

MICHIGAN FARMER

AND
LIVE STOCK
PUBLISHED WEEKLY.

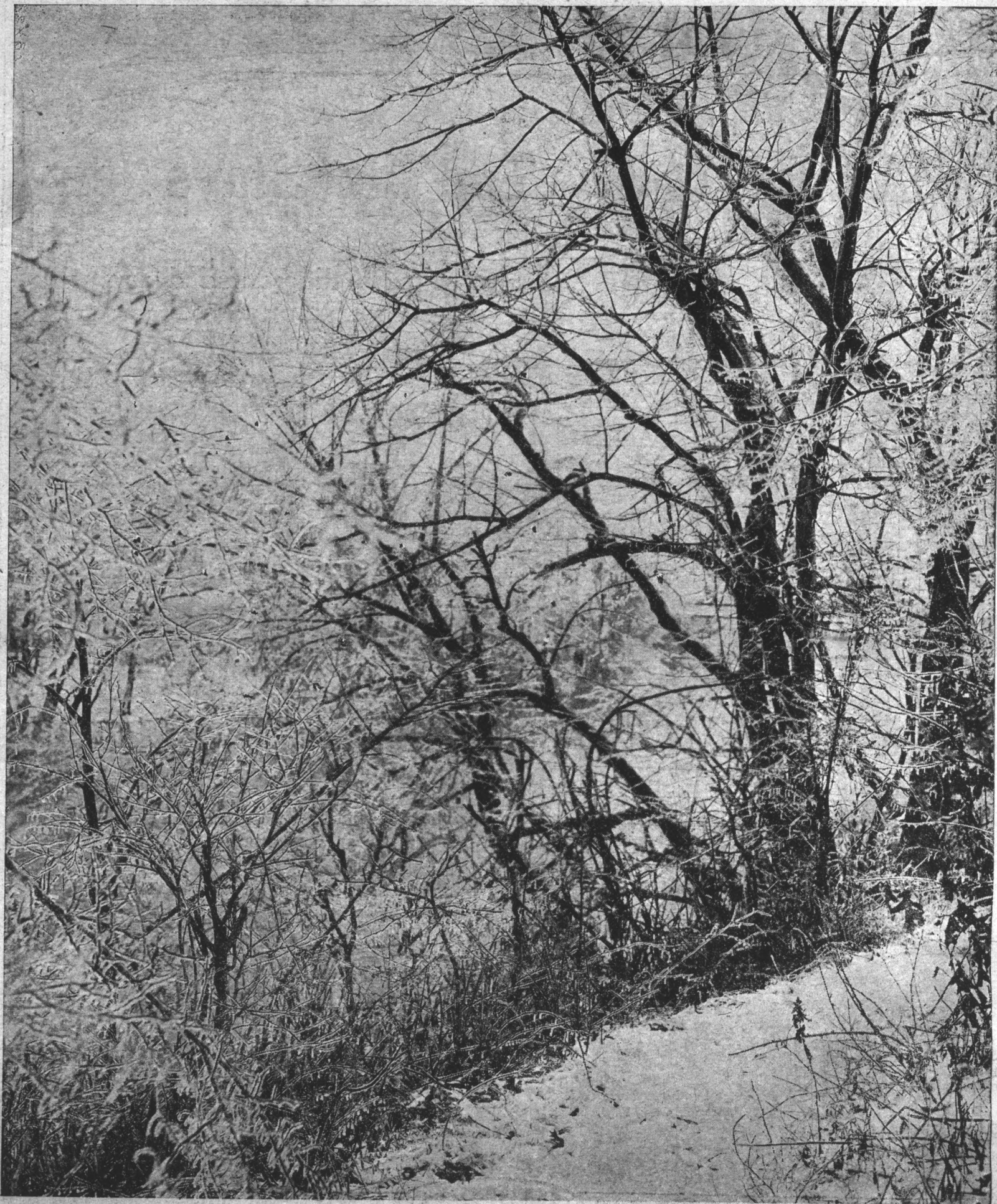
JOURNAL.
ESTABLISHED 1843.

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

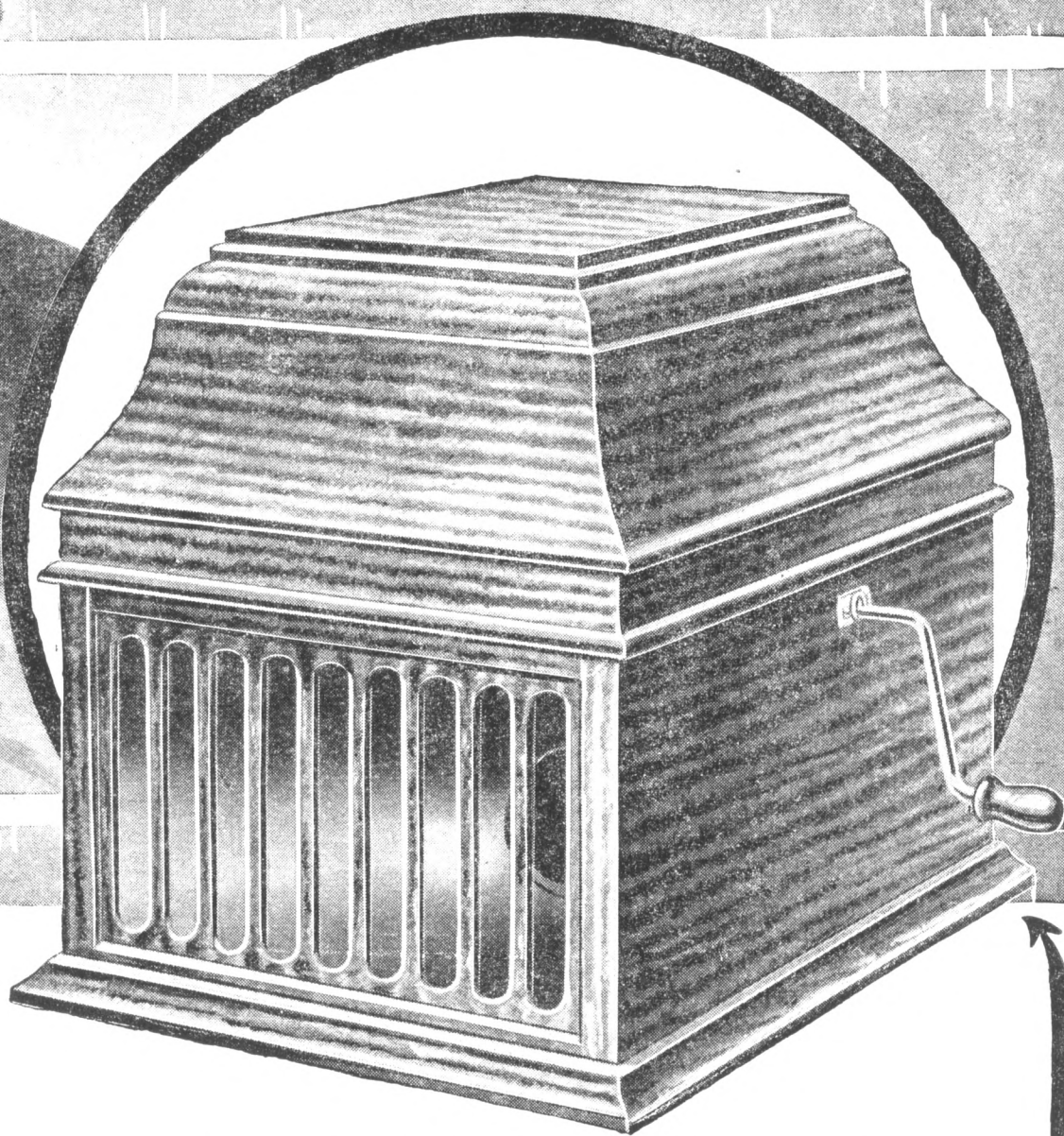
VOL. CL. No. 2
Whole Number 3975

DETROIT, MICH., SATURDAY, JANUARY 12, 1918.

\$1.00 A YEAR
\$3.00 FOR 5 YEARS



Mr. Edison's Wonderful New Amberola



**Only
\$1.00**

For years, the world's greatest inventor worked night and day to make the music of the phonograph true to life. At last he has succeeded. Now that you can get THE BEST on the wonderful offer below, you need no longer be satisfied with anything less than Mr. Edison's great instrument. Read below how easily you may have the genuine New Edison Amberola in your home.

and after trial!

Yes, we will send you the New Edison Amberola, the product of the world's greatest inventor's genius, the phonograph with the wonderful diamond stylus reproducer and your choice of latest Diamond Amberol Records on *free trial without a penny down*. On this offer, you can now have the genuine Edison Amberola, the instrument which gives you real, life-like music, the finest and best of all phonographs at a small fraction of the price asked for imitations of Mr. Edison's great instrument.

Rock-Bottom Direct Offer—

If, after the free trial, you decide to keep Mr. Edison's superb new instrument, send us only \$1.00. Pay the balance on easiest kind of monthly payments. Think of it! A \$1.00 payment, and a few dollars a month to get this wonderful new style outfit—Mr. Edison's great phonograph with the Diamond Stylus reproducer, all the musical results of the highest price outfits—the same Diamond Amberol Records—yes, the greatest value for \$1.00 down, balance on easiest monthly terms. Convince yourself—free trial first. No money down, no C. O. D., not one cent to pay unless you choose to keep the instrument. Send coupon!

COUPON

F. K. BABSON, Edison Phonograph Distributors,
4811 Edison Block, Chicago, Ill.

Gentlemen:—Please send me your New Edison Catalog and full particulars of your free trial offer on the new model Edison Amberola.

Name.....

Address.....

Our NEW Edison Catalog Sent Free

Your name and address on a postal or in a letter (or just the coupon) is enough. No obligation in asking for the catalog. Get this offer—*while this offer lasts!*

F. K. BABSON, Edison Phonograph Dist's.
4811 Edison Block, Chicago, Ill.

CANADIAN OFFICE: 355 Portage Avenue, Winnipeg, Manitoba

A Happy Home

Happiness is life—and real happiness is found only in a real home. And by a *real home* I do not mean a house with a yard or farm around it. Oh, no! A real home is the place where the happy, united family gather together for mutual enjoyment and recreation. And the Edison Amberola makes this possible, for it stands supreme as the greatest home entertainer. It will mean more than entertainment and merriment, more than an hour of amusement, yes, it will mean genuine pleasure of the lasting sort—helpful entertainment and culture of the most beneficial kind. It will mean the family united—a new home.



