension, the

Facilities for Marketing.

The seed department of the State Farm Bureau has made a most phe-



Ear Row Selection on M. A. C. Test Plots.

nominal growth ever since its inception. It has one of the most modern seed-cleaning plants in existence. Its practice of guaranteeing the purity and germination of its seeds has won for it the confidence of seed buyers the country over, and the demand for the quality seeds it puts on the market threatens to exceed the supply. Under the capable management of J. W. Nicolson and his twenty loyal assistants, the development of the business from month to month is remarkable. They buy and supply seed from and to thousands of farmers in Michigan, both direct and through local cooperative organizations; they ship large quantities of seed into Indiana; Ohio takes six carloads, thirteen hundred bags on the first order; New York is the heaviest buyer; Pennsylvania and Virginia are also good customers. And so the good work grows bigger and bigger.

Because she knows the origin of her seeds and guarantees their quality, Michigan is taking her rightful place as "The Great Seed House of the North," and the outlet for her qualified seed is giving the grower thereof the best market in the United States today.

Any day now, when it's not too cold on the hands, will be all right to prune back those grape vines. Cut all of last year's canes back to two or three



Red Rock Wheat on Ora Bell's Farm Near Mason.

Pyrox gets Top Prices for GARDEN TRUCK



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ADDITIONAL COLLECTION ON TAXES.

What is the right of the tax collector increasing taxes, when not paying the day he comes to collect? What is the limit of time to pay taxes, without paying interest or penalty?—O. H.

Taxes may be paid until January 10 without penalty. After that additional collection fees are allowed of four per cent until the first of March, and continually increasing, depending on the time of payment.—Rood.

LIABILITY OF SCHOOL TEACHER.

Does a school teacher have a right to whip a girl fourteen years old and leave marks on her that show for five days?—Subscriber.

It is the duty of the school teacher to conduct the school under the direction of the officers of the district, maintain order, and enforce the observance of the discipline of the school. In the performance of this duty, in the absence of forbidding statute, and I find none, the teacher may resort to corporal punishment for that purpose, using such measures as are necessary. It has been held that in performing this duty, the teacher is not liable for mere mistake in judgment in punishing the pupil, and that to create a liability by the teacher it must be shown that he acted wantonly or maliciously.—Rood.

JAPANESE KUDZU.

Is Japanese Kudzu adapted to Michigan and is it a paying crop to grow on worn, sandy soils?—A. T.

Japanese Kudzu is a rank-growing vine, leguminous crop that is apparently doing quite well in the southern states, especially Florida. It has been tried at the Michigan Experiment Station at which place the plants produced viney branches from twelve to fourteen feet long. These branches were quite woody and were not very leafy. We believe that sweet clover, Mammoth clover, and soy-beans will be far more profitable for soil improvement under Michigan conditions.—C. R. M.

LIABILITY OF MARRIED WOMAN ON NOTE.

B has to foreclose a mortgage on a farm owned by A and wife. They have a joint deed, and gave the mortgage jointly and also the note. When the farm is sold will the court grant B a decree of deficiency, if there is any, against both A and wife, or just against A?—Subscriber.

Married women have capacity to contract only in reference to their property. Therefore unless the woman's property was in some way involved in the obligation for which the note was given her signature thereon is of no effect, and no judgment can be rendered against her. The husband is nevertheless liable for the deficiency.—Rood.

SHARE RENTAL.

As I am about to rent a large farm on a third, I wonder if you could give me some information in regard to how it should be rented?—H. E. H.

The general practice followed where the farm is rented out on the one-third basis is that the landlord furnishes everything, that is, land, equipment and stock, and the tenant the labor, for which he gets one-third of the income. Such expenses as seed, threshing bill, feed purchased, fertilizer, etc., are divided in same proportion as income.
If the dairy and poultry enterprises

figure in as a source of income the returns should be divided the same as above. Of course, if there is only one or two cows and a small flock of poultry the products might be entirely consumed by the tenant's family.

Agreement should be made so that the tenant would receive at least a portion of farm products that would enter into the family's living. The renter is supposed to furnish all the help necessary to carry on the farm operations. Gasoline for the tractors would come under the same class as horse feed, thus being divided same as income. The farm returns should cover all cash sales of crops, stock, and stock products, as well as stock increase. Thus, returns from bull service would be classed as income.

BUCKWHEAT AS NURSE CROP FOR SWEET CORN.

I have three or four acres of corn stubble, good ground, which I want to sow to buckwheat this season. I would like to know how it would do to sow sweet clover with it. Which would grow the fastest? We sow buckwheat here in June as soon after planting as possible. Would there be a chance to get buckwheat or would the clover beat it out? Would it make good fodder?—C. S.

Buckwheat is not considered a good nurse crop because it is a quick-growing plant that, if it does well, shades the ground almost too much for a clover plant to do well.

On the other hand, it shades at the right time of the year—during the hot dry weather—and if the clover plants live through they will make rapid progress after the buckwheat is harvested. If you get a good stand of buckwheat, there will be no danger of the clover getting too large to interfere with the growth of the buckwheat.

Many have had good success seeding clover with buckwheat. It is worth trying. Don't seed the buckwheat too thickly.

Sweet clover makes good forage for all kinds of stock if cut before it gets too ripe and if sown thick enough so it is not too coarse.

NOT SUFFICIENT PROTEIN.

I would like a little information in regard to feeding milch cows. I have all dry feed, such as hay, corn fodder, carrots and ground corncob, etc. Have six milch cows. In the morning I give each cow one bushel of cut corn fodder, also a peck of chopped carrots and four quarts of corn-and-cob meal. In the evening I give each a slop of about four quarts of corn-and-cob meal. What do you think of this as a feed for milch cows?—T. C.

This ration is woefully deficient in protein. Cows would have to eat enormous quantities of it to enable them to get sufficient protein to produce a normal flow of milk.

Large quantities of carbohydrates would actually be wasted because the cow must use the food ingredients—protein and carbohydrates in about the proportion of 1:6 if she produces milk economically. This ration has a nutritive ratio of nearer 1:12. Therefore, a cow must eat more carbohydrates than she needs to get protein enough, which would be wasted.

It would be better to mix wheat bran with the corn-and-cob meal, equal parts, and feed cottonseed meal also.

Give each cow two pounds of cottonseed meal and also enough of the bran and meal mixture to make one pound of grain for every four pounds of milk. If the cows increase in flow of milk, increase the grain in proportion.

Digs Deep—Works All the Soil

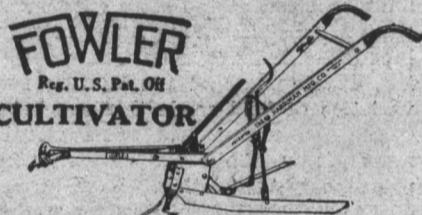


You can penetrate to greater depth, dig up the lower stratum of soil and mix it with top soil; make the seed bed that results in bigger crops—bigger profit—by using the
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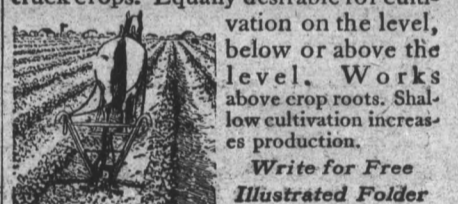
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ENGLISH SPARROW DEPREDATIONS.

I REALIZE fully that in these days there are many things that are considered of more importance than the despised English sparrow, but with our efforts to conserve all the food possible we have got to take the sparrow into consideration. He is an alien enemy, and he is getting more destructive every year, and increasing in numbers at a rapid rate. There will have to be concerted efforts on the part of the farmers to destroy the pest or their grain fields will be ruined.

It was about ten years ago when they began working in the wheat fields as soon as the grain began to ripen, and this year, for the first time I have noticed them in the oats. With all of our small grains at their mercy, and their numbers increasing, what are we going to do? In a few years they will not only destroy our ripe grains, but they will begin on it sooner, and by the time it is ripe enough to cut there will not be much of it left. The pests not only take toll from the fields, but from any place where they can gain an entrance.

The granary on this place, which my brother bought in the spring, is rather old, and the door has sagged, so there is a crack above that the sparrows can slip through. In May they made the discovery, and also that there was a bin of oats inside, and they were soon taking full advantage of the fact. Not only our "own" sparrows, but those from a neighbor's place, twenty-five or thirty rods away, would come and eat, and fly back to the other place. Probably they were taking a quart or two of oats a day. The door was made tight, and the hungry birds, with more intelligence than I had previously given them credit for, hunted for other openings to the coveted grain. There were no ridge boards on the roof, and the shingles did not meet perfectly, and the sparrows were soon going down through the ridge. Boards were put on, and they again found their way barred, but not for long. There had been a window on one side, and a shed having been built on that side, the opening was loosely boarded up, so loosely, in fact, that the sparrows soon found a place to enter, and took full advantage of it. Then that place, and every other place they could possibly gain an entrance, was closed. They hung around for a few days, and then gave it up, but the feed in the barn must be closely covered, and when the hens are fed, the sparrows are on hand to get their share.

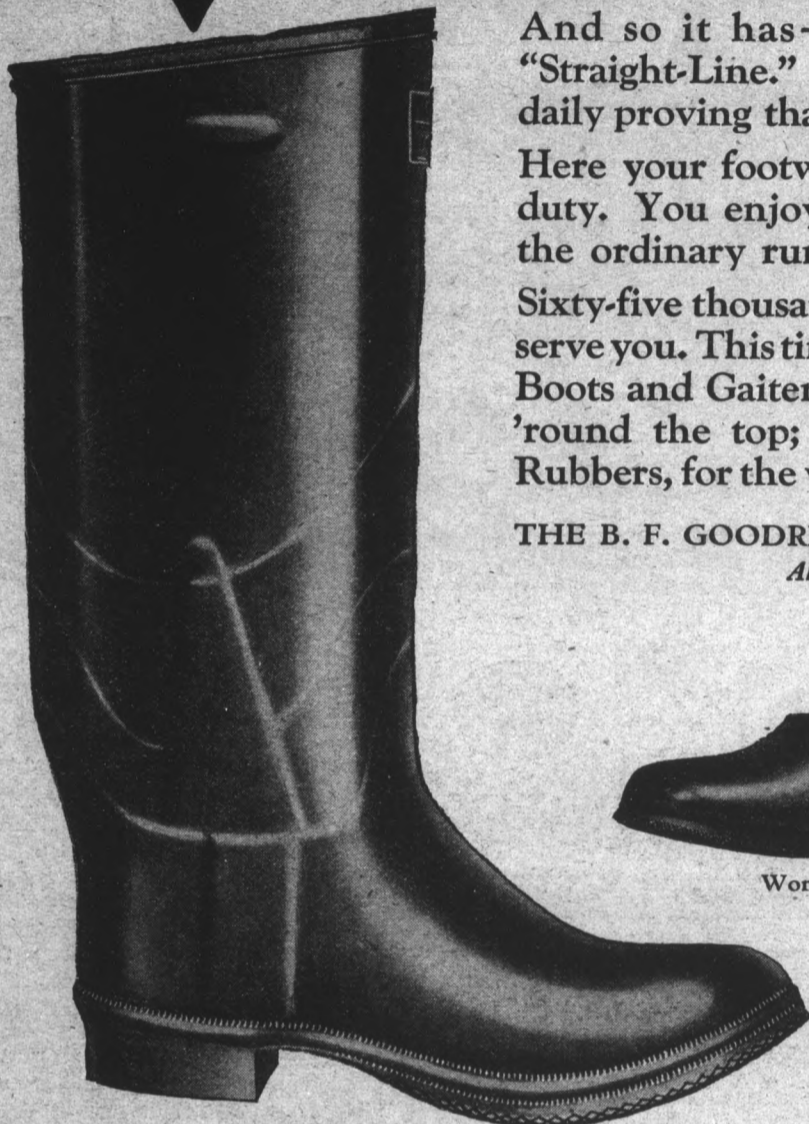
Did any of the Michigan Farmer readers ever know of sparrows roosting in trees? I never did until last summer. They were roosting in two maples near the house, hundreds, or thousands of them, every night. The most of them in one tree. The tree is forty or fifty feet tall. How can we get them, wholesale? Can anyone suggest a way? If one should burn sulphur or brimstone, on a dark, still night, in several places under the tree would the fumes kill the birds?—Apolos Long.

THREE COW-TESTING ASSOCIATIONS.

KENT county now leads the state in the number of cow-testing associations. Just recently its county agent, K. K. Vining, organized its third association.

As part of his 1923 program, Mr. Vining is going to specialize in cow-testing association work and hopes to have about six associations established before the year is over. Much of this work is possible because of the enthusiasm worked up among farmers during the dairy and alfalfa campaign.

Look for the RED LINE 'round the top



It stands to reason that fifty years' experience in rubber goods manufacture would produce something very unusual in the way of footwear.

And so it has—in "Hi-Press" and "Straight-Line." Millions of wearers are daily proving that fact.

Here your footwear dollars do double duty. You enjoy a service far beyond the ordinary run of rubber footwear.

Sixty-five thousand dealers are ready to serve you. This time demand "Hi-Press" Boots and Gaiters—with the Red Line 'round the top; and "Straight-Line" Rubbers, for the whole family.

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Note that these soft, porous flakes have no flat surfaces to stick together. Lumps cannot form. From an actual micro-photograph.

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The cubes or flakes of ordinary salt have flat surfaces which the moisture in the air cements together. Lumps form, causing waste. But the tiny flakes of Colonial Special Farmers Salt are so soft, porous and irregular that there are no flat surfaces. They can't stick together. Therefore hard lumps or cakes never form in Colonial Special Farmers Salt.

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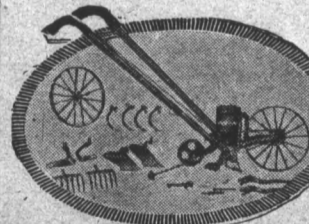
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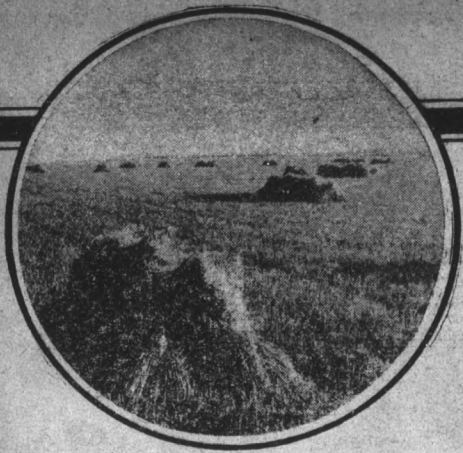
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Certified Seed Oats and Barley

These varieties are certified after field and bin inspection on the basis of freedom from mixtures, foul seeds and diseases.

Through years of constant selection and elimination of weaker strains, they are the highest yielding in the state.

Even those who purchased seed of these varieties two or more years ago can afford to purchase new seed stock at the reasonable prices quoted this year.

If you are growing "Just Oats" or "Barley" you cannot afford to miss this opportunity to make money on the increased yields these varieties will return.

Wolverine, Worthy Oats

6 to 25 bushel lots, \$1.00 per bushel, f. o. b. Lansing, Michigan.

Wisconsin Pedigree and Black Barbless Barley

6 to 25 bushel lots, \$1.40 per bushel, f. o. b. Lansing, Michigan 2 1/2 bu. jute sacks extra 16c each; 16 oz. grain bags 47c each.

Seed Corn, Beans, Soy Beans, etc., should also be ordered now.

If your Local Co-Op. cannot supply you with these high yielding, disease free, certified varieties,

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Here's the ideal garden for a small plot of ground. Will produce a large crop of choice berries for you. Set out this garden and get your strawberries fresh from the vines. Will do well anywhere—any soil—any climate—even in rather dense shade. Occupies space about 10 ft. x 25 ft. Consists of 10 plants from four of our very best varieties.

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WORTHLESS HIRED MAN TEACHES BOSS A LESSON.

A WORTHLESS hired man taught me, strange to say, the most striking lesson about fertilizers that I ever had.

I caught this fellow running a potato planter without any potatoes in it. I sent him back over the row. That gave this row a double dose of fertilizer. I figure it was fertilized at the rate of about 1,500 pounds per acre.

You ought to have seen that row when we dug; it brought at least a third more potatoes. That convinced me that 1,500 pounds isn't too much fertilizer on an acre of market garden crops; in fact, I have since used as much as a ton of fertilizer to the acre on such crops, and have found that it paid.—N. M. Thomiley.

SPUDS AWAIT CARS.

THE United States Bureau of Agricultural Economy says that there are 160,000 carloads of potatoes which cannot be shipped because of the lack of cars. This is the largest surplus of potatoes in the growers' hands in the last nine years.

The ability to sell these potatoes will depend upon the absorptive power of the market, but it is estimated that about 80,000 cars will be sold while other half will be kept on the farms for seed purposes.

Another Washington report shows that about 50,000,000 bushels, or approximately eleven per cent of last year's potato crop were wasted, consumed on farms or left undug.

FREMONT CREAMERY PROSPERS.

AT the annual meeting of the Fremont Creamery Company, the old board of directors, consisting of Dirk Kolk, James Murphy, Henry Kolk, E. J. Garlough, John Poppa, Henry Rozema, and Joseph Rozema, was re-elected. The financial report of the year 1922 showed the business to be in a flourishing condition. During the year \$108,000 worth of butter was made and sold, while \$96,000 was made and distributed among the patrons. The business of the year showed a net profit of \$2,842.72.