Entertain Your Friends

Get the New Edison Amberola in your home on free trial. Entertain your family and friends with the latest up-to-date song hits of the big cities. Laugh until your sides ache at the funniest of funny minstrel shows. Hear the grand old church hymns. Hear the crashing brass bands, the waltzes, the two-steps, the solos, the duets and quartettes. You will sit awe-stricken at the wonderful grand operas as sung by the world's greatest singers. You will be moved by the tender, sweet harmony of quartettes singing those old melodies that you have heard all your life. Take your choice of any kind of entertainment. All on free trial. Then, after the trial, send the outfit back at our expense if you choose. Or keep it on our great rock-bottom offer. **Send the coupon today!**

MICHIGAN FARMER

AND
LIVE STOCK
PUBLISHED WEEKLY.

JOURNAL.
ESTABLISHED 1843.

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

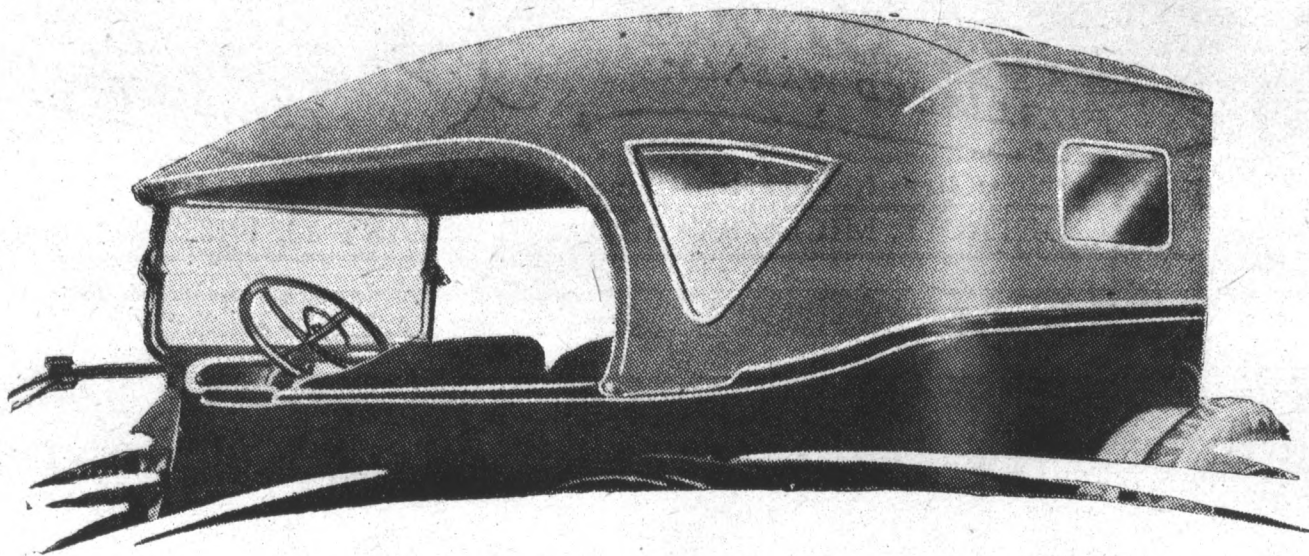
VOL. CL. No. 2
Whole Number 3975

DETROIT, MICH., SATURDAY, JANUARY 12, 1918

\$1.00 A YEAR
\$5.00 FOR 5 YEARS



DU PONT AMERICAN INDUSTRIES



RAYNTITE=The Top That Stays New

Mail This Coupon
marking X before subject that interests you.

Rayntite Top Material	Fairfield Rubber Cloth
Motor Fabrikoid	Industrial Dynamites
Craftsman Fabrikoid	Blasting Powder
Truck Special Fabrikoid	Farm Explosives
Marine Special (U.S. Stand)	Blasting Supplies
Book Finish Fabrikoid	Hunting
Fabrikoid Sheeting	Trapshooting
Sanitary Wall Finish	Anesthesia Ether
Town & Country Paint	Leather Solutions
Vitrolac Varnish	Soluble Cotton
Vitrolac Stain Finish	Metal Lacquers
Flowkote Enamel	Wood Lacquers
Liquid Light for Mills	Mantel Dips
Antoxide Iron Paint	Bronzing Liquids
Shingle Stain	Pyroxylin Solvents
Auto Enamel	Refined Fusel Oil
Py-ra-lin Toilet Goods	Commercial Acids
Challenge Collars	Alums
Novelty Sheeting	Saltpetre
Transparent Sheeting	Wood Pulp
Py-ra-lin Rods & Tubes	Pigment Bases
Py-ra-lin Pipe Bits	Tar Distillates
Py-ra-lin Specialties	Dyes and Bases

Name _____

Address _____

City _____

State _____

A grey, dingy, faded top will make any car look passé. Don't sell your car because the top looks shabby. Get a new top--a top that stays new.

DU PONT
FABRIKOID
RAYNTITE

never fades. It is water, grease, stain and dust proof--and as cleanable as glass. When soiled by travel plain water will restore its beauty. It is guaranteed not to leak, crack nor peel for one year but built to last the life of your car.

Any good top maker can re-top your car with Rayntite.

Check Rayntite in the coupon and send for samples, booklet and list of cars on which Rayntite is furnished as regular equipment.

Du Pont Fabrikoid Company

World's Largest Makers of Leather Substitutes

Wilmington - Delaware

Works at Newburgh, N. Y., and Fairfield, Conn.

Canadian Office and Factory, New Toronto, Ont.

The Du Pont American Industries are:

E. I. Du Pont de Nemour, & Company, Wilmington, Delaware	Explosives
Du Pont Chemical Works, Equitable Bldg., N. Y.	Pyroxylin and Coal
	Tar Chemicals
Du Pont Fabrikoid Company, Wilmington, Delaware	Leather Substitutes
The Arlington Works, 725 Broadway, N. Y.	Ivory Pyralin and Cleanable Collars
Harrisons, Inc., Philadelphia, Pa.	Paints, Pigments, Acids and Chemicals
Du Pont Dye Works, Wilmington, Delaware,	Dyes and Dye Bases



Visit the Du Pont Products Store
1105 Boardwalk, Atlantic City, N.J.

DU PONT

DEVOTED
TO
MICHIGAN

VOLUME CL.

MICHIGAN FARMER

AND
LIVE STOCK
PUBLISHED WEEKLY.
JOURNAL
ESTABLISHED 1843.

A Practical Journal for the Rural Family

QUALITY
RELIABILITY
SERVICE

NUMBER TWO

Can We Use Peat for Making Humus?

By EZRA LEVIN

Extension Specialist in Muck Crops, M. A. C.

WE farmers are agreed that more per acre is our problem, rather than more acres. The big factor in "more per acre" is humus. The purpose of this article is to urge, as a war measure, the use of part of the large resources of organic matter in this state—namely, the peat and muck deposits for replenishing the humus of our deficient soils.

One of the keenest thinkers in Michigan, a farmer of farmer stock as far back as he can trace, makes this most significant statement:

"You cannot pound the farmer on the back."

The efficiency committees who were going to speed up production, speed up the farmer, have learned that lesson. It is a principle that the men who have dared question the patriotism of the farmer should learn.

Farmers Are Naturally Conservative.

The farmer does not grasp big national issues quickly. Our farmer folk are naturally conservative. The lack of contact with other opinions, with the spirit of the issue which one feels in the offices, on the street, and at play in the city, makes them so.

We note, however, that the farmer plants potatoes in a war year, loses, swallows the pill, pays the bill—for his country.

He plants beans in a war year, beans get wet, and he pays the canning companies for the water in his wet beans—for his country, even while the government pays the canning company for the same water.

I mention this merely to point out that the farmer must be conservative. He has been forced to be slow to take up a new idea; he is slow to change his habits of thought, he is slow to change his farming methods. You cannot just tell him to do so and so, you must show him, prove to him, demonstrate completely, tell him the "why" of your new plan when it has to do with his livelihood and his existence.

This implies a knowledge of fundamentals. He will not spray until he knows what he is spraying for. He will not change his methods to add humus, to conserve organic matter until he knows what its for, the details behind the proposition. He will learn and do accordingly, but—"you cannot pound the farmer on the back."

An Old Idea.

The use of peat for increasing the organic matter content in our soils is not a new proposition. I thought so when I conceived the idea for my farm and convinced myself that it was a good practice. But, looking back into what others had done, I found the following statement, made in 1883 by Dr. R. C. Kedzie, of our own Michigan Agricultural College, recognized as a world authority in agricultural chemistry:

"In most parts of the state there are muck beds easy of access. If barnyard manure is composted with an equal volume of powdery muck by placing these materials in alternate layers, and then turning the compost by shoveling it all over once in the spring, a month before it goes to garden or field, you will have double the volume of manure, scarcely inferior to well-rotted barnyard manure. Such composting is not a process of dilution or watering, but a substantial addition of manurial matter. Muck contains nearly the same quantity of combined nitrogen (two per

cent) as well-rotted manure, but this nitrogen is mostly in the inert or inactive form. By composting with barnyard manure the active fermentation of the animalized matter induces fermentation of the muck, and some of the inert nitrogen is made active; any ammonia set free in the fermenting manure will be absorbed by the muck, and loss by leaching of the soluble salts will be prevented by the same muck. Prof. Gulley tried this method of composting at the college, and stoutly affirmed that he got as active manure and twice the quantity by composting with muck."

A Voice from the Last Century.

Imagine my surprise when I found this note, appearing in the Journal of the Board of Agriculture, London, August, 1916, by F. E. Weiss, University of Manchester:

"It is not usual to review a publication issued a hundred years ago, but

and with as good a knowledge as was available at the time of the process of putrefaction as observable in the decay of animal and vegetable matter. Recognizing in the deposits of peat the accumulation of vegetable matter in a state of partial decay, the author noted that in its natural state further putrefaction was inhibited, and he supposed that this was due to the evolution of tannin and gallic acid which had been detected in it. "Peat," as our author tells us, "when taken out of a bog is certainly not manure. If dried, it becomes fuel, and so remains if kept dry. But if exposed to the vicissitudes of the atmosphere in our climate, it becomes, in the course of years, a sort of vegetable mould; and, if mixed with the soil and cultivated, raises good crops of potatoes and other vegetables."

Speeding Up Nature.

How to accelerate this process was



Compost Piles of Peat and Manure.

Experimental work being carried on by the Bacteriological Department of the Michigan Agricultural College, to determine the germ activities and decomposition phenomena in different mixtures of muck and manure.

the interest which has been taken in the Manchester scheme for manufacturing bacterized peat may serve as an excuse for drawing attention to a pamphlet published in 1815, and bearing the title, "Directions for Preparing Manure from Peat." The anonymous author had already previously printed and distributed in the form of a tract his discovery that common peat was convertible into a putrescent manure, equally powerful as farm yard dung for the cultivation of ordinary crops, giving instructions for conducting and accomplishing the process requisite for that purpose. The author, a large landed proprietor in Scotland, having occasion to scoop out from a hollow a quantity of peat moss in order to provide a space for a small artificial lake, found himself in a difficulty when faced with the problem of disposing of the mass of peat thus obtained, and being of a shrewd and practical turn of mind he tried a variety of experiments with a view of converting it into a manure. The experiments were undertaken in a truly scientific spirit, with a considerable insight into the nature of peat,

the object of his experiments extending over six or seven years. He first tried the effect of mixing the peat with substances that would neutralize its acidity; but peat mixed with lime for twelve months and used as a top-dressing did no good for several years. He next mixed the peat with various forms of decaying vegetable and animal matter, and found that the putrefaction of these substances was communicated to the peat, setting up fermentative activity indicated by the rise in temperature and resulting in the production of a rich compost, very effective in the raising of crops. In the earlier experiments he used such substances as the refuse of fisheries, shamble dung, etc., and in 1802 he had already announced a successful experiment by which he produced ten tons of rich compost from peat made up with shavings of timber and the carcass of a horse, partly with, and partly without the addition of some old lime rubbish. The method he advocates in the pamphlet of 1815 as the simplest and most useful to farmers, however, is the mixing of peat with about a third of its weight of or-

dinary farmyard manure. The peat should be allowed to dry for a few months before carting. Then after spreading a layer of six inches of peat, about ten inches of dung may be placed above the peat, then another six inches of peat, followed by four or five of dung. After a third layer of peat and dung, the whole should be covered with peat, making a heap about four to four and a half feet in height. In mild weather, seven cartloads of tolerably fresh farm yard dung is sufficient for twenty-one cartloads of peat moss, but in cold weather a larger proportion of dung is required. It is useful to add about half a load of slacked lime, about a load of ashes, but neither of these is essential. When the compost is thus made up it gets into heat in summer in less than a fortnight. If it gets too hot, it should be turned over and in doing this a little more peat can be added to the heap. When the heat subsides, it will be found that a very perfect compost has been formed, all the lumps of peat having been broken up. Used weight for weight, it will be found quite as good as farmyard manure.

Peat made up with seaweed heats, and appears to undergo the same changes as when prepared with dung. It has proved equally efficacious in raising wheat, but does not promote such early ripening of the grain. Made up in this latter way, two natural products which are usually allowed to go to waste may be used for enriching our crops, and where both are easily obtainable, advantage should be taken of their accessibility.

A Plan Adapted to Present Needs.

Our author's experiments proved successful, and his directions were circulated by many large Scottish land owners, among their tenants. It would be interesting to know to what extent the practice was adopted, and to what extent it has been kept up in Scotland. The growing scarcity of dung which is likely to increase with further development of mechanical methods of traction, may resuscitate this discovery of a bygone age, at all events in those districts in which peat can be had practically for the cost of cartage. Apart from this possibility, it is not without interest to find that experiments made so long ago as the commencement of the last century showed without doubt that peat, consisting as it does, of partially decayed vegetable debris, contains the basis of valuable plant food, and if the latter can be rendered available to plants may become a useful manure.

In all probability, in the method recommended by our author, the acidity of the peat becomes neutralized by the ammonia contained in the dung, while decay-producing bacteria may percolate into the peat in addition to those normally contained in it, but whose activity is inhibited by the presence of humic acid.

In very much the same way, the peat in Chat-Moss has been in the course of years transformed into a rich black soil of great fertility. Drained of its acid waters and neutralized with lime, it has been further enriched, both in nutrient matter and in decay-producing bacteria, by the addition of sewage, and has thus been rendered capable of promoting vigorous growth of crops."

With these facts in mind, and con-
(Continued on page 45).

The Michigan Farmer

Established 1843.

Copyright 1918.

The Lawrence Publishing Co.

Editors and Proprietors

39 to 45 Congress St. West, Detroit, Michigan

TELEPHONE MAIN 4625.

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

M. J. LAWRENCE.....	President
M. L. LAWRENCE.....	Vice-President
P. T. LAWRENCE.....	Treas.
F. H. NANCE.....	Secy.
I. R. WATERBURY.....	Associate Editor
BURT WERMUTH.....	Associate Editor
FRANK A. WILKEN.....	Associate Editor
ALTA LAWSON LITTELL.....	Associate Editor

I. R. WATERBURY..... Business Manager

TERMS OF SUBSCRIPTION:

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

All sent postpaid.
Canadian subscription 5c a year extra for postage.

RATES OF ADVERTISING

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

Member Standard Farm Papers Association and Audit Bureau of Circulation.

Entered as second class matter at the Detroit, Michigan, post office.

DETROIT, JANUARY 12, 1918



CURRENT COMMENT.

The Potato Situation. A number of factors have combined to make the present potato situation an unsatisfactory and discouraging one for growers, particularly in the northern sections of the state where the car shortage prevented any considerable shipment of potatoes during the early part of the season. In the lower part of the state where the shipping facilities were somewhat better, and where storage facilities are more ample, the situation is not so serious as in the northern portion of the state where the farmers increased their potato acreage as the best available means of helping to increase the country's food supply this year.

In view of the effort made to increase acreage on the part of both the federal and state governments, these farmers felt assured that they would receive a compensatory price for their product after it had been grown. But the pronounced lack of transportation facilities during the early part of the season when a portion of their crop might have been moved at good prices, and a later lessening of demand and slump in market prices, largely because of excessive frost damage in many sections, left them with their entire crop on hand, and unable to realize the expected income from their season's work. In many cases where no other storage was available, these potatoes are in pits, where they must remain until spring. In other cases, especially in sections where there was damage from frost or drouth, a considerable portion of the crop is not salable under the No. 1 standard grade which is being enforced by the Food Administration, and the fact that dealers are offering only sixty per cent of the first grade price for No. 2 stock largely keeps them off the market.

These conditions have been brought to the attention of government officials at Washington, with the result that a conference of national and state food administrators is being held this week, with a view of formulating a plan to relieve these conditions.

There is a very general feeling among well informed students of the situation that, notwithstanding the sta-

tistical position of this year's potato crop as the largest in the history of the country, there will be a demand at good prices for the entire crop during the normal period of consumption. While available figures showing the distribution by rail indicate that the great bulk of the crop yet remains in growers' hands, yet it is undoubtedly a fact that a very considerable portion of the crop was moved marketward by other than rail routes, as local shipments by electric roads and over improved highways by auto truck.

While there is no question that the unusual percentage of frosted stock has been an unfavorable market influence, also the inequitable operation of the new provision for standard grades as applied by dealers through a too wide price differential between first and second grade stock, yet the main difficulty in the movement of the Michigan crop has been lack of adequate transportation facilities. Under government operation of the railroads this condition will probably be considerably relieved at an early date. There is need, however, for further official action that the potato situation may be cleared up in such a manner as to not only provide for an adequate movement of the crop, but at a price which will be compensatory to growers, to the end that next year's acreage may not be curtailed.

The problem before the Food Administration is not an easy one, but in the interest of the country, it should be solved as above indicated, even if it becomes necessary to appeal to congress for a price guarantee or establish practical price control through the purchase of any apparent excess product and the drying of same for army use. This would be no hardship to consumers who are now paying a price for potatoes which should insure a compensatory price to the grower for sound stock. With the distributing machinery under its control, the Food Administration should find an adequate remedy for the condition above noted.

Stabilizing the Milk Supply. The appeal addressed to milk producers by the secretary of their association for practical cooperation in stabilizing the market milk supply in the Detroit area again brings up a point of issue between milk producers and distributors of milk in urban centers.

In order to be sure of an adequate milk supply in periods of scant production it is necessary for the distributors to purchase and divert to other uses a large surplus in times of flush production. The readjustment of milk prices in the Detroit area following a period of scant production due in part to unfavorable natural conditions and largely to the high cost of production due to the unprecedented cost of feed stuffs has been followed by a period of liberal production due to the better feeding of recently freshened cows, thus again raising the old problem of the disposition of a surplus supply. Fortunately, much of this supply can now be diverted to other uses at a minimum loss because of the unprecedented demand for condensed milk and other whole milk products. The surplus milk cannot, however, be profitably used in the manufacture of butter or cheese at the price established for market milk, thus making the problem of the disposition of the surplus a difficult one where it cannot be diverted to the uses above mentioned.

Secretary Reed has wisely referred to this problem as one in which producers as well as distributors are interested. Its solution will be sufficiently difficult if the producers in the Detroit area work together toward that end. Without general cooperation, however, it will be impossible, as Secretary Reed has pointed out. General curtailment of production will not solve the question, since such a move would make the shortage more pronounced in the

short seasons as well as relieve the surplus in flush seasons. Standardization of production in market milk districts which will make production fairly even throughout the year or which will adapt itself to the more or less constant variation in demand would appear to be the best remedy. This is clearly work for the milk producers' organization and can be accomplished if at all only through practical cooperation of a united membership including all shippers of market milk within each market milk area.