An innovation for farmers' organizations in this vicinity was staged by voting to hold a banquet at the next annual meeting at the expense of the corporation.

Claire Taylor, county agricultural agent, spoke a few minutes on the work of the Newaygo County Farm Bureau which is concentrating its efforts this year on the dairy business. He reported another cow-testing association in the process of formation.

After the business meeting, an address was given by H. E. Dennison, dairy extension specialist of the Michigan Agricultural College. He gave proper management and volume of business as the main factors for the success of the creamery business and congratulated the Fremont Creamery for possessing both these factors.—H. L. Spooner.

TO TEST SOILS.

IN accordance with the plans of the Soils Department of the Michigan Agricultural College, most of the soils in the state will be tested for acidity during the next few years. Prof. C. H. Spurway, of the department, has developed a process of testing by which a few drops of a special solution on a piece of waxed paper will reveal effectively the acidity of the soil and its lime requirement. As the proper amount of lime in the soil is the keynote of profitable farming this simplified test will have far-reaching effect.

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GRAPES STRAWBERRIES BIG Small Fruits, Garden Seeds, Bulbs and MONEY Plants. Our catalog tells you how to CROPS, grow them. It's free. Write today. RANSOM SEED CO. PANY, Geneva, Ohio.

Concord Grape Vines 1 yr. No. 1, \$40 per 1000. Fruit trees, Berry Plants and Shrubbery. Write for free catalogue today. FEATHER'S NURSERIES, Baroda, Michigan

STRAWBERRY PLANTS \$3 per 1000. history illustrated book free. You will learn, and valuable illustration. Address MAYERS PLANT NURSERY, Merrill, Mich

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EARLY-BIG YIELD STRAWBERRIES

Make as high as \$1200 per acre with my plants. As for GIBSON the hardest, the EATON, the exquisite. Reasonable prices, quality guaranteed. Write for free catalog today. Lists best varieties Strawberries, Raspberries, Blackberries, Grapes, etc. LAKE SHORE NURSERIES, R. R. 1, Bridgman, Michigan

MOST MICHIGAN GRAPES SOLD COOPERATIVELY.

MORE than \$2,000,000 for 2,600 cars of grapes, averaging twelve tons to a car, is the record for the 1922 season of the cooperative growers' associations of Michigan. Records show that the cars were shipped into 231 central markets in thirty-four states, going east to New England, west to Arizona and Utah, and south to Florida. It is estimated that the cooperatives control about seventy per cent of the state.

DANGER FROM GASOLINE.

THE writer happened recently upon an advertisement which began something after this fashion: "If a quart of gasoline will carry your Ford a distance of four miles how far will one gallon of it carry the roof of your house?" Certainly, here is food for reflection! Plenty of people there are who never stop to figure it out until after the explosion carries roof and walls and everything else before it. The danger of using gasoline for cleaning or other purposes, lies not so much in its being inflammable as in the fact that its vapor, when mixed with air in the proper proportions, is highly explosive. A slight draft will carry the vapor oftentimes to an open flame, and ignition, with explosive effect, will occur, regardless of the fact that one considered oneself sufficiently removed from such to be in no danger.

We recall a disastrous fire which occurred in a country town and which was due to the fact that two men sought to empty a barrel of gasoline into an underground tank. They were working in the open air unmindful of the fact that the wind was blowing directly from them toward the building where double doors stood ajar. Gasoline vapor was carried into the building and found its way to an open fire at the far end. The explosion which followed blew the whole side of the building out, let the roof fall in and more speedily than it takes to tell it the entire structure was a mass of seething flames. This is the time of year when gasoline for cleaning purposes is used oftentimes within doors because of inclement conditions outside. It should be remembered that the cooking or heating stove, the kerosene lamp or anything else of this kind offers the spark which will set off the explosion should the gasoline vapor mix with the air in just the right proportions. Be careful.—Orin Crooker.

THE BLUEBERRY BUSINESS.

AFTER sixteen years of experimentation, the United States Department of Agriculture has established the growing of blueberries as a commercial industry. The experimental work has been carried on at Whitesbog, New Jersey, where over twenty thousand hybrids have been tested. About a half-dozen of the best of these have been placed in the hands of several nurserymen, but only one, the Pioneer, is as yet commercially available.

Unfortunately several unscrupulous nurseries have taken advantage of this fact by advertising blueberries in a misleading way. One company uses an illustration from a government bulletin and leads the reader to believe that the variety they are handling is similar to that shown in the illustration. But the facts are that all they are selling is the ordinary blueberry.

The chief requirements for blueberry culture is an acid soil, as the blueberry will not thrive in neutral or alkaline soil conditions.

Farmers! Greeting! Let's Know Each Other Better

NEARLY three-quarters of a century ago the *Dickinson Seed* business was started. The enterprise, skill and integrity of its founders laid the solid foundation. The Institution has slowly, but surely, taken form. Every brick in the structure spells hard work, service, skill.

Our occupation is the securing, from far and near, of the staple field seeds needed by farmers. Once

secured, their purification and refining is our most important work. Nature supplies the seeds as rough diamonds—we finish them. When our work is completed the seed is clean. We are wholesalers, organized to do a volume business, and we do it! We distribute our seeds through other merchants. Economy of operation, with lowest freight rates for quantity, land the seeds at distribution points at lowest possible cost. Each year uncounted thousands of farmers sow

Dickinson's Pine Tree Brand Farm Seeds

and the number increases. Each year countless thousands of acres blossom like the rose. Farmers are satisfied! Our mammoth capacity is sometimes strained. We keep working.

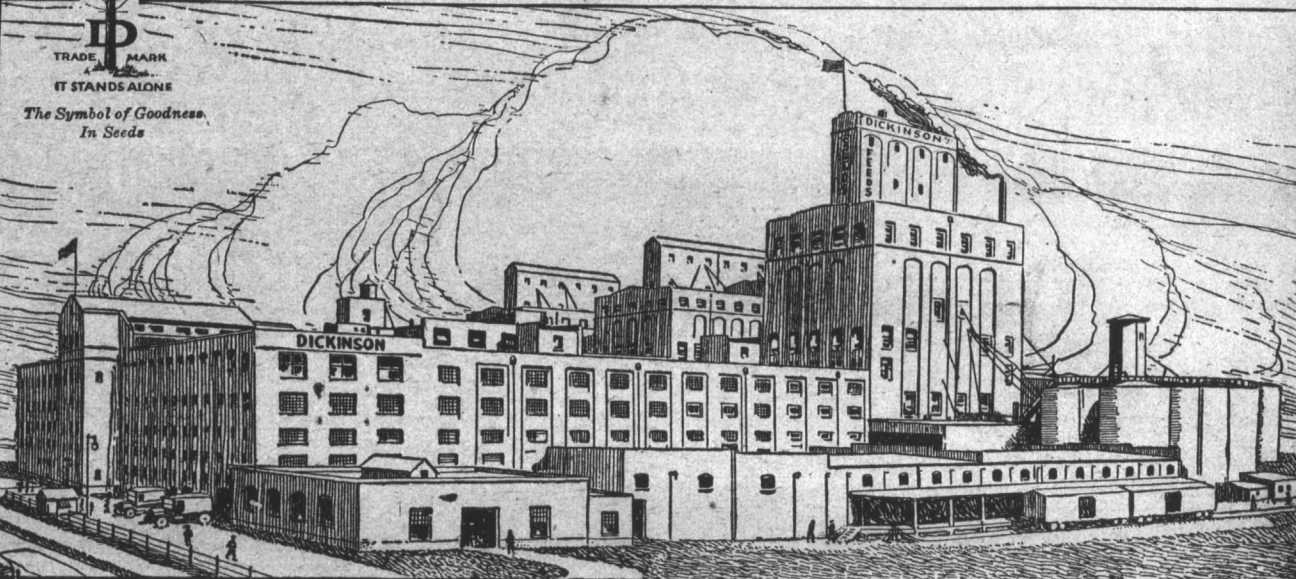
Farm Bureaus and Co-operative Societies are active. What does the future hold for them? Whatever part of their activities is for the public good, might well be encouraged. As citizens, we observe. As merchants, we study. As merchants do not forget that it is our business to continue to serve the farmer to his entire satisfaction, and for his good. His good means our good.

The demand for good seeds is insistent. The Department of Agriculture at Washington, and State Experiment Stations, with their disinterested workers, are of constant benefit to farmers. Watch them. They will advise well. They consistently advocate good seeds of known origin. Our business is to supply the best. We do it! The accumulated endeavor of years, as represented in our

business, is at your service. Thousands of dealers, year in and year out, supply their customers with *Dickinson's Seeds*.

Farmers! Look well! Beware! Be sure of what you buy, but—don't pay too much for your whistle! Ask your dealer what he knows about *Dickinson's Pine Tree Brand Farm Seeds*.

THE ALBERT DICKINSON CO.
Pine Tree Brand Farm Seeds, Globe Feeds and Nod-O-Gen
Chicago, U. S. A.



One View of Dickinson's Chicago Plant

The Albert Dickinson Co., 2766 W. 35th St., Chicago, Ill.
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Yours truly,

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Street _____
Town _____ State _____
Feed Dealer's Name _____

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

With prices where they are, only a bumper crop can make the farm pay a good return this year—and the first essential of a big profitable harvest is **Hardy, Big-Yielding, Michigan-Grown**

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720 Mechanic St. (48) Jackson, Mich.

Your name and address on a post card will bring you this valuable book—this Guide to Better Crops. It describes the best in seeds—gives cultural directions—shows how Isbell seeds are grown and quotes direct prices. It is one of the most helpful catalogs in America. And samples showing quality of Field Seeds in which you are interested will be sent free on request. Send today—It's Free.

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WHITTEN Strawberries BRINGS MORE PER CRATE
\$500 to \$1500 profit per acre. Safeguard against loss. Insure larger, better yields. Famous WHITTEN plants are always sure to grow—33 years' experience guarantees healthy, strong, heavy-rooted Strawberry and small fruit plants. Never a failure. FREE—1923 Catalog. Illustrated in colors. Describes standard and exclusive varieties of Strawberries, Blackberries, Raspberries, Dewberries, Grape Vines, etc. Full of valuable information. Tells about "Collins," King of the Canes and "EATON," the market Strawberry that brings you \$1.00 more per crate. Learn from experts "How to Set and Grow Berries." Send postal now. C. E. WHITTEN & SON Box 14 Bridgman, Mich.

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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

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THIS NEW and better egg. Deep red prolific, and of Your Garden is half your living. Poor seed always means a poor garden. My seeds are all tested, and will really GROW!
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One of the very best seed books ever published. 84 Pages of reliable seed information, cultural directions and descriptions of vegetables and flowers. Beautifully illustrated. A copy is ready for you. **I. N. SIMON & SON** 438-B Market Street, Philadelphia. Established since 1890

FARMERS: Increase your yield my Golden Yellow Dent, pure bred seed corn. 21 years of breeding and field selection are back of my strain of Yellow Dent, Michigan's foremost variety, but none International and M. A. C. sweepstakes winner. \$4.50 bu. shelled and graded or \$6.00 packed in ear F. O. B. Mason, limited amount, high germination, guaranteed. Chas. Laughlin, Danville, Mich.

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Before it is too late find out if you have sour soil. We show you how. We send all necessary materials. Same test used by soil experts. FREE—No obligation. Write today for catalog—price.

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lime and phosphate distributor cures sour soil at low cost. Insures bumper crops. Spreads lime, phosphates, all fertilizers 16 1/2 ft. wide—twice width of others. Cuts work and time in half. Fits any end gate wagon. Handle material once, Freight car to field. Write for latest price.

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Albion steel and wood mills are quiet and powerful. One-third the working parts of any other mill. Only main flywheel bearing subject to wear. This is oilless, and easily replaceable. Governed by dependable weight without springs. Fits any 4-post steel tower. Why not shorten your chafe 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.

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Grown From Select Stock—None Better—53 years selling good seeds to satisfied customers. Prices below all others. Extra lot free in all orders I fill. Big free catalogue has over 700 pictures of vegetables and flowers. Send your and neighbors' addresses. R. H. SHUMWAY, Rockford, Ill.

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Full of valuable information every farmer should have. Tells how I manage big 1500 acre farm. Beautiful illustrations—our pedigreed herds and seed crops. Information worth \$500.00 but costs nothing. Tells how to double farm profits—what to feed and seed. Write today—sure. 6-23
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SEEDS FOR YOUR GARDEN THAT GROW BIG CROPS

HAVE YOU GOT TO BE SHOWED? All right, I live close to the Missouri line and I can show you on anything in the seed line. Seed book and "Seed Sense" free. Also samples and advice (such as it is). I can send you seeds that will really grow. Write today for free books and samples.
HENRY FIELD SEED CO.
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EMPIRE Reduced prices Catalog free. Mfg. Co., Box 289, Quincy, Ill.

Increased Profits

Bigger returns from pigs sent to market thirty days earlier soon pay for a dry, sanitary, vermin-proof, fire-safe, hog house of Natco Glazed Hollow Tile. Free from painting and repairs, perfectly ventilated. Easily erected at reasonable first cost—no upkeep expense. Write for your copy of the new Natco on the Farm Book.

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1306 FULTON BUILDING :: PITTSBURGH, PA.

News From Cloverland

By L. A. Chase

ABOUT ISLE ROYALE.

MR. JOHN LOWE, head of the department of biology of the Northern State Normal School, speaking in the Normal Auditorium, recently, gave an interesting description of the topography and resources of Isle Royale, based upon two visits which he paid to the island while connected with the Department of Conservation of Wisconsin. The soil of the island, he says, is third-rate for agricultural purposes, but there is an abundance of animal and vegetable life. The forest cover is chiefly of balsam, interspersed with black spruce, white cedar, and a small amount of Norway and white pine. He places a low value on the standing timber since it is much stunted and twisted, due probably to the strong winds that blow over the island.

He thinks the official reports of the amount of moose to be found there are exaggerated. The water vegetation upon which the moose feeds is insufficient to support the one thousand moose, said to be found there, he thinks.

The island is some forty-five miles long and averages about nine miles in width. At one time it was frequented by Indians in search of copper, and the evidences of their mining operations were until recently visible. The Indians are supposed to have heated the copper-bearing rocks with a wood fire and then to have poured on cold water to crack the rock and release the metal. Their copper pits are still to be seen. For a time unprofitable copper-mining was engaged in by white miners from the United States.

There is a club-house near Washington Harbor maintained by people from Minneapolis and St. Paul. This, with a game-warden of the State Department of Conservation, and a few fisherfolk constitutes the sole inhabitants of the island. Scenically, Isle Royale is very attractive and would make an ideal natural park if more accessible. It is the only place in the United States where we find the flora and fauna characteristic of the Hudson Bay region of Canada.

ACCREDITED HERDS IN UPPER PENINSULA.

THERE are three accredited herds of Holstein cattle in the Upper Peninsula, according to Dr. F. K. Hansen, assistant state veterinarian of the State Department of Agriculture. Two of these herds are at Manistique and one at Chatham. These are herds of pure-breds which have responded successfully to the two annual tests without any unfavorable reaction in the case of any member of the herd. The herds contain in all, sixty-one individuals. They belong respectively to John Brink, C. E. Hamiel and the Upper Peninsula Experiment Station of the Michigan Agricultural College. Such a distinction carries with it important privileges of shipment and sale and can be accorded only in counties which have carried forward work for the eradication of bovine tuberculosis.

CHIPPEWA NEWS.

CHIPPEWA county is one of the few counties of the state—perhaps the only county—which has continued to pay a bounty for the destruction of wolves since the state abolished the bounty system on state account. Care is necessary, however, to see that the hunters from without the county do not cross over and seek to collect the bounties for killing outside Chippewa. The campaign in Chippewa for

the contracting of one thousand acres of peas to insure the erection of a canning factory at Sault Ste. Marie has not yet brought the total to the required figure but is still being carried forward in the expectation of success. A considerable acreage, (884 acres), however, has been signed up.

IMPORTANCE OF FARMING.

TO show the importance of farming in the copper country of Michigan, particularly in Houghton county, Mr. L. M. Geismar, county agricultural agent, presented some interesting statistics to the Calumet Chamber of Commerce recently. He estimates the aggregate income of farmers in Houghton county at about \$743,000 per year. Much of this income is expended locally. Banks receive \$45,000 interest, and \$149,000 is paid out for farm labor, \$11,000 for fertilizer and dry-goods. This indicates what can be accomplished with greater agricultural progress in this large, but as yet not completely developed county. Mr. Geismar argued that his farmers require not more cleared acres but better products.

Meanwhile, the Calumet Chamber of Commerce is urging the Duluth, South Shore & Atlantic Railroad and the Copper Range Railroad to put into effect a lower rate for farm products, particularly potatoes shipped out of the copper country, without which the farm industry of the region is imperiled, it is stated. It cites the case of one farmer who, last season, sold a quantity of potatoes for \$700 and paid \$342 in freight on them. Otherwise, it is stated, Houghton county farmers will turn from potatoes to other products.

In the neighboring county of Ontonagon, farmers have sought a reduced freight rate on hay shipped by rail from the south to the north and of the county, and so far the local railroads have promised a reduction of four cents per hundred. This is not recognized as sufficient and the matter has been referred to the state public utilities commission which has set March 8 as the date for the hearing.

FARM PRODUCTION INCREASES IN VALUE.

FIGURES from Washington show that the value of farm products have increased two billion dollars over last year. This increase was for crops alone, as animal products showed a decrease.