The Fuel Shortage. That the serious fuel shortage that has been felt in all sections of the country is largely occasioned by the entry of the United States into the war was shown by the testimony of Fuel Administrator Garfield before the senate sub-committee investigating the fuel shortage last week. According to this testimony, the production of anthracite coal for 1917 was estimated at 84,000,000 tons, or an increase of about 11,000,000 tons over 1916. Bituminous coal mined in the United States during 1917 approximated 552,770,400 tons, or 50,000,000 tons more than the previous year. From these figures, it will be seen that there is a total increase of about 61,000,000 tons with which to fill the increased demand of 100,000,000 tons. Most of this extra demand has appeared since April last, when the United States entered the war, and is largely for the needs of the government, including the navy, munitions plants and public utilities supplying power and transportation to war industries and war materials.

It will at once be seen that notwithstanding an increased production of some 60,000,000 tons, the balance of the 100,000,000 tons of the increased demand must be provided in some other manner. There is no other way except through a saving in coal. Such a saving can perhaps be best affected in country districts where there is a supply of available timber for firewood, which accounts for the small distribution of coal in rural districts by the fuel administration, and the constant urging of widespread substitution of wood in all localities where a supply is available.

This is a hardship which should be borne as cheerfully as possible in view of the war necessity with which we are confronted. Where wood is available for fuel, the suffering occasioned by a shortage of fuel in centers of population will at least be avoided, although the hardship and inconvenience of its use will often be considerable as compared with the use of coal were same available. Any contribution which we can make toward the speeding up of needed preparation for winning the war should, however, be willingly made to the end that the period in which such sacrifices may be necessary may be shortened.

The Fertility Problem. Our leading article this week deals with a very important phase of the soil fertility problem.

Experienced farmers know that physical condition is a very important factor in soil fertility. Supplementary fertilization is much more effective on a soil which is in good physical condition, that is a soil which contains the optimum amount of vegetable matter or humus. Many Michigan Farmer readers have in years past taken sufficient interest in the possibilities of using peat or muck to supply humus to soils deficient in vegetable matter to make inquiry regarding same, and a considerable number have experimented on their own farms along this line.

The article above referred to is the first of a series dealing with this important question by a man who, from training and experience is perhaps better qualified to speak with authority on this subject than any other man in the state. The first article appearing in

this issue is necessarily somewhat lengthy because of the necessity of dealing with the basic principles underlying the problem of supplying humus by the use of peat or muck. Other articles will deal with specific instances in which experiments of this kind have been conducted with success upon Michigan farms.

Every reader who is so situated as to have available a supply of peat or muck which could be used for this purpose but which is not available for other profitable use should read these articles with care and preserve them for future reference. The possibilities in adding to the fertility of depleted soils through the use of peat or muck as a humus-making material are too great to be lightly passed at a time like the present when there is a greater demand for food stuffs of all kinds than at any previous period in the history of modern agriculture. Michigan is well supplied with the raw material for increasing soil fertility by this means. Michigan farmers should interest themselves in the study of this problem which will be thoroughly analyzed in this series of articles.

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—Germany's insistence on retaining Russian territory over-run by her armies has apparently led to an early ending of the peace parley between the Central Powers and Russia. The earlier announcement of "no annexation nor indemnity" policy by the Central Powers led the Russian delegates to believe that the Central Powers would agree to withdraw their armies from all territory formerly belonging to Russia. It was therefore a shock to them to learn German's terms which led to a counter demand that the peace parleys be held on neutral soil, with Stockholm, Sweden, suggested as the place. To this Germany would not consent, according to reports, and a rupture was created that will in all probability terminate the attempt to reach peace terms between the countries to the armistice agreement. Japan is said to have recognized the Bolshevik government following the reported break with Germany, and press reports indicate that the United States is likely to follow Japan's lead.—Roumania announces that she will keep up the fight against the Central Powers, regardless of the attitude of Russia.—Reports from Italy show that the fighting of the invaders no longer shows the intensity of a big offensive. Along the upper Piave the Teutonic batteries have been virtually silent for a week, indicating a possible movement of the forces to other points or a shortage of ammunition. Weather conditions there have been favorable to military operations, no heavy snows having fallen thus far. Italy has adopted a drastic policy to increase her fighting forces. Physical requirements have been modified, and all men between the ages of eighteen and forty-four years previously exempted, are ordered to appear for examination.—The British army has made additional advances in Palestine.—Nothing of importance has transpired on the western front, except that early this week British forces re-occupied trenches recently lost to the Germans on the Cambrian front. Every evidence leads to the belief that a big German drive will be made on the western front at an early date. German aviators are now active photographing territory behind the lines of the allied forces. Reports of American fliers attacking Germans at this work show that the Yankee boys are becoming effective in their work against the Huns.

National.

Eighty-eight mines in the West Virginia coal fields have been forced to temporarily suspend operations for lack of motive power, as the result of the burning of a power company's generator.

A heavy fall of snow and strong gales were general over the middle western states on Sunday. Rail and electric lines were obliged to practically suspend operation. In Chicago the drifts in some places reached a height of fifteen feet, and all traffic was at a standstill. With the prevailing fuel shortage, many towns in the northern states will suffer from the cold.

Military authorities at Camp Custer deny the report that any movement of troops to Waco is contemplated. Training of troops will be completed in this state, as it would be impossible to make arrangements to accommodate the companies at Waco.

CAN WE USE PEAT FOR MAKING HUMUS?

(Continued from page 43).

sidering the success which farmers in Michigan have had in utilizing peat, let us understand them in the light of modern scientific knowledge.

The purpose of this series of articles is to point out to the farmers of Michigan the value of the muck and peat deposits; the methods of handling to be used for replacing the depleted organic matter in our soils.

Let us get at the bottom of this thing and determine the purpose of organic matter, its relation to soil fertility, and the fundamental processes which take place in the soil.

What is Organic Matter?

The plant takes the simple, individual elements from the broken rock in the soil and the substances in the air to build itself. Plants build themselves from these simple elements into sugars, fats, and meat-like substances.

A house cannot build itself.

Men, the power in their bodies; machinery, driven by engines; heat, produced from coal, made the house.

A plant can build itself because the source of power, the energy which built the plant, is the sunlight. Most of this energy, this power, is stored up, accumulated, in the sugars, fats, and meat-like substances which the plant makes.

These plants are eaten by animals which die and are returned to the soil or the plants themselves are returned to the soil. The remains of these living things fall back to the soil. This residue, this stuff which eventually is called upon to form the living plants and animals again—this is organic matter.

To use a concrete example, consider a clover plant.

When it dies, the clover may remain in the stack and the air will burn it up slowly, the elements from which it was formed released to the soil and air. We may turn it under the ground and it disappears rapidly. We say it has decayed, rotted. We mean that the germs, the bacteria and moulds have been feeding on the clover plant. If the clover plant is fed to a steer, the animal breaks down most of this organic matter into the original simple substances which the clover plant took from the soil and air.

The Role of Germs in Soil Fertility.

When the clover is turned under the ground, the microbes, the germs, use this organic matter for a similar purpose. It is utilized in exactly the same purpose by the germs of the soil as organic matter is used by the animal to which it is fed.

The power, the energy which has been stored up in the fats, oils and meat-like substances by the sun is released and used so that the living thing which feeds on them, be it a germ or a steer, may grow, work and multiply its kind.

Very well, we know the purpose for which a steer is produced. Now we want to know to what end these germs are working. Scientists, recently—only within the last quarter-century—have shown conclusively that the germs in the soil are responsible for the preparation of the plant food in the soil.

Edward J. Russell, the great English agricultural chemist says: "The close connection between bacterial activity and the nutrition of plants is, however, fully justified by many experiments, and forms the basis of our modern conception of the soil as a producer of crops."

Germs break up the organic matter into the simple substances which become again the essential food stuffs for plants. The story of how the different groups of germ workers recover the valuable nitrogen for us again is one of the wonders in the study of the living world. As a result of this great germ world in the soil and the organic matter therein, there is produced large

quantities of carbon dioxide. This carbon dioxide is a gas which is released as a waste product in the breaking down of organic matter. It is produced by all living organisms. This carbon dioxide is one of the substances produced which has to do with making available the so-called unavailable elements in the minerals of the soil. This waste product hastens the weathering of the rock particles and the consequent release of nitrogen, phosphorus and potash and lime contained in them.

Nitrogen-fixing Germs.

All of the nitrogen is not recovered from the organic matter in the soil. A part of this precious element is changed to the inert, unavailable gaseous form and passes into the air. The air is made up of close to eighty per cent of nitrogen gas. Man has tried and has finally discovered how to fix this nitrogen in the air into some available form, but it is a costly and difficult process.

Yet we have only lately—in 1892—discovered that there are wonderful nitrate factories on the roots of the legumes. The nodules on the roots of clover and alfalfa are factories in which the nitrogen of the air is made available for the use of the plant. The germs in these nodules are the workers. Myriads, millions of workers, doing this work for you. All they need is a chance to do their work. They need the proper conditions for growth and multiplication. They need air and organic matter. They cannot grow unless there is an abundance of lime in the soils, and of course, some of the germs must be there in our soil. Thus

organic matter are precisely the conditions which produce the best growth of our farm crops.

The importance of organic matter in changing the physical condition of soils which can be appreciated by noting this statement from Russell:

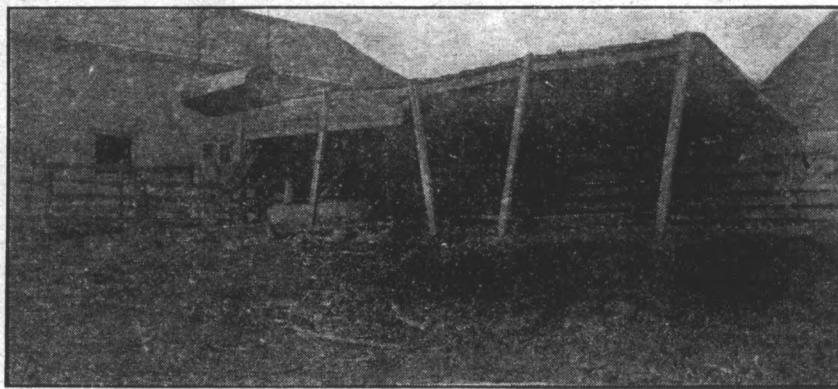
"So marked are these, physical effects that if fifteen or twenty per cent of organic matter is present in a soil the operation of other factors ceases to count for much, and the distinctions between sands, loams and clays are obliterated."