Crop values for 1922 were \$8,961,000,000, while those of 1921 were \$6,934,000,000. Animal products showed a value of \$5,349,000,000 in 1922, compared with \$5,468,000,000 in 1921.

The 1922 crop value was forty-six per cent higher than in 1913, but its purchasing power in terms of other products was 10.1 per cent less. The 1921 purchasing power was 29.7 per cent less, so during the year there was an increase of nearly twenty per cent in the farm products purchasing power.

Figures show that farm wages are lower than three months ago, the decline ranging from 3.1 per cent to 6.4 per cent.

The average wage of day farm laborers for the country is \$1.98 per day without board, and \$1.47 with board. The average for the months hands is \$40.30 without board, and \$27.81 with board.

Says Sam: When roads get bad and you can't get to the village, take a book and go to the other end of the world.

Eureka

Potato Planter



OPENS FURROW, DROPS FERTILIZER, DROPS SEED AND COVERS — ALL IN ONE OPERATION



MORE bushels per acre and less cost per acre result with use of Eureka One-Man Planters. This double profit increase pays for the machine many times. Over 22 years of success. One man and team opens furrow, drops seed any distance or depth, drops fertilizer if desired, covers, and marks next row. Furrow opens and seed drops in plain sight. Better start, bigger yields. Operates in any soil. Write today for catalogue describing largest line of planters made. Sizes for 1 and 2 rows, with or without fertilizer attachment. Special attachments for unusual soil or field conditions. In stock near you.

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Berry Plants — The kind Baldwin grows on his Big Berry Plant Farms have deep, heavy roots — are hardy and healthy. They start their growth quickly, produce largest fruit crop. IT'S READY FOR YOU. Baldwin's Big Berry Plant Book will be sent on request. It's a down-to-date Fruit Grower's Guide, beautifully illustrated, chock full of useful information on best ways of growing Strawberries and other small fruits. Our plants all freshly dug to fill your orders. Scientifically packed for safe shipment. Write tonight — get our book and start right. O. A. D. BALDWIN, R. 2, S. Bridgman, Mich.

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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.

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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. 63 Galva, Ill.

FARM COSTS ON DECLINE.

THE United States Department of Agriculture has issued some interesting information on farm production costs. It has gathered this information to assist the farmer in learning what it really costs him to grow his crops.

As a country average, the 1922 wheat crop was produced at an average cost of \$1.25 per bushel, whereas the same crop grown in 1921 cost \$2.01. The yields were nearly equal that of 1922 being fourteen bushels to the acre, while that of 1921 was thirteen bushels.

Spring wheat cost \$1.00 per bushel to produce in 1922 and \$2.20 in 1921. The average production was fourteen bushels in 1922 and nine bushels in 1921. The lower production in 1921 undoubtedly had some slight effect in the higher cost that year for this crop.

In the great corn belt states, Kansas, Nebraska, Iowa, Illinois and Indiana, it cost sixty-one cents to grow a bushel of corn, with a yield averaging forty-four bushels per acre.

Some interesting figures were compiled on potato production in Minnesota. For instance, in 1913 it cost thirty-eight cents to produce a bushel and in 1922 it cost fifty-seven cents. The Minnesota farmers got an average of 103 bushels per acre; but in Stuben county, New York, where the average was 141 bushels per acre, it cost only forty-three cents, or only twenty-three cents higher than the pre-war figure. The Minnesota cost was fifty per cent higher than 1913.

HORSES GETTING LESS POPULAR.

OLD DOBBIN is still unable to compete with the automobile and is steadily losing ground, according to the United States Department of Agriculture. The number of horses on farms on January 1, 1923, showed a drop of 203,000 as compared with a year ago, while cows showed an increase of 247,000; other cattle, 373,000; sheep, 882,000, and swine a gain of 5,590,000.

The decrease in the use of the horse in towns and cities has been much greater than on the farm. On farms the decrease amounted to seven per cent in the decade ending 1922, while the horses in towns and cities decreased forty-six per cent in the decade ending 1920.

MICHIGAN A LEGUME STATE.

WHEN the 1920 census figures were gathered, Michigan was near the top as a legume state. Then only one other state in the Union had more acres devoted to legume crops, New York state leading. At that time Michigan led in the acreage and production of white beans, stood second in dry beans, was third in clover and timothy hay mixed, fourth in soybeans, ninth in clover and twenty-first in alfalfa.

Since the year 1919 when the crop acreage was secured by the census men, Michigan has made wonderful strides in building legume prestige. Our alfalfa acreage has jumped from 74,059 acres in the census year, to 193,458 acres in 1922, according to the figures gathered under the crop statistical law passed in 1921. The acreage of soybeans has doubled, while tame hay which includes mixed hays and clovers, has jumped from two to over three million acres.

A few cats save much grain and a great deal of annoyance.

Protect the house with a matchbox. Speed the hogs with feed.

The clock sets an example to many a man in town. It never fails to take a rest whenever it runs down.

New life for your engines— and a lower operating cost



Movement in a gas engine means friction—friction means wear—wear means changes in adjustment. Therefore, power losses of some kind are inevitable. This friction can never be entirely eliminated, and that's why we have the wear problem. Wear of piston against cylinder wall—cylinder wall against piston—wear on piston rings, no matter how finely adjusted—wear on piston grooves which hold the rings in place. This wear destroys the original adjustments, pressures and balances—and away rushes power.

All that many motors need to restore their maximum power and economy is McQuay-Norris Piston Rings. Made of Electric Iron for every price and purpose, but your best investment is the combination of LEAK-ROOF Rings for power and Superoyl Rings

to prevent oil trouble. In some engines you'll find the cylinder walls so badly "out of round" that they need regrinding or reboring. There are shops which specialize in this work. Then you'll want McQuay-Norris Pistons and Pins as well as McQuay-Norris Piston Rings. In any case there's no use in putting up with powerless, wasteful engines. You can make them practically as good as new with McQuay-Norris equipment.

Your dealer has McQuay-Norris Piston Rings, Pistons and Pins in stock to correctly fit your needs or can get them promptly from his supply house.

Learn how free!

Write our Dept. AE today for free booklet, "To Have and to Hold Power." It explains why gasoline engines wear out and how to have them rebuilt so as to restore their old-time power and economy. Write for free copy at once.

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PISTON RINGS
PISTONS
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FOR AUTOMOBILES, MOTOR TRUCKS, TRACTORS, STATIONARY GAS, OIL AND STEAM ENGINES, MOTOR BOATS, MOTOR CYCLES, AIRPLANES, COMPRESSORS, PUMPS, LOCOMOTIVES, STEAMSHIPS, REFRIGERATING MACHINES.

McQuay-Norris Wainwright Pistons and Pins—gray iron pistons as light in weight as safety permits—specially designed for replacements—available in standard sizes and oversizes—also in semi-finished form 75-thousandths oversize. Pins of exceptional accuracy. Made of special heat-treated steel.

LEAK-ROOF—its exclusive two-piece design means equal cylinder-wall pressure at all points. Its greater flexibility means better performance in worn cylinders. Best for all grooves except top, which should have Superoyl. Made of Electric Iron. Price per ring—

Superoyl—stops oil trouble. Keeps lubricating oil out of combustion chamber. Collects excess oil on each down stroke of piston and empties on each up-stroke, which ordinary grooved rings cannot do. Made of Electric Iron. Price per ring—

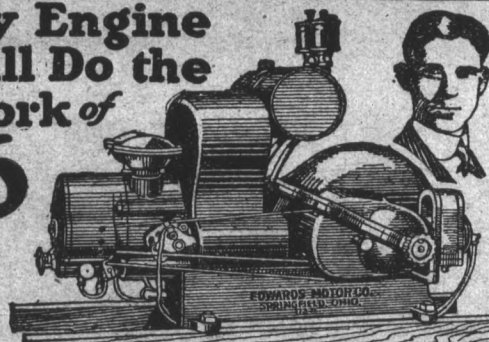
JIFFY-GRIP—the quick-seating ring with the non-butting joint. "Seats in a jiffy." Can be fitted closer than the ordinary step-cut rings. Ends cannot butt when fitted tightly as quick-seating rings should be. Made of Electric Iron. Price per ring—

Snap Rings—of the highest grade. Raised above the average by McQuay-Norris manufacturing methods. Made of Electric Iron. Their use insures all the satisfaction possible for you to get from a plain snap ring. Price per ring—



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"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 Manitowish 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.
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MILK BOTTLE CAPS \$1.00

85 Pound Standard Slate Surfaced Roofing

\$2.00 Per Roll

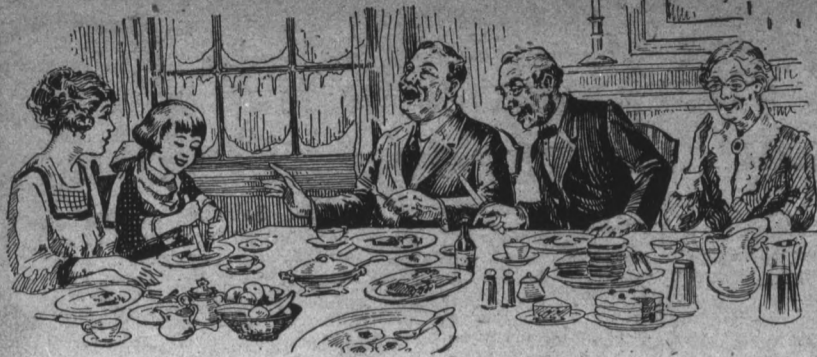
Lay Your Own Roofing This Spring
Do it in your spare time. No experience needed. Only hammer and jack knife required. Use our standard Radio Slate-Surfaced Roofing.

Approved by Fire Underwriters
Spark proof. Fire resisting. Better protection than wood shingles. Extra durable and not affected by heat or cold.
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—And Dad, he said, 'Let's go to Uncle Andrew's 'cuz the hull house is warm the coldest day —and Aunt's cooking can't be beat'

And mother said 'I could bake just as good as Aunt Angie if we had her oven and our house would be nice and warm upstairs too, and we could save money, if we had a Red Cross Pipeless Furnace. I'll tell you right now, Frank Warner, no more putting off till next winter. We're going to get 'em this spring, and then I'll be sure of having 'em' and dad said 'Awright'.



Red Cross Furnaces and Ranges
Since 1867 Red Cross cooking and heating apparatus has maintained an unexcelled reputation throughout the whole world.

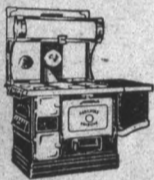
Red Cross Pipeless Furnaces. Any fuel. Complete ranges of sizes; 7 styles. Each piece or section made proper size and capacity. Constant circulation of pure warm air throughout the house. 18-in. to 33-in. fire pots with sides straight. Ash pit is high, deep and roomy. Most durable and efficient type of grates. **Red Cross Ranges** are "the aristocrats among ranges". Large, deep fire box, roomy ash pit, and full size oven with many exclusive features, make perfect baking a pleasant pastime. Delicious bread, rolls, cake and pastries can be made without forcing the oven.



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10 lb. tins . . \$13.50
2 lb. tins . . 3.50
1/2 lb. tins . . 1.25
1 oz. bottles . . .35



Nuts for the North

(Continued from page 291).

wood are available at reasonable prices.

As might be expected, these improved sorts have originated in the same way as have many of the improved varieties of other fruits—namely, as chance seedlings springing up in the dooryard, along the fence row or in the pasture. There is nothing particularly mysterious or unusual about this method of origin. Nearly every farm boy knows that certain nut trees yield of much better grade than others. If there is a particularly fine tree within a radius of several miles of his home he is likely to know about it. It is, however, nothing more than an instance of the individual variation that is universal in the species; and the trees that have been considered worthy of vegetative propagation simply represent extreme or unusual development in some one respect.

Improved Varieties that are Available.

Apparently among the best of these is the Stabler, a chance seedling found in Maryland. The nut is only of medium size, but the shell is thin and it cracks readily, as a matter of fact, with but little more difficulty than many English walnuts or filberts. Best of all, the kernel comes out easily, usually in halves and often in a single piece. This latter characteristic is particularly valuable. It is especially interesting also, because in those instances in which the kernel comes out whole the bony partition which in other nuts is found between the two halves is crowded over to one side of the cavity or locule and the kernel has a chance to develop as a single large piece. Associated with the easy cracking quality of the shell is an unusually high quality of the kernel. Altogether the nut is very superior, contrasting as favorably with the average black walnut seedling as do the Concord or Catawba grapes when compared with the wild forms from which they sprang. One of the accompanying illustrations gives a fair idea of the size and shape of the nut and kernel of this variety and it serves to show something of the ease with which the shell is removed.

Among the other improved black walnut varieties that have been introduced to the trade may be mentioned the McCoy, Kinder, Ten Eyck, Miller, Ohio and Thomas. Some of these are very promising, though little is known of how they will compare with one another in earliness of bearing, yield and other tree characters when grown under Michigan conditions.

That some will prove much better suited to our conditions than others there can be little doubt. A number of these varieties are already growing on the Agricultural Experiment Station grounds, and stock of the others is being obtained for comparative and experimental purposes. New additions to this list of varieties may be expected.

Only a few weeks ago attention of the department of horticulture of the Michigan Agricultural Experiment Station was directed to a tree near Grand Rapids that for many years has been bearing heavy crops of very fine nuts. Some of the nuts from this tree are shown in one of the accompanying illustrations. Without doubt this tree is worthy of propagation, at least for careful trial alongside of the already-named varieties.

Several varieties of the hickory or of hickory hybrids have been introduced into cultivation, but few of them represent such an improvement over the average seedlings as to merit, general planting, or even general trial. One variety, Fairbanks, however, is very superior. The nut is of large size and very thin shelled; the kernel is

easily removed from the shell, generally coming out in halves, and it is of excellent quality. Practically nothing is known of its adaptability to Michigan conditions, but it is hardy and should be thoroughly tried.

Various Japanese or Chinese walnuts have been grown in this country for many years for ornamental purposes. Trees of these species (especially *J. cordiformis*) are not uncommon in the southern third of Michigan, where they yield heavily. The average seedling of these Oriental walnuts, like the average seedling of the native black, is hard-shelled and the kernel crushes badly in cracking. However, one improved variety, the Lancaster, has been introduced to the trade. It has good cracking quality, the kernel is easily removed and it is of excellent quality. In flavor and texture this walnut resembles the native American butternut more than the black walnut. Those who are partial to the flavor of the butternut should thoroughly test the Lancaster Heart Nut.

Nut Trees Can Be Grafted.

Data regarding the culture of these improved black walnut varieties are very limited. However, a few things are known—enough to dispel some of the notions that are rather generally held regarding nut trees. In the first place, it may be stated that these improved black walnuts are as hardy, vigorous, insect and disease-free, in brief, as fool-proof, as the average black walnut seedling. Contrary to what might be generally expected, these improved varieties are comparatively rapid growing, they come into bearing young, and some at least are productive. Set an improved black walnut tree in a good soil, give it as good culture as you would a peach or an apple or a pear, and it will grow about as rapidly as an apple tree and it should be bearing nuts at a corresponding age.

As stated before, little is known regarding the comparative yields and regularity of bearing of the different varieties. These characteristics can be determined only by careful trial. Until they have been determined for Michigan conditions the commercial planting of improved walnuts is not to be recommended. In the meantime, however, their limited planting in the dooryard, garden or about the farm buildings is to be encouraged. Trees are wanted in such places for shade and ornament. Walnuts are often employed. Why not have the improved varieties instead of nearly worthless seedlings?

Seedling black walnuts growing in the yard, garden, pasture or along the fence rows can be made to yield nuts of the improved varieties by grafting them over. It is true the black walnut does not graft so readily as the apple or pear, yet if care is taken a reasonable percentage of the cions may be made to grow. Not infrequently the growth from these cions will bear a good many nuts the third year after setting. Trees, limbs or sprouts from a half-inch to two inches in diameter graft over more readily than larger stubs.

It is not the purpose of this article to recommend any indiscriminate planting of improved nut varieties. Certainly considering the present limited knowledge regarding them extensive commercial plantings are not to be encouraged, though it is conceivable that nut culture would prove a profitable industry in sections of the state not well suited to the growing of other fruits. On the other hand, a tree, or even several trees of the most promising kinds would prove an asset to every farm and to many suburban lots as well.

Economy In Scale Control

A New Spray Which Will Undoubtedly Prove Popular

By L. R. Taft
State Horticulturist

FOR a number of years the San Jose scale has been held in check in most Michigan orchards by spraying, aided by various natural causes, but recently it has become more plentiful all over the state and has done considerable harm in several parts of the "Fruit Belt." Everything indicates that unless a hard fight is put up, beginning this year or next year at the latest, many trees will be killed, and all kinds of tree fruits will suffer very serious injury by the attack on the trees directly or by the development of the scale on the fruit which will prevent its being marketed.

Experiments which we conducted

in the southern part of Indiana and Illinois where, owing to the longer season, there is generally one more brood of the scale than in Michigan, and hence it does more harm and is more difficult to control.

In Arkansas, in particular, orchardists who report they were not able to hold the San Jose scale in check with lime-sulphur solution were able to almost completely wipe out the scale on trees that were believed to be beyond saving, with one application of lubricating oil emulsion.