Organic matter opens up the soil so that the soil is better drained and aerated. Organic matter increases the water-holding capacity of the soil. There is a relation between the numbers and types of germs and the moisture content. Bound up closely with this fact is the relationship between germ activity and soil aeration, also temperature.

Lime is Essential to Germ Growth.

No better illustration of the sensitivity of the germ groups in the soil can be found than one which is familiar to most progressive farmers. The application of lime does produce important physical and chemical benefits in the soil. We also know that the germ workers, the nitrogen workers, will not grow if lime is not present. If the nitrogen germs will not grow, the clover will not grow. This we have seen time and time again. Furthermore, the other beneficial germs of the soil are equally sensitive to the presence of lime.

The reader has probably reassured himself that this article is concerned



A Sheltered Place for the Water Tank is Most Desirable.

you can see why we inoculate the soil with a culture of nitrogen germ workers. We get them from the bacteriological department of the agricultural college in a little bottle, or we get them from our neighbor's alfalfa field.

Then there are the germs which take nitrogen gas from the air and fix it in the soil without being attached to clover, alfalfa, or cowpeas. These also play an important part in increasing the nitrogen content of the soil.

We cannot confine our study of farm crops, soils, and their care to the plant and the chemical and physical nature of the soil. We must keep ever present in our minds the germs, the harmful germs, how to eliminate them; the beneficial germs and how to multiply them, how to feed them, obtain the greatest benefits from their activity. They are alive, just as much alive as any other living thing on earth. They must be taken care of and this is the task we are concerned with. What are the best conditions for the maintenance and development of the germ workers in the soil?

Organic Matter Food for Germs.

They must have food. Their food is organic matter. From the country's greatest soil bacteriologist we have the statement, "that a soil devoid of organic matter is practically devoid of germs." Food is not all—proper temperature and necessary amount of air and water are essential.

When a large amount of organic matter is present in the ordinary soils these conditions are produced. Furthermore, these physical conditions of the soil produced by large quantities of

with the use of peat as a means of replenishing the depleted organic matter in our soils, but true to the intention, we want to know how and why. If we are to use peat, it must fulfill the requirements of organic matter in the soil:

First, it must improve the physical condition of our soils.

Second, it must have the essential elements which other organic matter contains, which can be made available.

Third, it must be a medium for the growth of beneficial soil germs.

It has been proven that peat can be so used.

Let us examine the work of this Scotch landowner. He used peat moss, not decomposed muck.

Merely to mix peat with lime that would neutralize its acidity twelve months before application did no good for several years. There is a probability that he did not add enough lime, yet, note the next sentence, "mixed peat with various forms of decaying vegetable and animal matter and found that the putrefaction of these substances was communicated to the peat, setting up fermentative activity indicated by a rise in temperature, and resulting in the production of a rich compost."

Reading over the article and considering these changes in the light of our knowledge of germ activity, is it not plain and reasonable? The weathering, the moisture, the aeration, provide condition for some of the germs which cause decomposition to start with and multiply. The addition of lime produces conditions which increase their ac-



Tools that "pitch in" and work—

for you and with you; everlastingly on the job, never through till you're through. That's the only kind of tools allowed to bear the name KEEN KUTTER.

KEEN KUTTER Farm Tools are scientifically designed to give that easy swing called "the proper hang" and to carry just the right amount of load for untiring speed in use.

Only the best quality of steel and straight-grained hickory handles are used in the making. And special strength-giving features of construction add another reason for our guarantee—"Satisfaction or your money back."

Buy KEEN KUTTER and get—satisfaction.

SIMMONS HARDWARE CO.

Manufacturers and Distributors
St. Louis New York Philadelphia
Toledo Minneapolis Sioux City
Wichita

"The recollection of QUALITY remains long after the PRICE is forgotten."—E. C. Simmons.
Trade Mark Registered.

Save 1,000 Steps A Day

The old-fashioned method of pumping and carrying water is a great time and labor waster. Put in a water system and save 1,000 steps a day—365,000 steps (or nearly 100 miles) in a year. The



handles water BY MACHINERY—tons of it for house, barn and yard. Nothing to freeze. Water comes "Direct from the Well" absolutely fresh—no stored water. Supplies hot or cold, hard or soft water anywhere you want it. Affords splendid fire protection. Gives you a modern bath room. Reduces feeding costs. Simple and thoroughly reliable. The best investment you can make.

FREE CATALOG and Information Blank tell the whole story and enable you to learn the cost of a Milwaukee Water System for your place.

Write today.

MILWAUKEE AIR POWER PUMP CO.
869 Third St., Milwaukee, Wis.

Fertilizers Pay Better Than Ever

TODAY a bushel of corn or wheat buys more fertilizer (potash excepted, of course) than at any time during the past three years.

Note how much cheaper you can buy a 2-10 fertilizer now than before the war.

In 1914



Today



In terms of farm products, fertilizers cost less today than in 1914.

Fertilizers paid you then—they will pay you better now.

Fertilizers are today more profitable and more necessary to efficient production than before the war. Grow more per acre and increase your profits by using fertilizer.

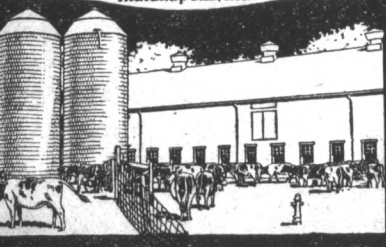
Help both the railroads and yourself by ordering Spring Fertilizers now.

Send for literature to Dept. 9.

Soil Improvement Committee
of the
National Fertilizer Association
Postal Telegraph Bldg. Chicago The Munsey Bldg. Baltimore

Build a Guernsey Silo

Glazed Hollow Tile. Eight inch walls and special air-space construction prevent frozen ensilage. Interlocking tile clamps and steel reinforcements make proof against wind and storm. Fire and acid proof. Write today for catalog and special proposition.
Farmer Agents Wanted
Guernsey Clay Co., 908 Fletcher Trust Bldg.
Indianapolis, Ind.



IRON AGE

Farm, Garden and Orchard Tools
Answer the farmers' big questions.
How can I grow crops with less expense? How can I save in planting potatoes? How make high priced seed go farthest? The
IRON AGE Potato Planter
solves the labor problem and makes the best use of high priced seed. Means \$5 to \$50 extra profit per acre. Every seed piece in its place and only one. Saves 1 to 2 bushels seed per acre. Uniform depth; even spacing. We make a full line of potato machinery. Send for booklet today.
No Misses
No Doubles
Bateman Mfg Co., Box 24B, Grenloch, N.J.



tivity. To cause rapid decay and rapid release of valuable nitrogen phosphorus and potash for plant use, and that high state of fermentation which we know is conducive to the liberation of the practically unavailable minerals in the rock particles of the soil, he "mixed peat with various forms of decaying vegetable and animal matter." He inoculated the peat with germs "and found that the putrefaction of these substances were communicated to the peat."

Space does not permit a continuation of the discussion in this issue.

Think over these facts. Later we will take up the practical considerations, the costs, comparison with manure, and experience of how and why we farmers in Michigan can do what this Scottish landowner did profitably.

THE FUEL SHORTAGE AND THE LABOR PROBLEM.

With many towns in the writer's locality on the verge of a fuel famine, the demand for wood has been increased manyfold. The price, too, has risen correspondingly with the greater demand and with the general rise in the prices of nearly all commodities. It is this situation which has brought to light in its full extent, the seriousness of the farm labor problem. If this problem has been perplexing before, it is doubly so now. Many farmers who have woodlots, would be glad to sell wood this winter, thus relieving to a marked degree, the fuel scarcity. Improvident and unwise as the owners of wood-lots have been in the past, there is still enough timber in most communities of Michigan, to tide over even a prolonged coal shortage.

But it is just here that the seriousness of the labor problem develops. Many farmers find it next to impossible to procure wood-cutters to cut the wood they wish to place on the market. It is even difficult, in some instances, for the farmer to get help in cutting the wood he needs for his own use. Never before has the difficulty been so apparent. Most of the young fellows from the farms who in former winters have cut wood by the cord, are now at Camp Custer or in some other training camp. The class once so numerous, of married men living in the country, on small places, has almost entirely disappeared. Some years back these men were to be found in every neighborhood, and were available in the summer as day hands, and in the winters have cut wood by the cord, or helped out by the day, as the case required.

In the situation as it exists today, the problem not only of relieving a fuel shortage, but of increasing production, becomes a knotty one. For fifteen or twenty years, farm labor has been growing more scarce, year by year. Now, the great war has done at a single stroke more than a dozen years of the trend cityward could accomplish. It has taken the few strong young fellows who were willing to stay on the farms. Of course, in the very nature of the case, this is inevitable, but its effects are far-reaching, along all lines that have to do with labor on the farms.

Price Not a Consideration.

In considering this question, it is well to remember that the price paid for labor does not, at present, figure materially. Farmers say they can not procure help at any price. This was frequently stated in the writer's section during the past summer, and the demand for wood-cutters has brought out the same condition this winter. Fifteen years ago men could be found in plenty, who would cut wood for forty or fifty cents per cord. Now, one dollar per cord will not procure the desired help. It is experienced help of the right sort, of course, that the farmer would rather have. In the wood-cutting proposition, however, he is not so particular, as he pays according to the

actual amount of work done. And this leads to still another factor in the farm labor problem:

It is almost needless to state that there are, in every community, a few able-bodied fellows who shun honest toil as they would shun a deadly plague. Within the age limits, the selective conscription has given many of these industrial slackers a steady job. But outside the age limits for drafting, there are still left a few of these shirkers in every neighborhood. These are the men who would rather hold down a dry-goods box or play pool or hunt than do a day's work. These are the men, too, and the only men who have it in their power to remedy to some degree, the present exasperating situation. Some of these men live in farming districts, and still more of them are found in the towns. When good men must leave the factory and the farm to serve in the nation's armies, there ought to be some way to force the habitually indolent into service as industrial workers.

Industrial Slackers.

The case right now is one in point. Let the ne'er-do-wells, the professional slackers along all lines of honest endeavor, be forced to cut wood. If this were to be done, there might still be a coal shortage, but there would be no fuel famine, at least, not in the country districts of Michigan. There is something obviously unfair about professional loafing, at any time. But in the present crisis, the professional loafer is a criminal. He could, if he would, help his family, his community, his country, and the world at large. The fellow who is well and able-bodied and who sits and toasts his shanks when there is wood to cut, and his fellows need it to keep from freezing, is a worthy case for drastic measures. If the law can pick out any man anywhere to serve in our military forces, why can it not compel under heavy penalty, industrial service from the industrial slacker? It is in this way that the labor problem could be relieved. It is not claimed that this perplexing question could be solved by such a method, and so long as the war lasts the situation will continue to grow more and more acute. But succor from the only class left able to give it, would seem to be perfectly in order. The professional tramp and the professional home loafer are one and the same, in the present case—enemies to the cause of justice and humanity.

Hillsdale Co.

J. A. KAISER.

FARM NOTES.

Value of Bean Fodder as a Roughage.

What is the relative value of bean pods as a roughage for live stock? Is there any market for them in bales? On what basis is the price for same generally fixed? SUBSCRIBER.

Bean fodder is an excellent roughage feed to be used in combination with other forage, particularly for sheep. It may also be successfully fed to cows in small quantities. We have no knowledge of any attempts to use it as a horse feed. When used particularly for sheep in combination with other roughage feeds, bean straw will have approximately as high feeding value as good hay, although it will not be as closely eaten, on account of the coarse stems. The feeding value of the forage is almost always enhanced by the grain it contains, as even where a good job of threshing is done, some beans will nearly always remain in the straw.

Under normal price conditions of other feed stuffs quite a favored method of buying and selling bean straw among the farmers has been at a price based on the amount of beans threshed from same. This is an equitable arrangement, since the pods are the edible and nutritious factor of the forage. Bean straw should preferably be fed on the farm or marketed in the neighborhood rather than baled for shipment.



Dry Feet and Warm Feet

are simply a matter of rubber and wool. For the best protection and the longest wear buy "Ball-Band" Vacuum Cured Footwear which is practically one solid piece. The Red Ball Trade Mark is on every "Ball-Band" boot, arctic, and rubber. Look for it.

Worn by nine and one-half million people and sold by 55,000 dealers. Write for booklet, "More Days Wear."

MISHAWAKA WOOLEN MFG. CO.
319 Water St., Mishawaka, Ind.
"The House That Pays Millions for Quality"

Build for Good

You will never have to rebuild if you buy a

B. V. T. SILO

It keeps contents from spoiling. Air-tight and more nearly frost-proof than any other silo because of the triple dead-air spaces. Made of the famous Brazil Fire Clay, reinforced with ribs of steel bedded in concrete. Ask your neighbor who has one. Send today for Catalog. Brazil Hollow Brick & Tile Co. Brazil, Ind.



Eureka Potato Planter

Saves Time and Labor—Increases Yield
Pays for itself many times over. One man and team opens furrow, drops seed any distance or depth, drops fertilizer (if desired), covers up, marks, next row. Automatic. More accurate, dependable and quicker than hand planting. Furrow opens and seed drops in plain sight. Does not injure seed. Has long life, needs few repairs. 3 sizes for 1 and 2 rows. Protect yourself against uncertain labor and season.
Write for Catalog

In stock Near You
Eureka Mower Co.
Box 832
Utica, N. Y.



8 HOURS WORK IN 4

In planting season when your time is worth money it is a big saving to be able to plow, disc, harrow and level your fields all at one time. This can be done with any plow you have, except walking, by attaching a

KRAMER ROTARY HARROW

and using the same power you had before. It makes a better seed bed also which means bigger crops. Write today for our new circular and prices. DEPT. 62

Kramer Rotary Harrow Co., MORTON, ILLINOIS

Efficient Pruning Tools

WHEN the orchard business is managed on a scale large enough to make it a factor in the farm income the expense for pruning becomes a large item. Men who know how to prune are scarce in some sections. Whether experienced or inexperienced men are used for pruning the use of proper equipment is necessary to reduce the expense of the work. The writer has worked in commercial orchards where the amount of work finished in a day was greatly reduced because the men frequently worked with dull saws and poor shears. In the morning there was usually a scramble to get hold of a tool that was fit to perform the work. Possibly one fortunate man would obtain a saw that was sharp. The remainder of the men would do the best they could with a dull saw. The foreman made no provision for sharpening the saws and unfortunately most of the men did not seem to care how long it took to sever a branch as long as they were making their arms move most of the time. That may be the attitude in many pruning gangs. Of course, it is up to the owner to make provision for sharp tools and an employe can scarcely be expected to argue with the boss over the quality of the saws and shears that the boss owns.

Keep Saws Oiled.

The first item in the pruning equipment should be files for keeping saws sharp so they will bite into the wood and make the cut smoothly and quickly. At least one man in the gang should be able to file a saw. He should be responsible for keeping the tools in good condition for the remainder of the workers.

The quality of shears is important and there is much difference between a pair of pruning shears with a good edge and strong springs, and the dull edged shears which stick and tear the branches instead of neatly snipping them from the tree. The double-cut pruning shears which cut the branch from all sides at the same time, will

be a good investment as no tearing of the bark will result. Shears on long poles will save much work on the step-ladders when young fruit trees are pruned. The worker can size up the tree from the ground and do much of the heading back of the limbs without using a ladder. This saves time and enables an experienced pruner to do a good job.

The curved pruning saws seem to work better than the straight blade. They enable the operator to take a better grip and make the cut a little more rapidly. Some growers use the thin saw blades which fit into a frame. The old blade can be removed and a new one inserted in a short time. With a tool of this kind it is possible to work in crotches where it would be impossible to use a wide blade without scraping the bark on the adjoining limb where no cut should be made. A saw of this kind enables the orchardist to have plenty of sharp blades on hand when beginning the work and there are no delays for sharpening tools.

Keep Tools Sharp.

The care of pruning saws and shears is important. If they are allowed to become wet they will soon rust and deteriorate in value. It pays to rub the tools thoroughly with an oiled cloth and this film of oil will keep the moisture away from the metal and prevent rust. When storing the tools they should always be protected in this manner. It also pays to oil all of the joints in pruning shears, as this will make them work more easily. The small hand shears which work with a coiled spring should have the spring protected from rust and dirt by frequent cleaning and oiling. These small hand shears frequently become out of repair. The springs break or slip loose during a busy time in the orchard and cause no end of wasted time. When the orchardist in employing several men to prune, it certainly pays to have additional pruning equipment on hand for an emergency.

Ingham Co.

R. G. KIRBY.

A New Strawberry Method

FOR a number of years we have been growing strawberries as a profitable sideline in connection with our farm of sixty acres. During this time it has seemed something of a hardship to cultivate the spring-set plants an entire year, getting no returns until the second year. Accordingly we did some experimenting and worked out a system which has proved very satisfactory in getting the most returns for our labor.

Interplanted Strawberry Bed.

This year in setting an acre of strawberries, instead of following our usual plan of spacing the rows four feet apart, we marked out the land in rows thirty inches apart, setting the plants in every other row. Between the strawberry rows, we planted quite a variety of vegetables, taking care to use only those things which made an upright growth and would interfere the least with the cultivation of the berries. We planted onions, potatoes, beets, carrots, cabbage and dwarf peas. The cabbage seed was drilled and thinned to stand eighteen inches apart in the row, the plants being sold as fast as they were pulled out.

We cultivated rather oftener than we would have had there been nothing on the land but the berries. Also, we did the usual amount of hoeing and hand-weeding, with the result that we never had a finer looking strawberry patch. The rows are perfectly straight and the constant cultivation has restricted the runners to a narrow fruiting row which can be easily mulched and handled at picking time.

As to the returns from the vegeta-

bles, we have credited this acre as follows:

6,800 cabbage plants at 25c per 100	\$ 17.00
5½ bushels of peas	5.95
50 bushels of table beets	24.30
80 dozen cabbage	16.00
30 bushels of potatoes	30.00
21 bushels of carrots	8.10
14 bushels of onions	17.50

Total\$118.85

With the exception of the cabbage plants which were disposed of locally, nearly everything was sold to hucksters from the city who loaded up on the place.

As a result of our experiment, we have decided to use the Irish Cobbler potato to fill in the first year. Some other variety with an equally small top would do as well. Hereafter we shall check-row the land so that before the vines begin to make runners, we can cultivate both ways and save hoeing.

Fertilize Strawberries.