While we are not prepared to advise that lubricating oil emulsions be substituted for lime-sulphur solution



Thoroughness and Economy Are Essentials of Orchard Success.

several years ago indicated that under proper conditions and with thorough spraying, commercial lime-sulphur solution diluted at the rate of one part to eight parts of water was an effectual remedy for this insect, even more so than the so-called miscible oils, and this has been substantiated by many other experimenters and by fruit growers all over the country. Other reasons for preferring lime-sulphur solution to the oils have been that the lime-sulphur solution also serves as a fungicide, which is not the case with the miscible oils, and that the latter cost considerably more.

On the other hand many growers have had even better results with the oils than with the lime-sulphur solution and this has generally been the case when the heads of the trees are very thick, or when the materials have not been used in sufficient quantities, or too little pains have been taken to reach every part of the trees. This would naturally be expected under these conditions, since the miscible oils have a much greater tendency to spread along the branches. Hence, for the careless sprayer, the oils have much merit since he will be more likely to hold the scale in check than with lime-sulphur solution. The oils also are even more reliable for destroying the eggs of several of the other scale insects, which are laid on the trees in the fall and against the eggs of the pear psylla and several troublesome leaf rollers, than is lime-sulphur solution. There is also a special occasion for the use of miscible oils when spraying trees near buildings, and especially in the cities and villages, since the lime-sulphur solution is likely to blacken paint.

For this reason there has been a growing use of the miscible oils. When the conditions have favored the use of this remedy, we have advised its use, but as ordinarily used, the price has been such that we have preferred lime-sulphur solution, when needed only for controlling the San Jose scale, especially as the cost would be considerably less.

Recently a new emulsion made from lubricating oils, according to a formula suggested by the Federal Department of Agriculture, has been quite thoroughly tested, especially in Arkan-

sas and in the southern part of Indiana, until they have been thoroughly tested in this state, the results have been so promising, especially in Arkansas that we believe it to be of great importance that it be brought to the attention of fruit growers.

The oil emulsions are very easy to prepare on the farm as no special outfit is necessary and when their use becomes so general that the emulsifiers can be brought in in carloads or manufactured at convenient points in the principal fruit-growing centers, the cost will not be more than one-sixth of the cost of the miscible oils now on the market and about one-third the cost of lime-sulphur solution.

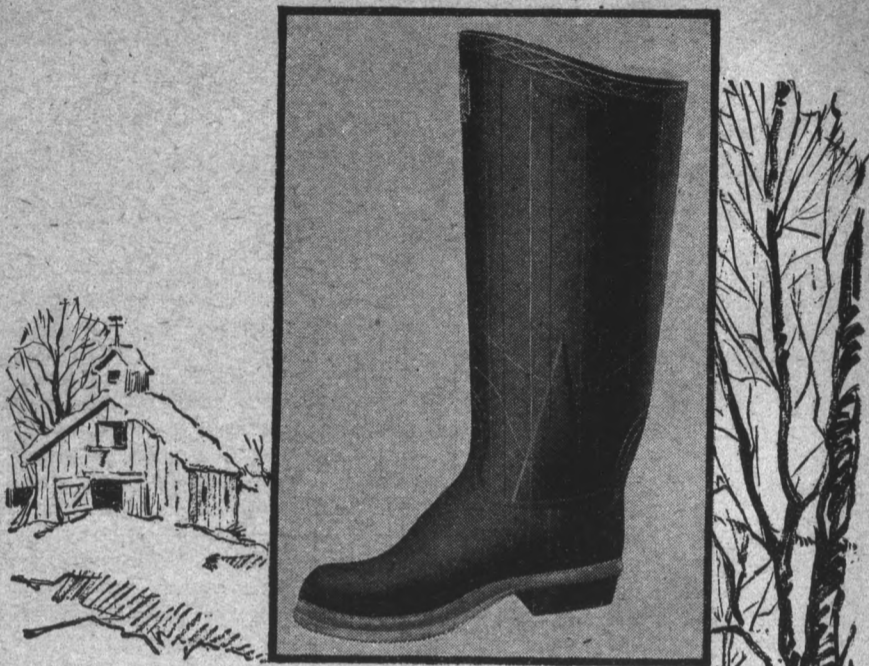
The formula calls for: Liquid potash fish oil soap, half gallon; lubricating oil, (diamond paraffin), four gallons; soft water, two gallons.

Heat the soap and water until the soap has been dissolved and then add the oil. Emulsify the oil by pumping it from the kettle into a barrel and then into another barrel. This should make an emulsion which does not separate on standing. If soft water is not readily obtainable, add two pounds of caustic soda or two cans of lye for 200 gallons.

A two per cent lubricating soil emulsion is sufficient for killing the scale, which means that four gallons of oil or six gallons of emulsion prepared according to the above formula will be sufficient for 200 gallons. The emulsion may be diluted with water for use during the fall or spring, or may be added to 200 gallons of Bordeaux mixture, making a combined insecticide and fungicide for use during the summer, which makes it possible to clean up apple trees that were not thoroughly sprayed during the dormant period, thus perhaps preventing permanent injury to the trees and saving the crop of fruit. The foliage of the apple will not be injured except in extremely hot weather.

Oil emulsions should be applied with a fine nozzle and under a high pressure, taking pains to cover the entire tree from the ground to the tips of the branches, but stopping when this has been done, since if considerable quantities of the oil run down the trunks and soak into the ground to the roots, serious harm may be done.

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305 Division Ave. GRAND RAPIDS, MICH.

Capital Comment

By Our Lansing Correspondent

Legislation Interrupted.

Legislative progress was slow during the past week due to the State G. O. P. Convention at Flint and the joint legislative celebration of Washington's birthday.

However, the House passed the Town "Filled Milk" bill and the Horton cheese standard bill. There was practically no opposition to these measures.

"Land Certification" Proposed

From a farmer's standpoint, perhaps the most important development was the introduction of the much-discussed "Land Certification" bill sponsored by the development bureau of the State Department of Agriculture.

This bill would establish a system of land certification and transfer under state regulation. It would make certification of land optional, but would prohibit the selling of any unimproved land without certification unless it had been seen by the purchaser while the snow was off the ground.

Provision is made for a state license for dealers who agree to handle only certified land. Certification of land would include the following: Map, location, topography, soil types, and the location of roads, schools and shipping points.

Taxation Biggest Problem.

"The biggest thing we have to do here this session is to work out a definite tax program," said Rep. Thomas D. Meggison of Central Lake in a recent speech on the floor of the House. He added, "We are confronted with responsibility for shaping a general taxation program and must keep faith with the people."

In these few words Rep. Meggison sized up the big job of the 1923 session of the Legislature.

A large number of tax changes have been proposed and referred to the Committee on General Taxation of the House. Members of this committee seem to be taking their task seriously. "It is our aim," said Rep. Charles E. Evans of Tipton, Chairman of the Committee, "to secure a sensible and adequate taxation system which will yield sufficient revenue and at the same time relieve real estate from its present excessive burden."

Farmers Will Be Represented.

Agriculture should receive very favorable attention this session if the number of farmers in the Legislature is any indication.

Eight of the 32 Senators and 39 of the 100 Representatives give their occupations as farming. The complete occupational census is as follows:

Senators—Nine lawyers, eight farmers, three bankers, two physicians, two editors and publishers, two realtors, one contractor, one lumber merchant, one wholesale milliner, one manufacturer, one retired mining superintendent, and one insurance broker.

House—Thirty-nine farmers, fourteen lawyers, six merchants, four of them retired, six newspaper men including editors and publishers, five druggists, four manufacturers, two active and two retired, three insurance brokers not counting two farmers who do a little insurance business on the side, two bankers, two realtors, two salesmen, two railroad men, one a locomotive engineer, two laundry men, two livestock dealers, an educator, an electrician, an illuminating engineer, an auto dealer, a chemist, a blacksmith, a bank employee, a physician, a research student, a machinist, and a retired steamboat agent. Among such a diversified body of

men there should be someone found to offer expert advice on each of the 400 bills now pending in legislative halls and committee rooms.

Drain Law Changed

The House passed by a vote of 68 to 4 a bill introduced by Representative Wells providing that depletion in a county drainage fund, due to embezzlement, may be covered by appropriation from the general fund of the county.

Date Set For Big Debate

Final consideration by the House of the Pitkin Capital Punishment bill has been made a special order of business for Tuesday, March 6, at 2:30 p. m. Interested citizens from all parts of the State will be on hand for the debate. No doubt Lansing folks will turn out in generous numbers. The legislative orators are preparing some remarkable speeches for the occasion.

PLAYTIME.

A GRAY haired, gray bearded state senator, whose empty hands were seamed and twisted with the lines of a lifetime of hard work, argued against physical education in the schools, the measure enacted by the Michigan legislature of 1919.

"Mebbe it's all right for the city schools," he declared. "Mebbe the city children need it. But not for children out in the country. They git all the exercise they want without fol-de-rols of physical training. Don't I know?"

He did not! Actual investigation has shown that the children of the farm are as much in need of recreation as any. The report of a committee that went back to the farm for its facts, contained these conclusions:

(a) Farm boys and girls do not develop symmetrically.

(b) The work of the farm seems to over-develop the major, or fundamental muscles, while the finer or accessory muscles are neglected.

(c) Farm life in general does not produce a degree of mental alertness and neuromuscular co-ordination essential to an enthusiastic and optimistic outlook on life.

The report does not stop with noting the defect. It goes on to point out the very obvious remedy. That remedy is organized play. Group games; organized athletics; folk dancing; community singing are among the actual necessities for the well-rounded development of the boy and girl of the farm.

The universal, though short-sighted objection to play is that it interferes with work. It does. And so, by the way, does sleep. We may as well make up our minds that sleep and play are two of the things for which work must at intervals be set aside. From the standpoint of mere existence play is no such essential as sleep, but for the program of a sane life the comparison between the two is amply justified.

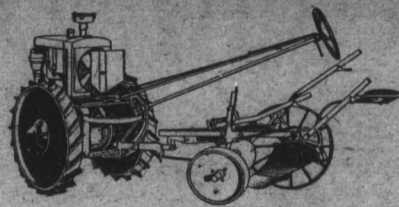
When play is definitely recognized as a necessity for farm children as well as city children; for farm mothers and fathers as well as city mothers and fathers; when regular seasons of recreation are provided for all ages and sexes according to their tastes and needs; when this is no longer done as something requiring an apology, but as a matter that is wholly for the good of the order; you will hear much less about the migration of rural folk to urban centers.

Plenty of good straw under the animals' feet saves feed in the manger.

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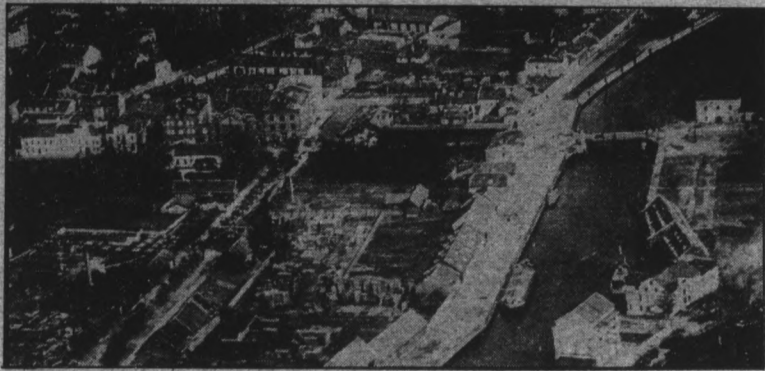
Worms extract nutrition from the body. They irritate the lining of the intestine and cause inflammation and ulceration. They reduce the animal's vitality and make him more susceptible to other diseases. The feed given a wormy hog is largely wasted. Even apparently healthy hogs will put on weight much more rapidly when freed from worms. It is simply economy to rid your herd of worms. Santo Worm Capsules will do this for you—quickly and cheaply.

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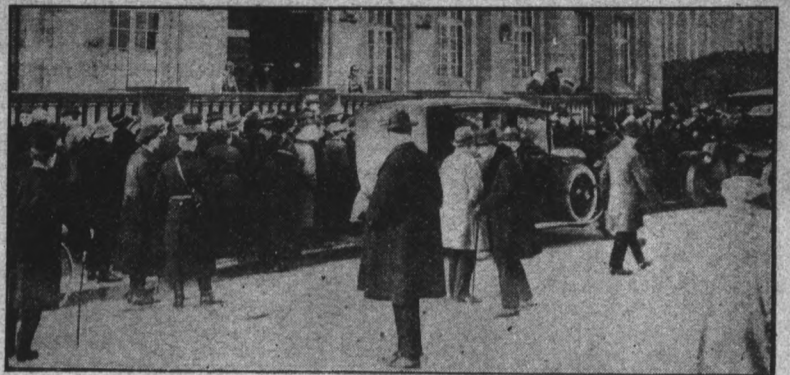
Box of 25 capsules, \$1.25 (add 5 cents for postage); 100 capsules, \$4.50 (postage paid); Capsule Gun and Speculum, with full instructions, \$2.50 (postage paid). Order today and give your hogs a chance.

American Veterinary Supply Company, 229-235 North Pennsylvania Ave., Indianapolis, Ind.

WORLD EVENTS IN PICTURES



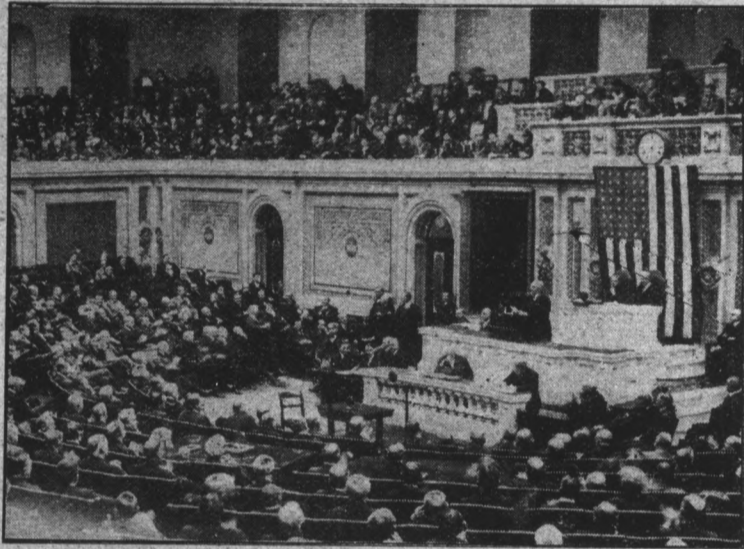
The Baltic seaport of Memel, inhabited principally by Germans, is today one of the political foci of the world's attention, for it is claimed by four nations.



Crowds waited outside the courthouse to hear the results of the trial of the multimillionaire "Coal Barons," arrested for their failure to obey French military orders in the Ruhr.



Florence Martus, island resident near Savannah, has waved to incoming ships for 36 years.



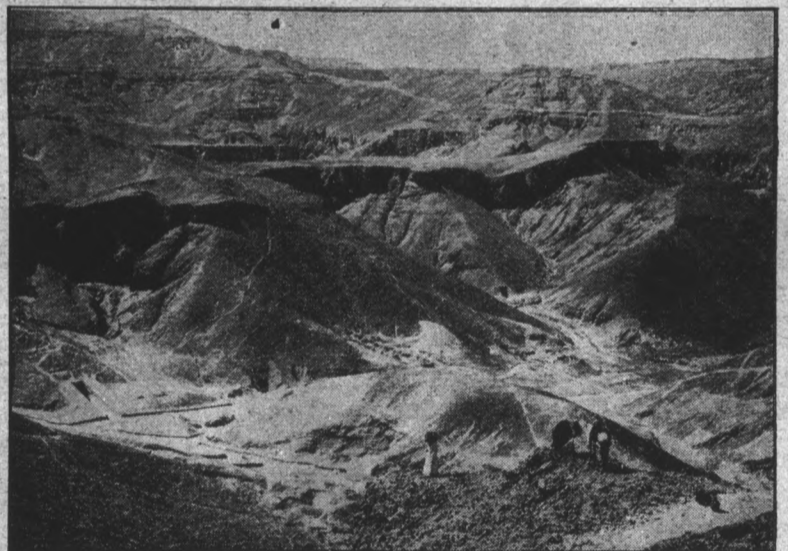
A recent historic photograph shows President Harding recommending to congress the acceptance of the British debt settlement plan with a total payment of nearly five billion dollars.



This three-foot cigar, a gift to "Uncle Joe" Cannon, will give him a regular smoke.



Virtually the entire population of Savannah turned out to line the river banks and cheer the last of our returning soldiers from Germany, who arrived on the S. S. St. Mihiel.



Thirteen centuries before birth of Christ this famous Valley of Kings was the mausoleum of Egyptian royalty. It is here that the tomb of the greatest Pharaoh, Tutankhamen, was found.



Capt. J. Cawthorn, U. S. A. and Mrs. Cawthorn returned on U. S. S. St. Mihiel, with their twin daughters, born in Germany.



The heart of Rose Wendricke was moved over an inch, that a nail might be extracted from lung.



Carefully found to a litter to prevent crumbling of the wood, this 3,200-year-old chair was carried from tomb of Tutankhamen, Luxor.

The Adventures of Hiram Masters

By LEROY W. SNELL

MEANWHILE a different scene was taking place in the Masters' home. A little group of people were sitting in the parlor discussing the sale, or proposed sale, of a portion of the Masters' farm. Judge Slade had been called in to draw up the papers and was seated at a little table in the corner, writing. The rest of the group comprised Mrs. Masters and Marion, the black-clothed stranger who had introduced himself as Mr. Montmorancy, J. P. and John Welling, who "had just happened in." Hiram was seated in the center of the group and listening to Welling's urgings.

"I think you're doin' right, Pa," he was saying. "It's a good price, most twice what you could get fer it for farming, and this feller says he wants it for a trout farm an's willing to pay the price. Helen and me are leaving soon, now, fer the city, and like's not another tenant might turn the stock into that lot and the'd get sick like they done that other time."

It was then that Marion did a surprising thing, surprising, at least, to Hiram, and perhaps to herself, though for the last few days she had been thinking deeply and Miss Abigail's visit had given her still more food for thought.

She had seen the hurt look come into Masters' eyes at the mention of his own daughter, and, too, with a woman's intuition had sensed a something in the looks she had surprised between the stranger and Masters' son-in-law. Crossing the room she laid her hand upon Hiram's shoulder and bending, whispered:

"Are you sure, Daddy, dear, that you ought to sell? Is the land as worthless as you think?"

Hiram started, caught her softened expression and, for a moment the hot tears surged up into the kindly old eyes, the lips trembled and Hiram looked away.

"I didn't know, only I'm afraid from the way this man acts that there is more to this than he cares to have you know," she continued.

Then Hiram looked up at her again, the fine old eyes of him looking straight into hers, and for a moment they read each other's searchingly.

"Marion, girl," he said, so low that the others could not hear. "Marion, girl, I'd give the whole farm and, yes, all the rest with it, just to keep and hold the respect of you and your mother, and to give you two happiness, but don't worry, girl; the field's not worth half what he's payin', as you've heard me tell him."

As Judge Slade finished the papers

and Mr. and Mrs. Masters were signing the deed, Edward Worthington sauntered in and Marion, out of the corner of her eye, saw him slip a package into Mr. Montmorancy's hand, and a knowing look pass between them.

The papers were signed at last and, in paying for them Mr. Montmorancy J. P., took the money from a bundle surprisingly like the one Marion had seen Worthington pass to him. Then, picking up his hat he backed out of the room, bowing as he went.

He had scarce left when there was a

fellow is an expert and they dug and took samples down by the creek."

"If he's an expert he did know better," continued Hiram, "and I wouldn't be surprised if the money he had invested belonged to someone else."

As he said this Worthington scowled and Welling looked nervously about. "It's like this, folks," Hiram went on. "Some thirty years ago there used to be an old mill on that lot, but after the most of the timber was cut out of this section and the farms cleared, the mill was abandoned, the machinery

In the year that followed, grass and sod formed over the sawdust piles, and bushes and undergrowth sprang up but, until this day, the oil continues to seep down into the creek, spoiling the water for the stock."

John Welling's face had gone white and Worthington's flushed scarlet.

"You mean," said John, "that it isn't real oil; that you knowed it all the time?"

"Some swindler, I'll say," muttered Worthington. "So you deliberately swindled our friend."

"Didn't know he was your friend. Anyhow, I don't believe he was much swindled, guess you'll have to look further for the suckers."

With a snarl Worthington turned to Stoddard, "Well, little crusader!" he sneered, "So your thrilling last hour rescue fell flat, didn't it?"

Just then the phone rang. It was from Judge Slade who had hastened away upon hearing Harold's news, without waiting to hear more. Marion answered it, then turning said:

"Judge Slade says that Mr. Montmorancy went from here right to the bank where he had already made arrangements to mortgage that lot. He borrowed two thousand on it and left on the fast train."

With a muttered curse Worthington slammed out of the house, closely followed by Welling.

CHAPTER XI.

THAT evening John Welling returned. "Say, pa," he began, "I don't know but what Helen and me had better stay on the farm after all. It'd be hard fer you to find a new tenant and I ain't so all-fired keen about city life, neither."

"How much did you have in the oil scheme?" Masters asked.

"Why, me? Why, pa, I didn't have nothing—"

"Don't lie to me," interrupted Masters. "I knew all the time you were in on it. How much? Well, when you find out let me know and I'll write you a check for the amount, but I've already made other arrangements about the farm."

After Welling had left Mrs. Masters said, "Hiram, aren't you a little hard on John? You'll need someone on the farm and John, I hear, is a good farmer, and you must think of Helen."

"Yes, John's a good farmer, Sarah, but he and Helen must both learn their lesson. I won't see them suffer but it's having it too soft that's come mighty nigh ruining both o' them, and besides, Sarah," he continued, "I have other plans for the farm. I've learned

AN OLD FRIEND

By Verne H. Church

In trav'ling o'er this globe of Earth;
In taking stock of all
That gives to life a sincere worth;
I surely can recall
No greater, sweeter happiness,
Enduring to the end;
I'm sure there's none, you need not
guess;
It is an old-time friend.

If it be wealth you're seeking here,
Or honor, place or name;
There may be none to intrefere,
In making good your aim;
But sure I am that you will find
It's better to unbend;
Be good, be true, sincere, and kind
To each and every friend.

We seek to be amused by change,
And tire of common place;
We climb the hills and ride the range,
And hope to win the race;
And oft forget to realize
On whom we most depend,
And that the real successful ties
Are those with each old friend.

So let me hope to live my life,
In such a way that I,
In midst of sorrows, joy or strife,
Will not forget to try
To play the game both fair and square,
And find some time to spend
In giving kind and thoughtful care
To each who'd be my friend.

rush of footsteps on the porch and Harold Stoddard burst into the room. Hat gone, hair disheveled and clothes begrimed with mud, he presented a startling appearance.

"Mr. Masters," he shouted, throwing himself into a chair. "Don't sell that field."

"It's sold, Harold, why?" Marion asked quickly, while the others received his appearance with varied emotions.

"They've found oil there, the crooks; and they are trying to cheat you out of it."

All present gasped with real or pretended astonishment, except Hiram, who chuckled audibly.

"Don't git excited, folks," Hiram said. "Don't git excited. I'm sorry if that poor feller fooled himself, but I don't think he did. I think he knowed that it wern't oil as well as I did." This he said eyeing his son-in-law and Worthington narrowly. "You see, it was like this—"

"But—" interrupted Harold, "that

taken out, and nothin' left but the building and great heaps of sawdust, which is about all the soil there is made of anyway.

"Well, Doc, your father," turning to Harold, "and me were young then and looking for a way to make ourselves famous and rich. Doc thought of this scheme of buying the old mill and using it fer a factory to distill cedar oil, there was lots of cedars around, and he'd read somewhere of how much money there was in the business.

"Well, we started the thing a-going, put in oven and truck and distilled oil by the barrel. We had one side of the shack piled high with the stuff and Doc had gone to the city to find a market for it, when along came a cyclone and wrecked the whole works, spilling the oil into the sawdust and smashing the building to splinters. Doc had found out anyway that we couldn't sell the stuff for enough to pay us to rebuild, so we sold the ovens, and marked the whole thing down on the experience side of the ledger.

AL ACRES—Al's Answer Was Full of Kick but the Cans Weren't.

—By Frank R. Lee.



my lesson, too, and it's just this: that folks, when they get as old as we be have two courses to choose from, one is to retire or to set back and let the youngsters take our place while we go to seed and rust, and fade until we're sick o' living and everybody's sick of us; or, we can get our second breath, so to speak, and replace the strength and suppleness of our youth with the lessons that experience has taught, and go on being useful and bringing forth fruit. I've got a good idea that you and me have both got a good second wind in us yet, and I don't believe God intends us to slip the harness and roll in the green pastures, so we're going back on the old farm ourselves, in the spring.

"It was in building up the old place that I got most of my happiness when I was young, and I believe it's where we will get the most happiness and comfort during the sunset days.

"I'm going to try out something new that I've been studying on. A new system of farming. It's like this: I have about half of the farm into wheat now. In the spring I'll hire one man and we'll plant the other half to beans and in the wheat we'll sow clover. When the wheat and beans are off, we'll sow wheat where the beans have been, and then, in the spring, we'll turn the clover under and put in beans again, so, all the time, half the farm will be to beans and the other half to wheat. There won't be any stock to feed, so when the beans are threshed we kin go to Florida or stay right there and enjoy ourselves or, if I am feelin' extra pert, I kin ship in a car of lambs to feed during the winter. The clover will, with a little help from commercial fertilizer, keep the land up in top notch condition, and both crops require little attention and both are cash crops."

"Oh, Hiram, if we could only do that, I'd love it. I do so want to feel that I'm still useful in the world."

"Do it? Of course we kin do it!" and rising Hiram walked to the window, then turning, beckoned to Sarah.

Together they stood looking out into the star-lit night, to where, on the step sat two figures. Slowly the two silhouetted figures swayed toward each other until they blended, then they beheld by the light of the stars, Marion's upturned face and the other bending above and kissing the sweet lips, reverently, tenderly.

"An' besides," Hiram resumed, almost in a whisper, his arm stealing around Sarah's waist. "An' besides, I shouldn't wonder if Doctor Stoddard, Junior, and his wife 'ud be needing this place to start husekeeping in."

THE END.

WHEN THE WOMEN BID

BY AL. RICE

When the women start to bidding
Then the limit is the sky,
Are you one who don't believe it?
Then you'll learn it bye and bye.
You may learn it to your sorrow
As your humble servant did;
Once I tried to "buck the tiger"
When a woman had the "bid."

When the women start to bidding
Hang your fiddle on the fence;
For the air is full of discord
And the atmosphere is tense.
Should you chance to overbid them,
You will wish you'd gone and hid;
For a chip is on their shoulders,
When the women start to bid.

Look around you and be careful;
If a woman has the floor,
Let it go for fifty pennies
If it's worth a hundred more.
Shut your "clam" and seal it tightly,
While you sit upon the lid—
With the fates you mustn't trifle,
When the women start to bid.

"Duck your nut" and keep on duck-
ing;
(For I speak advisedly)
You may profit by example
That's exemplified in me;
For I wrecked my future comfort
In a place where you may skid:
V-i-z.—And to it namely:
Where a woman had the "bid."

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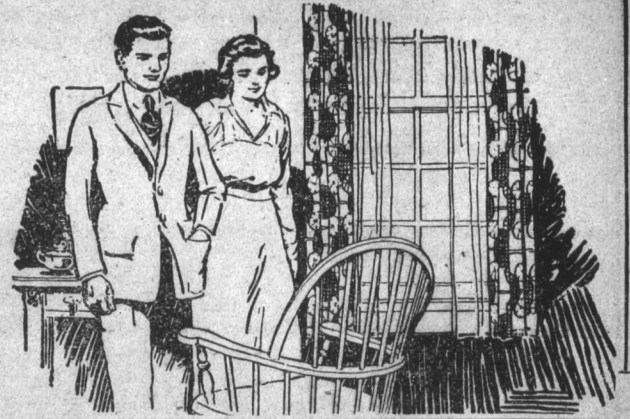
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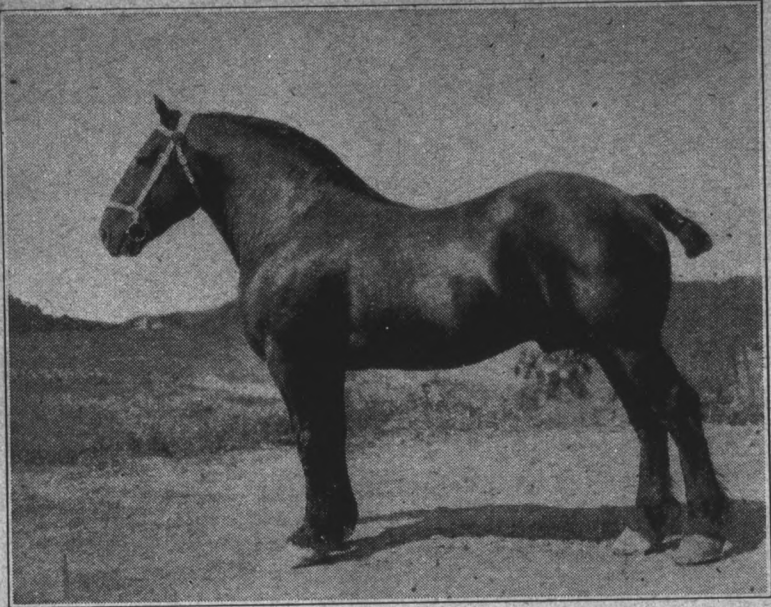
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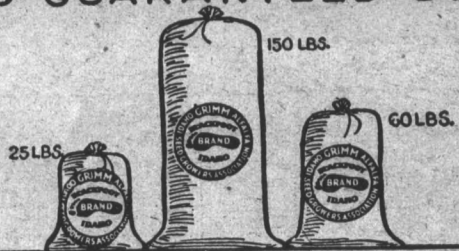


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With the Great Teacher

Our Weekly Sermon—By N. A. McCune

THOSE were keen and captious questions that were put to the Great Teacher. "Shall we pay tribute to Caesar?" It does not seem like a dangerous question to ask. In the beginning of the Civil War it was sometimes dangerous to ask a man in the border states whether he was for the north or the south. When you asked that, you might start something. In Russia in the days of the czar it was not always wise to ask questions of people you met. There was social dynamite everywhere, ready to go off. And this question about paying taxes to Caesar was like that. The Romans were like the French in the Ruhr, hated, and quietly—



sometimes violently—opposed. The way taxes were collected was especially despised. For one to declare that taxes should be paid to the Roman government was anything but a popular remark. Yet Christ answered this question in a way that did not evade, which covered the ground exactly, and yet which did not offend even the most radical. No wonder that "they marveled at him." This, of course, has become a classic remark—render unto Caesar the things that are Caesar's, unto God the things that are God's.

It still stands as a trenchant putting of this great truth. The average man believes that Christianity is narrow. He thinks that if the church had its way, and the preachers had their way, they would take about every cent a man has. Jokes about the church finances are always in order. But that is not the precise idea. The world is God's world, and the machinery of existence has to be kept running. If the church took all the money and there was none left for seed corn and seed potatoes, and farm implements, it would go hard with the world. The farmer who works his land is working with God. He certainly would not get far if he worked against God. He is a Christian, at least to the extent of working with nature. "Render unto Caesar." That is a necessity without which there would be no orderly world.

BUT that is not all there is to it. No. Many folk do render pretty well unto Caesar, but forget the last part of the sentence. It ought to be very easy to render unto God, for He is with us constantly. Anywhere we turn there is the handiwork of a good and a constructive God. "He is not far from every one of us." The sun that travels its little ninety-three million miles to kiss the grass in the morning; the rain that makes cultivation possible, are the footsteps of this God. And yet many find it very hard, for some reason, to render unto Him His due. Now, the fact is, that He does not need a thing from us. We, giving to God, would be like a street urchin making a donation to the United States government. "For every beast of the forest is mine, and the cattle upon a thousand hills. I know all the fowls of the mountains; and the wild beasts of the field are mine. If I were hungry I would not tell thee: for the world is mine, and the fulness thereof." (Ps. 50). No, God needs none of our gratuities.

But hold on, that isn't all there is to it. We spoke of that urchin making a donation to the United States government. That is not a joke, for it

has been done. A soldier in the late war told me the other day that as his regiment was walking down to the ship in New York one raw winter day, three or four ragged street gamins darted in and out among the marching soldiers, placing something in many of the men's hands. He was one of the favored, and found in his palm a few sticky, dirty, candy beans. That was the send-off the street arabs were giving to the men. He said it touched him with its sincerity, as few things did in the war. Those lads were doing their best to show what they thought of the soldiers who were going to fight for the stars and stripes. It was their donation to the government, and it was a beautiful thing to do. The government did not need their attentions at all, but what a bright spot it left in the minds of the boys who were departing for a foreign shore.

GOD does not need our contributions. But we are happier when we are cooperating with Him in service, and when we recognize Him as our Father. You do not need the piece of crumpled cookie which your small boy brings to you, yet you like to have him do it, because it shows how he feels toward you. And it makes him happy as he does it. You know when he has been in mischief, but like to have him tell you about it, and own up to it. In short, you like to have him treat you as a parent. And he is more natural and cheerful when he does so. That is the way God feels when we recognize His as our best friend. "Render unto God."

Jesus did not make rules that the world was supposed to follow, in the path of economics. He left that for us to work out. He left broad, universal principles which will work anywhere, and left their particular interpretation to the men and the age.

When the widow gave her mite (about one-eighth of a cent) it meant everything to her. She was rendering unto God in a way that showed how deeply sincere and spiritual she was. Peloubet has a beautiful touch. A Presbyterian elder was rich and annually gave away several thousand dollars to foreign missions, and the like. Suddenly he became poor, through paying the debts of another, for which he was not legally responsible. The collecting agent for a cause to which he had given a thousand dollars each year for many years called on him, simply as an old friend, and made no allusion to money. But as the agent started to go the aged man said, "You must not deny me the privilege of giving because I no longer have much to give," without a sign of humiliation handed his visitor a silver half-dollar.

AN elderly man, a member of the first church I had, was a source of constant surprise to me. He received ten dollars a week as night-watch, at a factory. He gave more to the church than did a number of people who were "well fixed." But the surprising feature of it was, that he always had a contribution to make to special appeals. Most literally did he render unto Caesar, for he had reared a family of five sons and daughters; and unto God, in the ways I have described.

SUNDAY SCHOOL LESSON FOR MARCH 4.

SUBJECT:—Jesus Teaching in the Temple.

LESSON:—Luke 20:1 to 21:38.

GOLDEN TEXT:—Render unto Caesar the things that are Caesar's, and unto God the things that are God's." Luke 20:25.