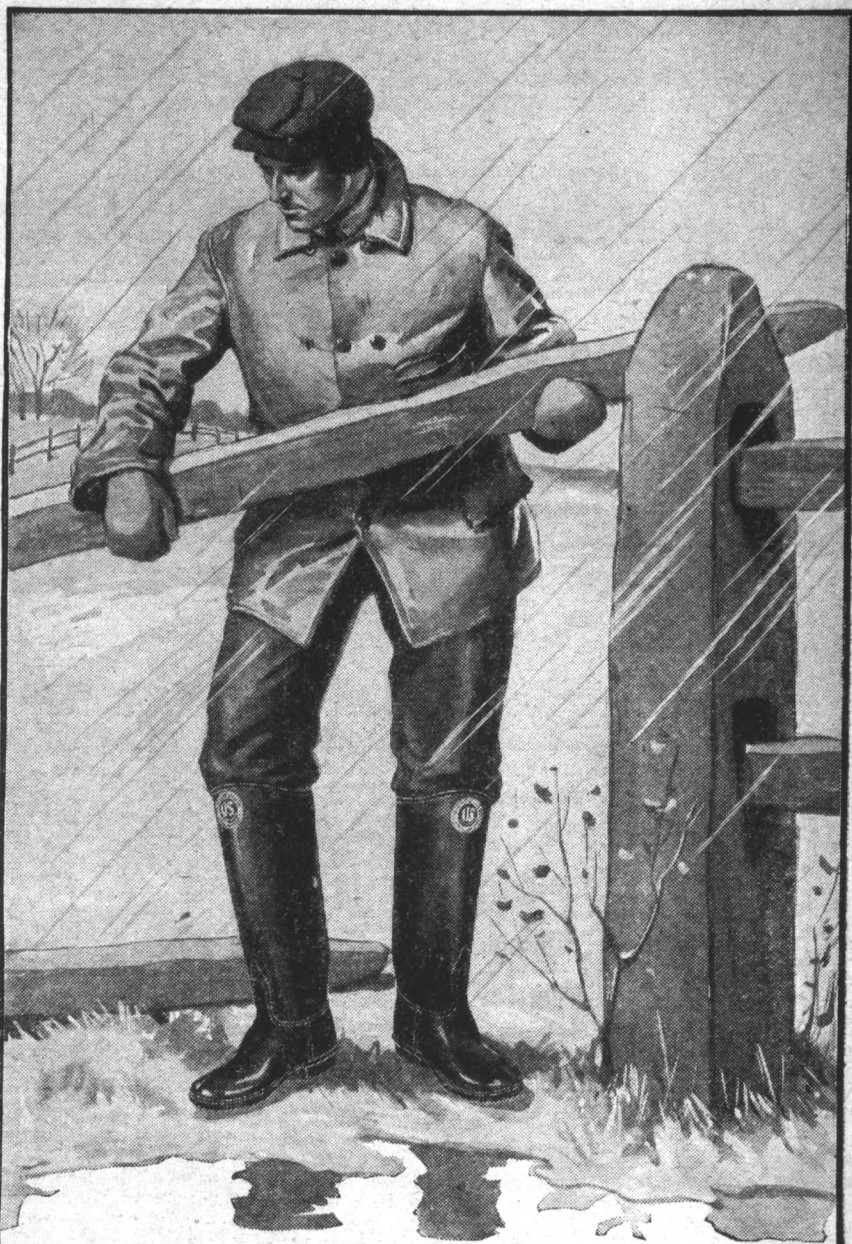
When freezing weather we mulch with straw and before the mulch is raked off in the spring fertilize with five hundred pounds of high-grade fertilizer.

We expect next year to go a step farther and sow dwarf peas between the fruiting rows and plow up the whole thing for whatever crop the season will let us raise in the summer and fall. We hope to be able to put in potatoes if the peas and berries are off by July 1.

Livingston Co.

C. R. ROSS.

Order your spray material and equipment early. Freight congestion and other uncertainties at this time make this precaution necessary.



**Warm When It's Cold —
Dry When It's Wet**

and comfortable all the time are the "U. S. Protected" feet of the outdoor workers who keep foot-fit in

U. S. Rubber Footwear

the all 'round, heavy service, double duty rubber footwear that's built to wear longer and save money for the wearer. Reinforced where wear is hardest. Every pair's performance is up to promise. There's a special "U.S." style suited to every outdoor occupation and every individual taste.

The U. S. Seal is placed on every pair. This trade mark of the largest rubber manufacturer in the world is your protection. Look for it and make sure of it.

For sale everywhere. Your dealer has what you want in "U. S." or can get it for you.

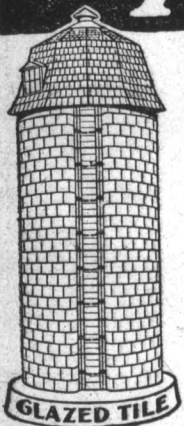
United States Rubber Company

New York



U. S. Rubber Footwear

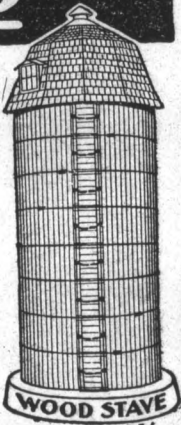
Put Your Faith In A Kalamazoo



A silo is a *permanent* investment, therefore purchasing a silo is not a question of paying a few dollars more or a few dollars less, but of getting a silo that is *right*—in design, in material, in construction.

"Kalamazoo" is the answer. For more than twenty-seven years thousands of successful farmers in all parts of America have put their faith in

Kalamazoo
TILE AND WOOD
SILOS
"The World's Standard"



Last year alone upwards of six-thousand new purchasers of silos unanimously decided in favor of the Kalamazoo. And those who bought twenty or more years ago still swear by the Kalamazoo because time and experience have proven conclusively that Kalamazoo silos are *right*, from every standpoint. There's a big dollar's worth of value in every dollar of the cost whether you buy a glazed tile or a wood stave Kalamazoo.

They're built to meet the needs of farmers who know and appreciate the feeding value of ensilage and know how a silo should be built to make and preserve ensilage *right*. Kalamazoo silos excel in design, material and workmanship—combining every desirable feature a silo should have and embodying the knowledge acquired through long experience in silo building.

You can't go wrong in buying a Kalamazoo.

GLAZED TILE SILOS—"Permanent as the Pyramids"—fire-proof, frost-proof, storm-proof, moisture-proof, acid-proof, decay-proof, vermin-proof. Galvanized reinforcing. Require no paint, no upkeep expense or repairs. First cost is the last cost. Easy to build—and once built your silo problem is solved forever.

WOOD STAVE SILOS—Your choice of four of the best time-defying woods. Kalamazoo silos are manufactured complete ready to set up. Quickly and easily erected by inexperienced home labor. All Kalamazoo silos, whether wood or tile, have the famous Kalamazoo Galvanized Steel Door Frames and continuous doors which are universally recognized as the best ever designed.

Write Today for our free descriptive booklet and details of our easy payment plan. If interested in an Ensilage Cutter, ask for Kalamazoo Cutter Catalog.

KALAMAZOO TANK & SILO CO. DEPT. 223 Kalamazoo, Mich.

FIELD SEEDS AT WHOLESALE PRICES

We save you money on your Seed Bill. Write for our Special Money-Saving Price List and get our reduced prices on Best Quality Guaranteed Seed. You should know about our low prices. Write at once and be convinced. Everything Guaranteed equal to Sample or Money Refunded. Don't pay double profits on Grass Seed. Our seeds are sold subject to Government test. Have low prices on Seed Corn, Oats, Wheat, Speltz, Barley, Cane, Millet, Cowpeas, Rape, Vetch, Sudan Grass, Potatoes, Artichokes and all Farm and Garden Seeds. Don't order until you write for big 116-p. catalog. Free samples and special low prices on seeds you require. Free 60-p. book on Growing Alfalfa to those who ask for it. Write now. A. A. Berry Seed Co., Box 231, Clarinda, Iowa.



ROYSTER'S FERTILIZERS

Feed the Crops That Must Feed the World

Increased production of food crops, necessary to win the war, can be had in two ways—planting more or feeding the plant more. The labor shortage makes fertilizing for heavier yields per acre the logical course. Where maximum results are so desirable, the importance of *quality* in fertilizer is greater than ever. 35 years of success attests the merits of the **F.S.R.** brands. A trial will give you a new idea of what fertilizers will do.

F. S. Royster Guano Co.
(2) Mid-West Sales Division
TOLEDO, OHIO



Shorthorns Coming Back

By N. A. CLAPP

THE remark is often made that popular favor, but none approached "history repeats itself." The quality which was the characteristic of the Shorthorn.

it were correct the epochs in history would revolve in regular order instead of evolving as they do, one following another, and each succeeding epoch having distinguished characteristics of its own. Conditions in successive ages are never repeated but each age has its place to fill in the progress of a world, from primal beginnings to the consummation of conditions which we call modern and improved conditions.

While speaking of a revival of interest in that noble breed of cattle now designated Shorthorn cattle, I wish to mention some things of interest in three different periods of their history. First, the formation stage; second, the development and improvement stage; and third, some of the superior characteristics which make them the general farmer's cattle.

Shorthorn cattle have played an important part in meeting the needs of the country in which they were kept, once during a critical period in England during and after the Revolutionary War with the colonies which afterwards became the United States, and during the reconstruction, development and progressive period which followed

At that time agricultural pursuits brought liberal returns. King George III, to add to its popularity, turned farmer and became a student under Robert Bakewell who was looked upon as a master of the art of breeding stock to refine and improve it. Others followed the lead of Bakewell in a rigid course of inbreeding, and those who operated with the Shorthorns made some progress, but the wisdom of the inbreeding practice has been questioned and has been almost entirely dropped as a practice by breeders.

The fame won by the breeders of Shorthorns during the period mentioned, placed that breed at the head of the list of all breeds which had been formed at that time. The practice of up-grading by crossing the Shorthorn bulls on other cattle became quite universal and the quality of the meat of the offspring was greatly improved.

During the period in which the Shorthorn breed was forming, the war with the American colonies was carried on. England's arms were not successful and she was made to feel the sting of defeat and the consciousness that a new nation was being established



A Modern Shorthorn Cow and Her Calf.

On University Farm, Davis, Cal. Cow is pure-bred Shorthorn, dam of "California Favorite," the grand champion steer at International Live Stock Exposition, 1916. The steer was of Hereford-Shorthorn breeding; weighed 1,130 pounds at thirteen months. The cow's present calf is pure Shorthorn and claimed to be a better calf than the other one.

the war of the rebellion in our own country. At present the conditions are such, now that we are engaged in a war of great magnitude and far-reaching in its effects on the civilized world, that the countries which have recognized the merits of this noble breed of cattle like the United States, Canada, Argentina and Australia, will be called upon to breed and utilize great numbers of them in order to meet the needs of the allies during not only the years of the war, but many years after the war, which we may call the period of recovery which will follow. As the breed has been relied upon in the past it recommends itself as the material which can be utilized now as a means with which we can meet our needs at the present time.

Early Characteristics.

Those who have given the matter of what is termed quality in beef a considerable study, know that there is a wide difference in the character of meat from different kinds of cattle. During the eighteenth century when the cattle which were later called Durham or Shorthorn were slaughtered, a great many of them produced a kind of meat called "lyered meat," which was dark in color and never mingled with fat to give it an agreeable flavor. The early Shorthorns were not only rapid growers, making heavy cattle at an early age, but yielded a carcass of beef well marbled with fat which made them popular as meat producers. Various means were tried on many different kinds of cattle to bring them into

which would compel her to bow before it and acknowledge its strength.