Rural Health

By Dr. C. H. Lerrigo

HEADING OFF WHOOPING COUGH.

My little girl was exposed to the whooping cough recently. Is there any way by which it can be headed off? What do you think of vaccinating against it?—H. J. L.

Vaccination against the whooping cough is not sufficiently reliable yet to be depended upon. Keep the little girl where you can watch her, and be particular to see that she is not exposed to colds. This does not mean that you should keep her cooped up in the house. On the contrary, she will do better by being out in all decent weather. But watch for the development of any cough, and be particular to keep her from infecting others. Perhaps she will not have the disease. If she does, be sure to get the best medical attention possible, for whooping cough is a dangerous disease. There is a stage when fever exists and during this the child should be kept in bed. Once this is past, however, she may be up and out of doors, excepting in really inclement weather, and is much better for the fresh air. If she vomits you must take great care to give her the most nourishing and

easily digested food, giving small meals at frequent intervals rather than trying to follow the regular routine.

RHEUMATISM.

My mother is rheumatic and has been so for a number of years. We learned a few years ago that this complaint was often the result of poisons that got into the system from having a lot of diseased old teeth. She had all of them pulled and she did get a lot better. Lately she is much worse again. Is it likely that any treatment will do her any real good?—U. R.

I think she should not give up. There are many other points of focal infection besides the teeth. Often old, decaying scraps of tonsil material are making trouble. Purulent sinuses of the nose and other parts often produce infection. The principle is exactly the same as with the diseased teeth. In old chronic cases that have existed for several years there may be many pains persisting after all points of infection are removed. These pains can be greatly relieved by treatment directed to improving the circulation through the joints. Many doctors have baking machines which are used effectively.

Opinions & Comments

From Michigan Farmer Readers

THE CONSOLIDATED SCHOOL.

IN the January 27, 1923, issue of The Michigan Farmer, I saw an article by K. E. C., entitled, "District vs. Consolidated Schools."

Some of the statements in this article are profound untruths, some are exaggerated, and others picture the conditions as they are.

It is not true that after 1924 every teacher in Michigan must have a life certificate. After September 1, 1925, no certificate will be granted to any person, who has not completed one year of professional training in advance of a four-year high school course; and no second or third grade certificate can be renewed, unless the applicant has completed twelve weeks' professional training since previous certificate was received. It takes two years of work in a normal school in Michigan to obtain a life certificate. Proof to the superintendent of public instruction of five years of successful teaching prior to the passage of this law may be an exemption to the above requirements.

The best students in our high schools do not always come from district schools. Whether they do or not depends largely upon the capacity of the individual student, his or her effort and time placed upon school work and the training received from former teachers. It is a notable fact that city, graded and consolidated schools employ teachers with higher qualifications than the average district school.

It was said that many of our great men were born on farms and the writer "assumed" that they attended the district school. They went further than that. Nearly all of these men not only attended high school, but are college graduates. They succeeded not because of the district school, but in spite of it. Lincoln, Roosevelt and Henry Ford would have succeeded without any school at all; but that is no argument that we need no schools. It is safe to conclude that it is a considerable handicap for a young man to attain success politically, industrially,

educationally or commercially without at least a high school training. Any school system that does not furnish unconstrained high school advantages is not investing very much in its boys and girls. I think that it is obvious to all, that this is one of the greatest deficiencies of our district system.

K. E. C. admits that district schools should be improved, and suggests the election of school commissioners with "up-to-date qualifications and training and with the right ideals before them." We agree with him in this; but there are the conditions: As long as high school superintendents, principals and teachers of a county are receiving a higher salary than the commissioner of schools, you can hardly expect to get these people to finance a political campaign to obtain a position where the work is more disagreeable and strenuous, the responsibility greater, and the salary from \$200 to \$1,500 less than what they are now receiving.

In some of our counties it is difficult to get candidates for the office on account of the fact that the county commissioner must not only have certain educational qualifications and executive ability; but he is also one of the hardest worked and poorest paid county officials. The case has been known where it was almost impossible to obtain anyone to accept the office by appointment.

I fail to see how we are in danger of a "highly Prussianized system of education," as K. E. C. puts it. The people still have the voting privilege and no change can come without the consent of the majority of the school electors.

K. E. C. says: "Now, as ever, knowledge is power, and this is the time for best efforts." This being undisputable, we should urge the passage of a law in the present legislature to raise the salary of the county school commissioner so that this office will attract the best men in the educational field of today. Further, we should put high school advantages within the reach of every boy and girl.—Le Roy Bell.



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If your dream of success seems like a hopeless ambition, if you are discouraged trying to get ahead on high priced land, if your present location fails to give you opportunity, there is a new deal for you, a new chance in the fertile, virgin farms of Western Canada, where wheat produces 20 to 40 bushels to the acre, where the 1922 crop was biggest in history, where oats, barley and hay and fodder crops are the basis of a great dairy industry, and a man's work brings him success and prosperity.

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Woman's Interests

Entertainment for the Child

By Nelle Portrey

IT is not the purpose of this article to teach you to entertain your child, but rather to tell you how to teach your child to entertain himself. His older brothers and sisters are at school and it is often a problem to find some clean and healthy amusements for the little tot.

I do not agree with many mothers who think their child should be taught to be a paragon of neatness and cleanliness. While the rudiments of order and tidiness must be impressed on the plastic minds of our children, we can not expect them to be contented and happy if never allowed to indulge in any of the amusements dear to the hearts of the little folks, such as blowing soap bubbles or cutting papers. Of course, it makes mothers more work but it does not make a disagreeable litter to sweep up and either amusement is clean. They both help to develop the child's imagination and love of creation, that is a natural trait in any normal child.

We save all the scraps of wrapping paper and now that the older children are in school, our little tot spends many happy hours making scrap books. He cuts the paper the right size and with twine and darning needle, sews the sheets together. In these books he pastes bright pictures which he cuts from seed catalogs or magazines. After the little fellow becomes tired of this amusement, he is told that it is now time to gather up the scrap papers. He thinks he is

used for this purpose, much more interest will be taken.

Some children will enjoy half an hour's play each day for the entire winter, with a box of toothpicks. I would not advise this, however, if the child can not be taught to gather up the toothpicks after playing with them each time. Farms may be laid out, fences built, and even a house and barn added by the use of these little sticks. If you happen to have dye mixed for some other purpose and will dip a few of the toothpicks in the dye fluid, it will add wonderfully to the attractiveness of them for the children's playthings, as it is natural for children to love bright objects.

Mother's clothespins may also be used in the same way. If the fences and buildings are made of these and cows and horses furnished in the form of empty spoons, the child's enjoyment can hardly be over-estimated.

A little girl is never so happy as when "helping mother," even though her help is a bother. My mother used to give me a bit of her bread dough whenever she baked and I was allowed to care for the dough and then make it out into a tiny loaf when she made her's out, and when it was baked it was my bread for supper. I know it was a great help to me in making me observant of the methods used in housework, and I was more willing to help mother when I was old enough to really be of service.

HOW TO MAKE BREAD WITH A MIXER.



Give the Child Every Opportunity to Learn to Enjoy Books.

I HAVE used a bread mixer since six years ago last fall. I have a family of eight to cook for, mostly boys, and honestly, I don't know how I would manage without it. I bake twice a week, making seven loaves and two pans of plain buns each time.

I have a measure for the liquids and a scale to weigh the flour. Of course, there is a difference in flour, but one can soon tell how much to use. If the dough looks sticky add a little more flour and knead again.

Bread Recipe.

At dinner time, save one quart of potato water, put two tablespoons each of sugar and salt in a gallon crock and pour on the hot potato water. Mash real fine a good cupful of potatoes and add to liquid. When lukewarm add a cake of softened yeast foam and flour to make a nice pancake batter. Cover and let rise.

Just before bedtime put one tablespoon of lard in your mixer and pour on it one quart of boiling milk. When lard has melted put in one quart of water, cool enough to make milk lukewarm, then add yeast mixture and ten pounds of flour. Now put on your kneading rod and turn the crank until flour is all mixed in. If dough sticks to finger add a little more flour and knead again until dough is nice and smooth and does not stick to side of mixer. There is a great difference in flour and some you use more of than others.

Cover the mixer with a cloth, put on cover, and either set in a warm place or cover warmly for over night. In the morning knead down well then put in pans. Let rise as usual, and bake. This makes nine loaves. One can divide the recipe.—Mrs. J. L.

When patching a torn place in the wall paper, tear instead of cutting the

helping and is certainly not having the idea instilled in his mind, that he is to be waited on, but rather, that he must do his part.

If the child is inclined toward a liking for books he should be given every opportunity to develop along this line. It is the early training that forms a good foundation for his school training. He will spend many busy hours making himself acquainted with the characters in his picture book that will help in forming his early impressions.

Half a dozen potatoes and a handful of burned matches may be employed in making another hour pass happily. A whole circus of potato animals may be made and with the help of a box of building blocks the little folks may have a regular "Noah's Ark."

The old-fashioned spool knitting is a favorite with little folks and teaches patience. If bits of bright-colored strings are saved, tied together and

When patching a torn place in the wall paper, tear instead of cutting the

Household Service

Use this Department to Help Solve Your Household Problems. Address all Letters to Martha Cole, Michigan Farmer, Detroit, Mich.

HOME-MADE CANDIES.

Can you please publish a good recipe for making home-made candy, such as chocolates, caramels, etc.?—Mrs. D.

Vanilla Caramels.—One cup sugar, (white), half cup of brown sugar, half cup of light corn syrup, half cup of cream, one cup of milk, quarter cup of butter, two teaspoons vanilla. Put all ingredients except vanilla into a sauce pan and cook, stirring constantly, until a soft ball is formed when dropped in cold water. Remove from fire, add vanilla and turn into slightly greased pans. When cold remove from the pan, cut into squares and wrap.

Chocolate Caramels.—One cup of sugar, half cup of light corn syrup, half cup of condensed milk, quarter cup of cream, half cup milk, three squares of chocolate, one teaspoon of vanilla. Follow cooking directions as for vanilla caramels.

Chocolate Divinity.—Two and one-third cups sugar, two-thirds cup light

corn syrup, half cup of water, quarter teaspoon of salt, two egg whites, one-third cup cocoa, half teaspoon vanilla, nut meats. Put the sugar, corn syrup, salt and water into a sauce pan and cook until the sugar is completely dissolved. Remove from the fire and gradually pour the syrup over the egg whites, which have been beaten stiff. Beat during this operation, and add cocoa and beat until the candy will hold its shape when dropped from a spoon. Add vanilla and nut meats and mix thoroughly. Drop by spoonfuls on waxed paper, or turn into greased pans and cut into squares.

CAN YOU TELL?

Could anyone inform me how to clarify old lard that has become rancid? I have added a tablespoon of soda, and raw potato to a gallon of lard, and reheated it, but it did not improve it any.—C. D.

SAVE TIME MAKING RUGS.

I WAS very much interested in recent articles on rug making, as have made about all the different kinds of rugs described, for many years back. I was surprised that no one mentioned the handy little rug machine which every housewife ought to have. One can make a rug so much more even, finer and faster than with a hook. A hook is all right for coarse

such as rice, soap, spice and corn-starch as I can afford. When summer with its extra expenses comes, I have some things ahead.

Another thing I have is two pairs of curtains for each window downstairs. How often we know we should wash the curtains but there is so much to do that we just put it off and then like a bomb, we get a letter that a carload of in-laws and some of their friends are coming for the week end. Think of the relief of having clean curtains to slip on the poles.

When I have a lot of hemming to do I sew the ends of the different articles so that when I begin I have a continuous seam. This does away with the little notch at the beginning of each article.

I always read the daily paper, no matter how busy I am, and I always spend fifteen minutes with my music. Let's keep from being farm drudges as some seem to think we are.—M. M.

TESTED RECIPES.

Peach Whip.

Soak one tablespoon of gelatine in cold water

Whites of two eggs
One cup cold water
One-third cup sugar.

Dissolve the gelatine over hot water and mix together the sugar, peaches cut in small pieces, and water. Add the gelatine and let stand until the mixture begins to harden then add the unbeaten whites of eggs. Beat until white and frothy. Fill sherbet glasses with the combination and garnish with slices of peaches. Serve plain or with whipped cream or custard.

Mystery Meat Pie.

Fry half a dozen slices of pork until nicely browned, cut up fine, remove from pan, fry one minced onion in the grease, and put with the pork. Now make a good milk gravy in the same pan. Have a quart or more of raw sliced potatoes ready, put a little pork drippings in the bottom of a deep baking dish, add a layer of potatoes, sprinkle with the pork and onion, dress well with gravy, add the balance of the potatoes, pork, onion, and gravy, season well with salt and pepper and cover with a rich biscuit crust. Bake in a moderately hot oven till nicely browned, and serve piping hot, with a light pudding for dessert. This is too hearty to be followed by a heavy dessert.—Mrs. E. M. A.

My Favorite Recipe

OUR tastes, likes and dislikes are all variable. We each have something we like better than we do something else. It wouldn't do for us all to like the same thing, for then there would not be enough of that same thing to go around.

Every housewife has her favorite recipe which she believes surpasses others in its fine qualities.

For the best letter containing your favorite recipe, be it for pudding, cake or meat dish, we will give an aluminum preserving kettle. The second prize will be an aluminum serving tray, while the third, fourth and fifth prize winners will receive aluminum sauce pans.

Address your letters to Martha Cole, Michigan Farmer, Detroit, Michigan, before March 16.

rugs, but to have a nice neat rug the machine can't be beat.

I wonder why some will go to so much trouble to use old-fashioned dyes which take several hours to color rags. The commercial dyes are so handy to use. I am always looking for short cuts and time-savers in all my work as I am a busy housewife myself.—Mrs. B. F. S.

HOUSEHOLD HELPS.

WITH the hens laying well and the cows freshening, and with the January sales over, I have quite a bit more money than at any other time in the year. So I buy one thing that will lighten my work. Last year it was a butter worker and bread mixer, this year a cake mixer and pressure cooker. I also buy as many extra staples

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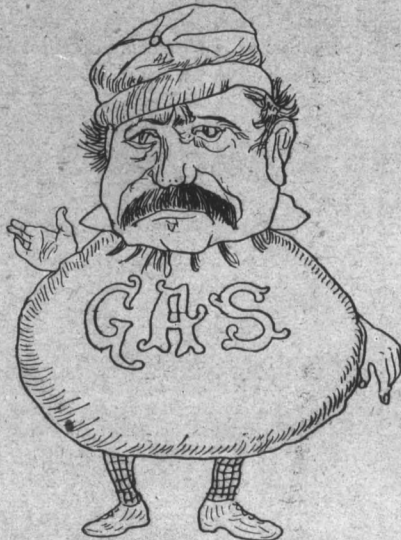
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Learned from Washington

By the Prize Winners

By Edna McIntyre, Kawkawlin, Michigan, R. 1.

As Washington's birthday draws near it is very easy to think of many ways in which he can help us to be better Americans. His life gives us many examples of truthfulness, honesty, bravery and willingness to work. The best lesson I have learned of Washington is from his love of truth. Everyone knows the story of the cherry tree and of the time he took a beautiful colt to ride on and rode so



That Comic Valentine from Harold Wilcox, Sandusky, Michigan.

fast that the poor thing killed itself jumping. How he must have hated to tell his mother. But, however easy it might have seemed to get out of the scrape without blame, he told all.

George was just a lad of sixteen when he surveyed a piece of swamp and wooded land. This should help to make one have ambitions. "Was it an easy piece of work?" you may ask. Indeed it was not. To think of this always helps me when I feel like giving up when I have a task I do not like.

There are many instances given in histories, readers, magazines and books of all sorts showing his bravery and winning him the title of the "Father of His Country." He was a gentleman at all times, as the president of this or any other country should be.

Would Washington give up if he didn't like his job, or if he found it hard? No, indeed, he did not, but stuck to it and did his very best. That is why he became president at that time, when the country needed everything. He also was a farmer and a sportsman, overseeing his large farm which stretched ten miles along the river. He was an inventor, making his own tools. Such was our first president, born February 22, 1732, in Virginia.

By Robertha Bisson, Hubbell, Mich.

I have learned lessons from Washington's life that have helped me the much. His perseverance in all of his undertakings, is one of the lessons I have tried to follow. For instance, when I study geometry, I try to do as he did usually, "sticking" to it until the most important proposition has been proved. Also, when practicing my music lesson, if there is some difficult measure, I keep at it until it is mastered.

Another lesson is his charity and kindness to all. No person should be unkind to another person, and I always try to follow this example.

We read of his being "reserved but not haughty" in disposition. If one of the greatest men in our country was not haughty or proud, why should I

be so? I hope to remember, forever, his friendliness to all, and to act accordingly.

And who has not heard the story about the cherry tree and Washington's little hatchet? I have made a firm resolution to abolish "lie telling," whenever I think of little George Washington, who, by being upright, honest and truthful, became the first president of the United States, the "Father of our Country."

WASHINGTON CONTEST WINNERS.

THE two Washington essays given above are the first and second prize winners. They will receive pencil boxes for their prizes. Because of the lack of space we cannot print the other winning essays, but give below the names of those who won and the prizes they will receive.

Many lost out because they did not follow the regulations of the contest. They gave a sketch of Washington's life instead of telling the lessons they learned from the life of Washington.

Clutch Pencils.

Marion E. Shaw, of Armada, Mich., R. 2.
Norbert Schneider, New Lothrop, Mich.

Read-and Win

I THINK it is about time for another Read-and-Win Contest, so here it is. The answers to the questions will be found in this issue. When you find the answers make them short and not in sentence form. Also, give the number of the page on which you found the answers. The ten most correct and neat papers will win for their writers as follows: The first two, pencil boxes; the next three, nickle pocket pencils, and the next five, Michigan Farmer maps of the world and New Europe.

This contest closes March 3. Address your letters to Uncle Frank, Michigan Farmer, Detroit, Michigan.

1. What is the estimated annual loss from hog cholera?
2. What is Michigan's estimated consumption of English walnuts?
3. From where does England get forty per cent of its butter?
4. If the dough looks sticky, what should one do?
5. When should you use caustic soda or lye in emulsifying oil for spraying?
6. What is the cost per year of keeping a cow?
7. When is gasoline highly explosive?
8. How much less did it cost to grow spring wheat in 1922 than in 1921?
9. How many miles does the sun come to kiss the grass?
10. What weight capon does the consumer like the best?

Margaret Stephens, Freesoil, Mich. Maps.

Francis Ivicic, Rosebush, Mich., R. 2.

Vera Turner, Akron, Mich.

Dorothea Swayze, Holly, Mich.

Iva Phillips, of Mt. Pleasant, Mich., R. 7.

Cornelius DeKorne, Jenison, Mich., R. 2.

I think we can get the most enjoyment out of things by making them enjoyable to others. That is the basis upon which we are working in this department. The more there are who make this department a live wire, the more fun we will all have. Don't you think so?—Uncle Frank.

More For Your Money



Exactly---that's true.

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Hundreds of Customers Report Big Profits

E. I. Beebe, St. Charles, Mich. writes: My 100 hens laid 193 eggs each and I made over \$300.00 clear profit last year.

Wm. Vivant, Harbor Spring, Mich. writes: We got 3528 eggs in January from 180 pullets.

A. Dall, Port Huron, Mich. The pullets began to lay at 4 1/2 months old and averaged 23 1/2 eggs each for one month.

F. L. Hess, Chicago, Ill. writes: I averaged 112 eggs a day from 140 hens and sold \$158.00 of eggs in February.

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We don't boast on a few high record birds but our extraordinary flock's average has attained our present high standard. Intelligent chick buyers look for these qualities and we assure you we have them. Get our 1923 large catalog now, it's free.

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Poultry

DUST BATH IN WINTER.

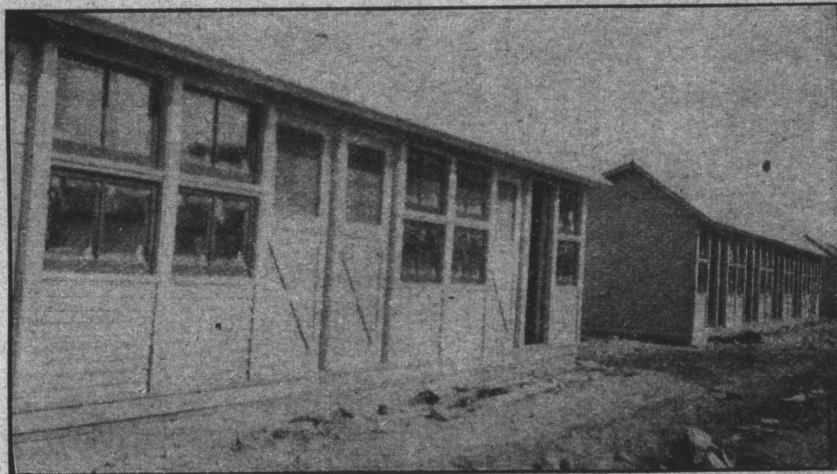
LEAVES make light scratching material better than straw, and it is surprising how large a quantity of dry leaves can be stored into a couple of barrels or a large box.

Some farmers save dry earth for their hens' winter dust bath. This is work that does not take much time and it is certain that hens need a chance to dust themselves fully as much in winter as in summer. There was a time when farmers didn't take much stock in the winter dust bath, and one winter when the dust box was empty for quite a while, and was filled again with loose dirt found in a shed during a warm spell, the way in which those hens tumbled over one another

plumage and deep round bodies. Dislocate the necks of the poor chicks and remove the menace to the flock. It pays to keep on culling as the chicks grow, and not have a cull or two always present to spoil the looks of the remainder of the flock.

In artificial brooding do not crowd the chicks and 300 to the brooder is safer than using larger flocks. Professor Kilpatrick believes chicks should be started on a low protein feed. It should also be low in fiber content but high in bone phosphates. It must contain vitamins.

The digestive apparatus of the baby chick is very delicate and too much fiber or protein may clog the system. In raising chicks it is first necessary to build a good frame and the bone-



One of the Coops at the Agricultural College where the Michigan International Laying Contest is Being Held.

wanting to roll in the dirt at once, opened our eyes to their needs in this respect. They were simply wild to get into dirt and make it fly. Some say that hens will not use this dust bath in winter after it is provided, but experience taught differently.

It is said that coal or wood ashes placed in a dust box will cause scaly leg. This is a mistake, but no doubt the dirt is better than ashes for a dust bath.—W. E. McMullen.

CARE OF BABY CHICKS.

CAPON MARKETING.

IN the absence of Professor Graham, of Guelph, Ontario, Professor Kilpatrick, a director of the International Baby Chick Association, gave the poultrymen at the Round-up some good pointers on chick raising. He finds that the three essentials to success in raising poultry are a good chick, a good brooder and a good ration. The good chick is pure-bred and bred for a definite purpose. Production should come first, plus all the standard qualities that can be obtained. The largest sales of breeding stock in the future will be made by the breeders who combine production and standard qualities.

The good egg for hatching should have size, and eggs weighing about twenty-seven ounces to the dozen are recommended for the production of large chicks. Chicks from hens' eggs are the best as the pullets lack maturity. Professor Kilpatrick states he would rather have two chicks from hens' eggs than three from pullets' eggs.

He finds that too high temperature is sometimes used in artificial incubation in order to bring the chicks out on time. It should not be necessary to use a temperature of 105 degrees to get them out. A chick must be strong enough to get out of the shell for itself and immediately show vim, vigor and vitality. The best chicks have short heads, wide shanks, long

plumage and deep round bodies. Dislocate the necks of the poor chicks and remove the menace to the flock. It pays to keep on culling as the chicks grow, and not have a cull or two always present to spoil the looks of the remainder of the flock.

When consumers buy capons they generally want birds which will weigh from seven pounds up. Leghorn capons do not reach this weight and they consume as much feed as the larger birds.

Heavy capons sell from four to seven cents per pound over the price of spring roosters, while as before mentioned, the Leghorn capons bring about the same price as the young roosters.

The demand for capons is growing every year and there is always a market for them in the late winter and spring months when spring roosters become too coarse for roasting, but the producer should start with the right kind of stock.—J. H. Cutcheon.

You Can Bank On A Belle City For Big Cash Profits

Because it will bring you biggest hatches of strongest chicks that will grow rapidly into money-makers.

My Free Poultry Book "Hatching Facts" tells you the whole interesting story—write me for it today. Start a profit-paying poultry business of your own with my

\$13.95 140-Egg Champion Belle City Incubator

The Prize-Winning Hatcher with Fibre Board Double Walled Construction—Hot-Water Copper Tank—Self-Regulated Safety Lamp—Thermometer and Holder—Deep Chick Nursery—Egg Tester, \$6.95 buys 140-Chick Hot-Water, Double-Walled Belle City Brooder—Guaranteed to raise the chicks. Save \$1.95—order both together—a complete Hatching Outfit for only **\$18.95**

Express Prepaid

East of Rockies and allowed to points West. Gets your shipment to you in 2 to 5 days. With this **Guaranteed Hatching Outfit** and my complete **Guide Book** your success is assured—vouched for by over a million users. **Save time**—thousands order direct from my advertisements. **Order now and share in my \$1000 in Prizes**

Or write me today for Free Book "Hatching Facts" and get all the particulars. It gives newest ideas, easiest plans and quickest ways to make poultry pay big. **Jim Rohan, Pres.**

Belle City Incubator Co.
Box 14 Racine, Wis.

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. Darling's Meat Scraps are clean and wholesome, contain over 50% 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 dealers 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

THINK OF IT 140 EGG

Ironclad **FOR ONLY \$13.85**

THE IRON COVERED INCUBATOR **FREIGHT PAID EAST OF ROCKIES**

THE BIGGEST Hatching Value We Ever Offered

Incubator made of California Redwood, covered with galvanized iron, double walls, air space between, hot water heat, copper tank and boiler, self-regulating. Shipped complete with fixtures, set up, ready to use. The biggest bargain on the market. **30 days' trial.** Money back if not satisfied. Absolutely no risk when you buy Ironclads. Or we will ship you this 140-Egg Incubator and 140 Chick Hot Water Brooder, both for only **\$19.75**—freight paid east of Rockies.

Both for \$19.75

30 Days TRIAL **MONEY BACK IF NOT SATISFIED**

This big capacity hot water incubator and hot water brooder, built of materials that will last for years, at a price that is a real bargain. Both Incubator and Brooder have copper tanks and boilers. Guaranteed to please or your money back. If you prefer a larger outfit, order our **260 Egg Incubator \$23.50** **260 Egg Incubator with Brooder \$32.90** Freight paid. This Incubator has two doors and two egg trays. Order direct from this ad and save time, or send for free catalog today.

IRONCLAD INCUBATOR CO. Box 91 Racine, Wis.

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.

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

140 EGG Wisconsin ONLY \$13.25 Freight Paid

Just think of it! This fine, California Redwood Wisconsin 140-Egg Incubator, with double walls, dead air space between, hot water heat, copper tank and boiler, double glass door, nursery, self-regulating—everything complete, set up ready to run, for only \$13.25, freight paid east of Rockies. With 140-chick hot air brooder, only \$17.75.

180 Egg size, only \$15.75 with Brooder, both \$22

You take no risk in buying Wisconsins. You have 30 days to try them—money back if not pleased. Select the size you want—order today.

30 Days Trial Why Pay More

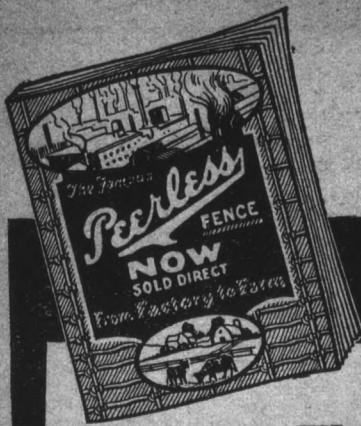
Wisconsin WICKLESS Colony Brooders

For those who want Colony Brooders here is the finest on the market. Automatic control—can't go out—can't overflow—burn steady blue flame—no wick—no troubles. Look at these **Express Paid Prices**

22 in. Canopy, 100 chick, \$8.95
32 in. Canopy, 300 chick, 15.55
42 in. Canopy, 500 chick, 17.75

Write for our New 1923 Catalogue or order direct from this ad.

WISCONSIN INCUBATOR CO.
Box 116, Racine, Wis.



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Our new big 104-page bargain catalog is now ready for you—write for it. See how the Peerless Factories, by changing their selling plan and selling DIRECT-FROM-FACTORY-TO-FARM, have been able to slash the prices on fence.

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Not only can you save money on fence by buying direct from Our Three Big Peerless Factories, but also on Farm Gates—Barb Wire—Lawn Fence—Steel Posts—Roofing and Paints. Our prices have been slashed to bed rock—you'll be amazed at the bargains we offer—never before have such low prices been quoted on Peerless Products.

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today. You owe it to yourself to get this money-saving book before buying Fencing, Gates, Roofing or Paints. You will be agreeably surprised at the tremendous saving that our new DIRECT-FROM-FACTORY plan gives you. Same high standard Peerless Quality—Satisfaction Guaranteed. Be sure to write for Catalog today.

Peerless Wire & Fence Co.
Dept. 2816 Cleveland, Ohio
3 Big Factories: Cleveland, Ohio,
(16) Adrian, Mich., Memphis, Tenn.
(Prompt Shipments)



FENCING at REDUCED PRICES Direct from Our Factory to You

We are manufacturers of twenty years' standing, not mail order jobbers. We make all kinds of Farm Fencing, Poultry Fencing, Ornamental Fencing and Steel Posts, and sell direct to you at prices that defy competition. Buy a guaranteed product direct and save money! Send for our Booklet 75M84, A.

We Pay the Freight.

The Parrish-Alford Fence and Machine Co.
Knightstown, Indiana.

Square Deal Fence

Stiff stay wires and well crimped line wires, heavily galvanized and locked together with the famous little Square Deal Knot so tight they can never slip, make this a trim, long-lasting, economical fence. 50c copy of Ropp's New Calculator sent free to land owners who write for catalog.

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FREIGHT PREPAID
SAVED \$60.00
SALE

BROWN'S PRICES SLASHED

Chas. Rowe says: "I saved \$60.00 on my order." Thousands doing same. Get our low "freight prepaid" special cut prices before you buy fencing, gates, roofing or paint. It will pay you big. Our quality highest—prices lowest. Send for 1923 cut price catalog. (6)

The Brown Fence & Wire Co., Dept. 2806 Cleveland, O.

Empire Woven Fence

10 Rods on 10 Days' Trial
Anyone can say their fence is best—we let EMPIRE speak for itself.

SEND NO MONEY

Just ask for our Special Trial Offer under our Money-Back Guarantee. Then you can see the fence, put it up, test it as severely as you wish if not better in every way, return it at our expense and get your money. Freight prepaid east of Mississippi and north of the Ohio rivers.

BOND-STEEL POST COMPANY
31 Maumee St. Adrian, Mich.

KITSELMAN FENCE

GET IT FROM THE FACTORY DIRECT
Elinord 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.

MYERS HONOR BILT HOUSE PUMPS

Whatever your pump need, there's a Myers that will fill it with real satisfaction. Myers House Pump shown here has the famous Glass Valve Seat and Cog Gear Handle that works at least one-third easier. Many styles—neat designs—attractive finishes—different prices. Best patented construction. Pumps for residence water systems. Electric and gas engine operated pumps. Also Spray Pumps. Hay Tools and Door Hangers. See your dealer or write for catalog.

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WRITE FOR FREE CATALOG OF AUTO SUPPLIES

MANY BARGAINS. POSTAGE PAID. Join Profit Sharing Club, no dues. Send for Membership Card.

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432L MAIN STREET GINGINNATI

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 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-5.

R. R. HOWELL & CO., Mfrs.
Minneapolis, Minn.

Dairy Farming

Hay at \$62.00 Per Ton

By S. P. Sexton

A QUESTION much discussed by dairymen everywhere, is that of buying feed. One man will tell you it does not pay; another will say he can afford to buy some grain, like cottonseed meal or oil meal, but that he cannot buy other grains.

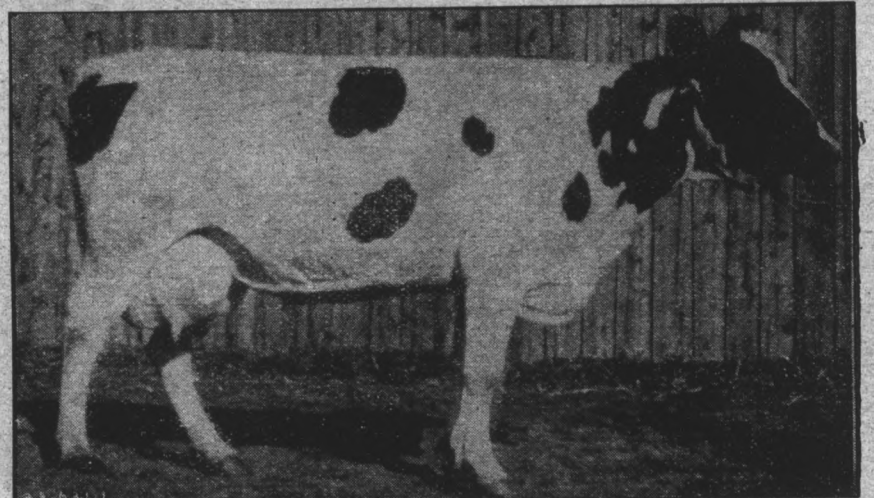
There are a great many herds of what we will call average cows that will not pay to buy feed for. The average cow gives less than 4,000 pounds of milk, and I find the cost of keeping a cow close to \$100 per year; so, from a fat-producing standpoint, the average cow is a losing proposition.

I should like to offer in evidence the work of a twelve-cow herd that averages 360 pounds of fat per cow for the year. These herds are not very plentiful, it is true, just twenty per cent of the herds in our association made that figure last year, but it

sold as unprofitable and three were bought.

For the present year Mr. Case has shown a steady improvement in his returns until at this time he has reached \$3.13. This is the high point when off grass, and gives rise to the statement of selling hay at \$62 per ton. It also shows oats to be worth \$1.00 per bushel and corn \$1.87.

"How does he do it?," is asked very frequently, and I might make a general statement that he watches his cows, and that "includes the lookout," as the sailors say. He keeps in touch with the market prices of various feeds and his production and the condition of his stock governs his buying, and when the tester comes these things are talked over and it is often a late hour before this shop question is closed. Not only are feeding questions dis-



Ellen White Rose, Owned by G. W. Ridgeman, of Vassar, Michigan.

shows what can be done, and it is what must be done if we are to continue buying automobiles and have any money left to paint our barns and houses and send the children to college.

The herd of B. N. Case and Dr. Stiles was assembled in 1919 and was composed of such cows as appealed to Mr. Case, who, while he was raised on the farm, had never made a particular study of the cow end of the business. Sixteen head were bought, and in a year they were reduced to ten through various causes. In the fall of 1920 Mr. Case and Dr. Stiles went to the National Dairy Show and were so impressed with the showing made by the Jerseys that it was decided to stick to that breed. On coming home, they visited a pure-bred herd and bought four bred heifers and a half interest in a good bull. In 1921, Mr. Case joined the cow-testing association. From that time to the present covers a period of nineteen months, of which I write.

For instance, in February, 1921, the returns for each dollar expended in feed was \$2.00. In March it was \$1.99. Then a change was made in the ration, and with spring weather coming on, the returns went to \$2.36; and there was an upward tendency for the balance of the year, so that the average returns for each dollar spent for feed for the entire year were \$2.67. It is my observation that we must secure a return of about \$2.00 for each dollar's worth of feed to come out; so if we get \$2.67 we have really made some profit.

During the year there were some changes made in the herd. Two were

cussed, but the larger question of farm management and future policy.

Here Mrs. Case proves herself a valuable partner. Her training and experience as a school teacher make her quick at getting the gist of a situation, and it is not unusual for her to be first in solving a problem.

It does one good to see such team work as this. It cannot help but bring success. And I often think of the lines of Whittier:

"More often may we see the truth
Of fact and fancy plighted
And culture's charm and labor's strength
In rural homes united."

DAIRY REGISTER OF PROFIT.

A COOPERATIVE movement on the part of thirty cow-testing associations in the state and the dairy extension department of the college will begin March 1. This movement consists of a registry of profit which will entitle cows making over \$125 a year profit to registry by the new organization. The only requirement is that the cow belong to a regularly organized cow-testing association.

Standard feed prices and standard milk prices will be used as a basis of computing the profit figures. The average price of grade-A milk of three and one-half per cent test for the first of each month in the following cities will be used: Detroit, Grand Rapids, Lansing, Saginaw, Kalamazoo and Marquette.

You will usually find the man who likes to read the first to be ready to clean the roads of snow.

WHY DREAD CALVING?

Take no chances with your valuable cows at this serious period. There's no need of it. If the cow's health is fully up to par, nature will do the rest. Two weeks before calving and about three weeks after, feed the cow a tablespoonful of Kow-Kare morning and evening. Her health will be assured and a strong calf result.

Kow-Kare acts directly on the genital and digestive organs, making them strong and active. Disease has no chance to get a foothold.

Kow-Kare is a sure, safe remedy for the ailments of milking cows, Barrenness, Abortion, Retained Afterbirth, Scours, Milk Fever, etc.

Sold by feed dealers, general stores, druggists—\$1.25 and 65c sizes. If dealer is not supplied we will mail, postpaid, on receipt of price. 32-page book.

"The Home Cow Doctor" free on request. DAIRY ASSOCIATION CO., INC. Lyndonville, Vt.



FREE BOOK

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

PATENTS

Write today for free instruction book and "Evolution of Conception" blank. Send sketch or model for personal opinion.

CLARENCE O'BRIEN, REGISTERED PATENT LAWYER, 952 Southern Bldg., Washington, D. C.

KEEP BEES

Complete Beginner's Outfits with or without bees. Full line of Beehives, Sections, Comb Foundation, Smokers, etc. General Agents in Michigan for the A. I. Root Co. Send for 1923 catalog. Beeswax Wanted.

M. H. HUNT & SON, Lansing, Mich.

Only \$24.95 ON TRIAL Upward FULLY GUARANTEED AMERICAN CREAM SEPARATOR



A SOLID PROPOSITION to send new, well made, easy running, perfect skimming separator for \$24.95. Closely skims warm or cold milk. Makes heavy or light cream. Different from picture, which illustrates larger capacity machines. See our easy plan of

Monthly Payments Bowl a sanitary marvel, easily cleaned. Whether dairy is large or small, write for free catalog and monthly payment plan.

Western orders filled from Western points. AMERICAN SEPARATOR CO. Box 3063 Bainbridge, N. V.

1923 ~ Bargain Book FREE GALLOWAY'S

Cream Separators, Spreaders, Gas Engines and other farm equipment are world famous for their low prices and unequalled quality. Don't buy until you have Galloway's latest prices. This year you can't beat the big bargains offered by Galloway's direct-from-factory-to-farm prices. Half a million pleased customers testify that Galloway prices are lower. Galloway farm equipment leads in superior design, workmanship and quality. Satisfaction guaranteed. Cash or credit. Send today for Galloway's seasonal price-outfitting buyer's guide. Wm. Galloway Co. Box 157 Waterloo, Iowa

EFFICIENT FARMING IN DEMAND

(Continued from Page 291)

of production would justify them to hire a skilled butter-maker and produce a large quantity of high-quality butter. Even if the smaller farmer's butter was gathered up through the local village store and the Danish exporter brought it on the English markets, it was not a large shipment of a uniform grade, but a shipment of small batches of butter, each batch coming from an individual farm, some good and some bad. In fact, the butter marketed by the smaller farmer brought about twenty-five per cent less than that marketed at this time by the large estate producers.

Then came the development of the cooperative creameries—the first real step in the direction of agricultural cooperation in Denmark. A marketing situation, the need of standardized, high-quality dairy products prompted the small farmers in 1882 to form the first cooperative creamery. Established on a sound economic basis, its success and popularity soon spread to all sections in the little kingdom. It provided a basis for the rational handling of milk from several hundred cows kept on a hundred or more different farms. Already in the nineties a uniform grade of high quality butter was manufactured in the cooperative creamery which even surpassed the butter production on the large estate-farms with two or three hundred cows.

I was further impressed with the significance of this movement when I found that the larger estate farmers have now joined the cooperative creamery. Today, ninety per cent of the total milk production in Denmark is delivered to the cooperative creamery, which number has reached about 1,400. Thus cooperative butter manufacture, together with a study of the needs of the market and the manufacture of a high quality product, and enough of it to warrant proper merchandising of the product, is responsible in no small measure for the enviable position which Denmark occupies in the dairy world.

But cooperative effort in Denmark is not confined to the dairy industry. More than eighty-five per cent of the bacon is slaughtered at cooperative bacon factories. The cooperative egg exporting association does a large business and is comprised of 550 auxiliary units.

The strength of the cooperative work in Denmark lies in the fact that it is built from the ground up. That sounds academic, the necessity for it is being constantly urged upon the farmers here in the United States. Nevertheless, the strength of the local societies is responsible for the success of the federated effort. But the rural economy is different in Denmark than in this country. Education and rural culture is the fundamental basis on which this system of rational farming and its cooperative features rest.

The people's high schools, an adult university for farmers' sons and daughters, which have been characterized by renowned educators as "The Schools that Made Over a Nation," have played an important part in building this rural education and culture. There are about seventy of these and the farmer's sons between the ages of eighteen and twenty-one years attend them and more than ninety per cent of the leaders in cooperative societies have at one time attended these schools. There are also twenty-seven lower agricultural schools where prospective young farmers attend. More than eighty per cent of these students return to the farms.

Says Sam: All work and no play makes Jack a city boy.



DE LAVAL CREAM SEPARATOR PRICES

A word about De Laval Cream Separator prices to prospective 1923 purchasers is pertinent at this time.

De Laval prices were reduced last year to practically the pre-war level, allowing for increased capacity and other improvements made meanwhile.

This reduction was made in anticipation of a further reduction in labor and material costs. The reverse has happened. Labor and material costs are going up rather than down.

If they continue to do so De Laval prices will have to be advanced. They are now too low. The economies possible through greatly increased production can alone permit of their remaining so.

In any event, De Laval prices cannot be reduced. They may easily have to be advanced at any time. The safe thing to do is to buy now and take no chances.

This is the more so by reason of the fact that 1923 De Laval machines are even better than ever before, that dairying was never more profitable, and that no one having use for a cream separator could ever less afford to be without the best or to continue the use of an inferior or half-worn-out machine.

Why not see your local De Laval agent at once or write us direct at the nearest address given below?

The De Laval Separator Company

NEW YORK 165 Broadway

CHICAGO 29 E. Madison St.

SAN FRANCISCO 61 Beale Street

Only \$2 DOWN ONE YEAR TO PAY \$44 Buys the New Butterfly Jr. No. 2 1/2 Light running, easy cleaning, close skimming, durable. EASY TO CLEAN. NEW BUTTERFLY Separators are guaranteed a lifetime against defects in material and workmanship. Made also in four larger sizes up to No. 5 1/2 shown here; sold on 30 DAYS' FREE TRIAL and on a plan whereby they cost their own cost and more by what they save. Postal brings Free Catalog Folder. Buy from the manufacturer and save money. ALSAUGH-DOVER CO., 2165 Marshall St. Chicago

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.

VIRGINIA ENSILAGE SEED CORN for sale. Grows in the mountains of Virginia. Naturally cured. High germination. John M. Higginson, Red Hill, Va.

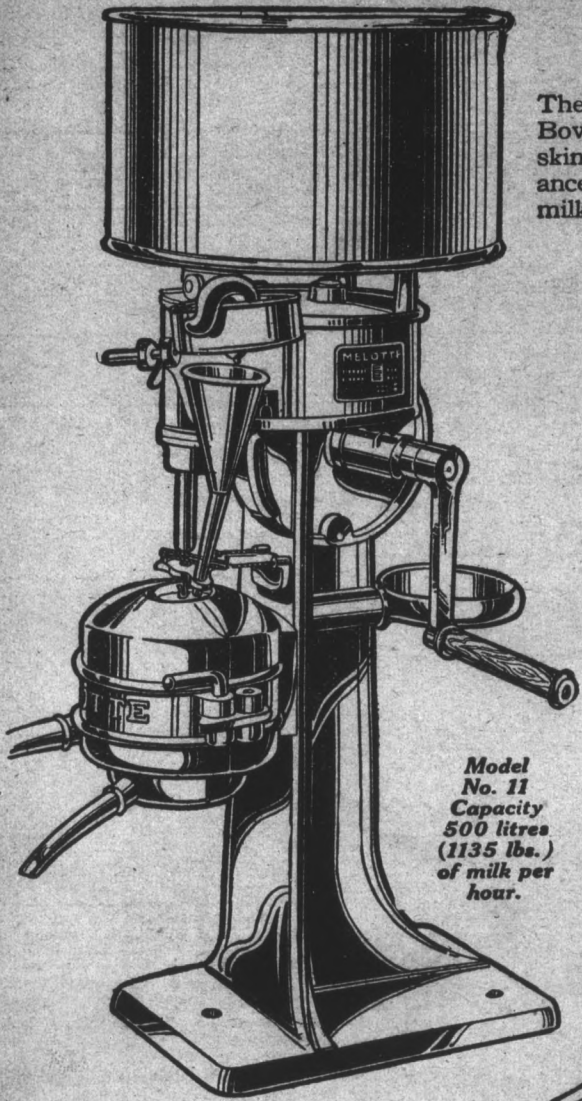
Only \$5 Down FREE BOOK Tells All Any Size Low Factory Prices Here's the Greatest Cream Separator Offer ever made by Montgomery Ward & Co. You can now get one of the new, close skimming—easy turning—easy cleaning, Improved SATTLEY Separators at new Low prices, for only \$5.00 Down, balance on easy monthly payments. In fact the extra cream this dependable machine will get for you will more than pay its cost. New Improved SATTLEY This standard built, Improved separator is made and guaranteed by the Oldest Mail Order House in the World. You take no risk whatever when you choose the SATTLEY. We give you 30 Days' FREE TRIAL We let you use it—test it—prove it on your own own farm. If you do not find it entirely satisfactory, send it back at our expense and get your money. Write for Free Book Get our new, Low Factory Prices and easy terms before you buy. Our big, FREE Separator Book tells all. A post card brings it FREE and postpaid. Write for it today. Be sure to ask for Special Cream Separator Catalog No. 37-A. MONTGOMERY WARD & COMPANY Chicago Kansas City St. Paul Fort Worth Portland, Ore.

Belgium Melotte

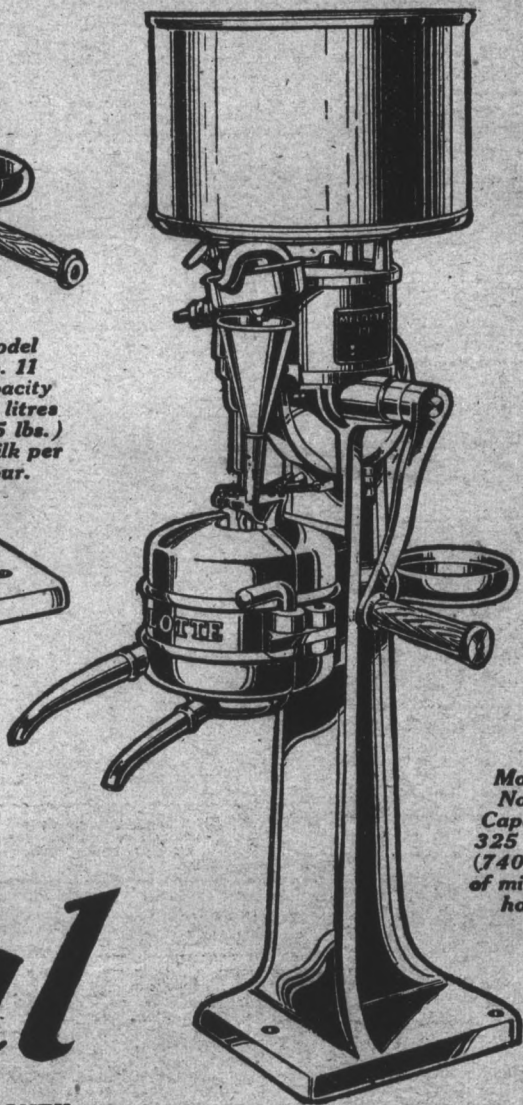
Imported Separator

Self-Balancing Bowl

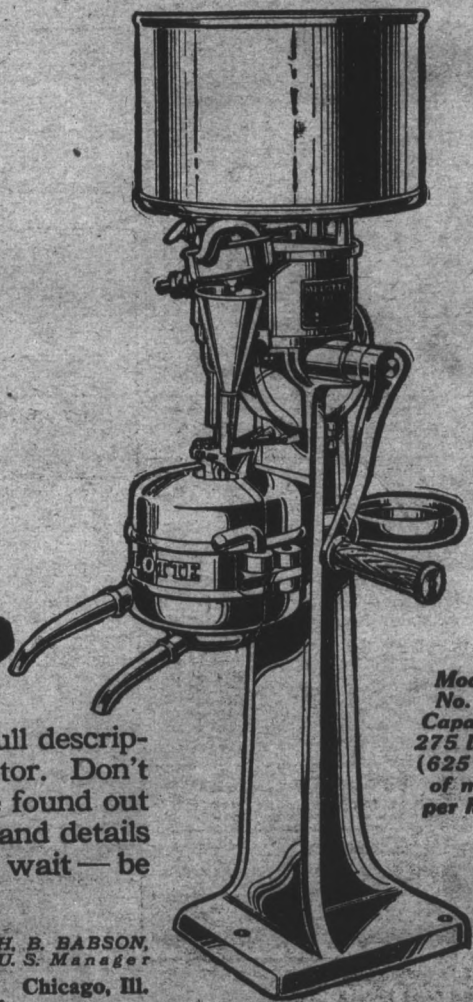
The Belgium Melotte is the only single-bearing-bowl separator ever made. This patent Bowl hangs from one frictionless ball bearing and spins like a top. It is *self-balancing*. It skims as perfectly after 15 years of use as when new. Positively cannot ever get out of balance—cannot vibrate and thus cause cross currents which waste cream by remixing with milk. Send coupon below today. Get the Free Book that tells about this great Melotte.



Model No. 11
Capacity
500 litres
(1135 lbs.)
of milk per
hour.



Model No. 7
Capacity
325 litres
(740 lbs.)
of milk per
hour



Model No. 6
Capacity
275 litres
(625 lbs.)
of milk
per hour

\$ 750
After Trial

We will send an imported Belgium Melotte Cream Separator direct to your farm on 30 days' absolutely Free Trial. Use it just as if it were your own machine. Put it to every possible test. Compare it with any or all others. The Melotte is easy to keep clean and sanitary because it has only one-half the tinware of other separators. Turns so easily that bowl spins 25 minutes after you stop cranking unless brake is applied. No other separator has or needs a brake. After you have tried it for 30 days and you know it is the separator you want to buy, pay \$7.50 down and balance in small monthly payments.

Free Trial

Your choice of any of these three models. NO MONEY DOWN—FREE TRIAL—SMALL MONTHLY PAYMENTS—DUTY FREE. This wonderful Belgium Melotte Separator has been picked by a jury of thousands of farmers—picked by dairy experts throughout the world to be the "king" of all separators ever manufactured. It has broken all records for Efficiency of Skimming, Ease of Turning, Convenience of Operation and Durability. Send coupon below for Big Free Book.

Write

The Melotte Separator, H. B. Babson, U. S. Mgr.
2843 West 19th Street, Dept. 31-03, Chicago, Ill.
2445 Prince Street, Berkeley, Calif.

Without cost to me or obligation in any way, please send me the Melotte catalog which tells the full story of this wonderful separator and M. Jules Melotte, its inventor and hundreds of letters from American farmers.

Name _____

Post Office _____

County _____ State _____

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