In the period of prosperity which followed the war the Shorthorn cattle became very popular and sold at auction sales in England at remarkably high prices. Although the farmers in America were struggling under discouraging conditions, the fame of the breed which was capable of making such remarkable growth in a short period of time, and that, too, on mostly forage feeds and such roots as were grown in England attracted their attention and some importations were made first into Kentucky and subsequently into Ohio and New York.

The newly imported cattle were met with strong endorsement by the farmers in the communities in which they were kept. The character of the beef cattle soon began to be transformed from the slow-growing, thick-hided, heavy-boned cattle to a quick-maturing class of cattle with mellow hides and a superior quality of meat. It was soon seen that the Shorthorn steers could be raised to popular market weights in a shorter period of time, and at much less expense than the native steers. The influence of the Shorthorn spread rapidly and the results were very satisfactory. But internal conditions in the country interrupted the spread of the descendants of the breed. The war of the rebellion came on and for four years the business of breeding was at a standstill or was abandoned altogether.

After the close of the war, business

in the country was good, farmers were prosperous and the task of settling and subduing the vast territory west of the then outskirts of civilization was begun in earnest. The demand for cattle suitable to improve the slow-maturing natives became spirited. American farmers remembered the merits of the red, white and roan Shorthorn cattle, and naturally turned their attention toward them. Importations from England were numerous and prices continued to soar higher and higher until fabulous prices were reached. In 1878, eight years after the close of the war, prices for bulls of a certain strain of blood were quoted at about \$10,000 each and cows of same family at twice that sum.

It can be truthfully claimed for the Shorthorn cattle that the breed paved the way and transformed the character of the cattle in the United States from a slow-growing class of cattle of poor quality and almost profitless to a class of cattle that was quick to respond to good feed and care. The Shorthorn cattle and their grades, were for many years, distinctively the farmer's cattle which would thrive on the common forage feeds, and when fed grain in an intelligent and sensible manner would yield a carcass of beef of quality good enough to satisfy the demands of the most exacting epicures as well as to supply the needs of the laboring classes of people.

It can also be truthfully said of the Shorthorn cattle that the females are excellent general farmer's cows. They yield a good flow of milk which will meet the needs of the family and at the same time that butter is made for home use and to sell in the markets, the calves can be raised on the skim-milk that will grow to good size on the common forage feeds and fatten readily for either home use or to sell in the market.

The Shorthorns of the Future.

We have not claimed that the average Shorthorn cattle are capable of competing with the modern cattle bred with a single purpose in view. The dairy bred cattle have their places to fill in our varying and widely extending conditions. If it is milk alone that is desired we know from what breed to make selections. If it is butter of a certain quality that is desired we know from where to choose our cows. But if it is a farmer's class of cattle that will meet the conditions which prevail where general farming is carried on, we know that the Shorthorn so far outstrips any of the other breeds that it is unwise to give them any consideration.

The merits of the Shorthorns are so well known and appreciated, that now when beef cattle are commanding high prices from first hands, and that cattle that can and will make excellent beef on grass pastures alone are the most profitable, attention of cattle raisers naturally turn toward the good old reliable Shorthorns. The demand has caused prices to soar higher and higher until values of the good dual-purpose Shorthorns have not only doubled and trebled, but have quadrupled.

Under the conditions which must of necessity prevail while the European war lasts, and during the years which will follow, the Shorthorn cattle are the ones which will most fully meet the conditions in very many places. They do well under restricted conditions or where the open field pastures are utilized in summer and the coarse forage feeds are relied on in winter. In disposition, as a breed, they are quiet and docile and are easily made pets to be loved and fondled by the different members of the family. With a known ancestry which can be traced back into the misty depths of the past farther than any other breed they carry with them inherent and yet desirable characteristics far surpassing those which are carried by any other breed. It is well to welcome the day when the red, white and roan Shorthorns will be accorded their proper places on the farms in America.



Winter Is When Stock Get Out of Fix

Yet—healthy, thrifty animals mean more to you right now than at any other season of the year. It's because you are producing pounds of pork, beef, butter and milk with grain, hay and fodder, the products of your summer's toil. That's why your stock should be in prime condition and free from worms.

Dr. Hess Stock Tonic

Is a Conditioner and Worm Expeller

It contains tonics to improve the appetite, blood builders to tone up and enrich the blood, laxatives for the bowels and vermifuges to drive out the worms.

Every ingredient in Dr. Hess Stock Tonic is highly endorsed by the United States Dispensatory and other world's experts for the same purpose for which we use them.

We have a dealer in your town, authorized to sell you Dr. Hess Stock Tonic with the understanding that it is to make your stock healthy, to make them thrive better, to drive out the worms; otherwise he gives your money back.

Now, remember, Dr. Hess Stock Tonic is never peddled. We save the expense of wagons and teams, the peddler's salary, and give you the benefit, which these prices prove:

25-lb. pail, \$2.00; 100-lb. drum, \$6.50

Except in the far West, South and Canada.
Smaller packages in proportion.

Why Pay the Peddler Twice this Price?

DR. HESS & CLARK, Ashland, Ohio

DR. HESS POULTRY PAN-A-CE-A
will help make your hens lay now



Dr. HESS Instant Louse Killer Kills Lice

More Pork On Less Feed

You can help save the feed and do an act of patriotism, at the same time increase your own profits if you use a Heesen Cooker. 60,000 farmers in America are doing it. In some cases they have saved nearly 50% in feeding cost.

HEESEN FEED COOKERS,

Tank Heaters and other farm equipment make money for farmers everywhere, add convenience and keep stock free from disease. Write for "Growthy Porker's" message, giving valuable facts about cooked food.

HEESEN BROS. & CO.

Box No. 710 Tecumseh, Mich.



BOWSHER

Saves 15% to 20% of Feed

Keep Stock Healthier. Crush ear corn (with or without shucks) and Grind all kinds of small grain. 10 sizes 2 to 25 H. P. Conical shaped grinders—different from all others.

Lightest Running Feed Mills

Handy to operate. Ask why; and state size of your engine. We also make Sweep Grinders.

FREE A folder on Values of Feeds and Manures.
D.N.P. BOWSHER CO.
South Bend, Ind. 1E



Fistula and Poll Evil

Approximately 10,000 cases are successfully treated each year with

Fleming's Fistolorm

No experience necessary; easy and simple; just a little attention every fifth day.

Price \$2.50 a Bottle—your money refunded if it fails, no matter how old the case or how unsatisfactory other treatment may have been.

Write for a free copy of

FLEMING'S VET-POCKET VETERINARY ADVISER

Valuable for its information upon diseases of horses and cattle. 192 pages, 67 illustrations.

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



Quaker City Feed Mills

Grind corn and cobs, feed, table meal and alfalfa. On the market 50 years. Hand and power. 23 styles. \$4.80 to \$40. FREE TRIAL. Write for catalog. THE A. W. STRAUB CO. Dept. 9-3727-31 Filbert St., Philadelphia, Pa. Dealers—Write for contract.

LANDOLOGY

A magazine giving the FACTS in regard to the land situation. 3 months' trial subscription FREE. If for a home or investment you are thinking of buying good farm land, simply write me a letter and say, "Mail me Landology and all particulars free." Address: EDITOR, LANDOLOGY, Skidmore Land Co., 308 HALL AVE. MARINETTE, WIS.

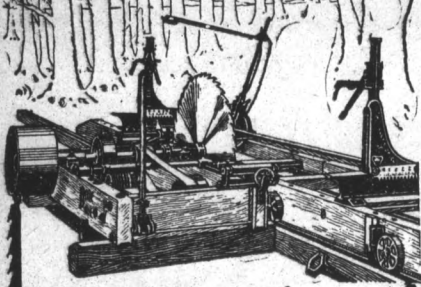
LEARN AUCTIONEERING at World's Original and become independent with no capital invested. Every branch of the business taught in 5 weeks. Write today for free catalog. JONES' NAT'L SCHOOL OF AUCTIONEERING, 28 N. Sacramento Blvd., Chicago, Ill. Carey M. Jones, Pres.

DOGS

Fox Hounds of all ages, Skunk and Rabbit dogs. W. E. LECKY. Send 3c stamp. Holmesville, Ohio

When writing to advertisers please mention the Michigan Farmer.

Cash in on your timber



Your timber has a cash value the moment you turn it into lumber.

The demand for lumber is tremendous and prices are way up. Do you realize that only about ten logs (14 inches thick and 16 feet long) will make 1,000 feet of lumber worth \$20 to \$60 according to the wood? With a small

Dixie PORTABLE Saw Mill

you can make 4,000 to 6,000 feet of accurate lumber a day, with a 10 to 15 horse power engine. In the next sixty days the lumber you can make would pay for the Dixie mill, all of your expenses and leave you a nice profit besides. This is from actual proven experience of hundreds of Dixie owners.

No Experience Needed

The Dixie is so easily understood and simple to operate that any farmer can handle it successfully. The Dixie is made of the best materials, and put together to stay. Makes accurate lumber after years of use. Simple control and feed. Easy to move from place to place. Made in all sizes to cut from 4,000 to 20,000 feet per day.

Investment Small

for the returns. Even if you used the Dixie for making lumber for but one barn of your own, it would more than pay for itself in the lumber money it would save you. Every acre cleared for cultivation increases crop production—a splendid thing to do at this time. Investigate this at once. Send for

FREE BOOKLET

Hill-Curtis Company,
1408 N. Picher St., Kalamazoo, Mich.

International Outlets

enable us to to pay for
RAW FURS

MINK
No. 1 Large No. 1 Medium No. 1 Small
Dark \$10.00 \$8.00 6.00 4.50
Brown 7.50 5.50 4.50 3.25

SKUNK
No. 1 No. 2 No. 3 No. 4
4.75 3.50 2.50 1.00

RACCOON
No. 1 Large No. 1 Med. No. 1 Small
5.00 4.50 3.25 2.25

OPOSSUM
No. 1 Ext. Large No. 1 Large
1.35 1.10
No. 1 Medium No. 1 Small
.65 .40

MUSKRAT
Large Medium Small
Winter .80 .60 .40
Fall .70 .52 .30

Complete Price List Free on Request. Address Dept. M.

Albert Herskovits & Son
44-46-48-50 W. 28th St.
NEW YORK

Est. 1853 Capital \$600,000.00 Inc. 1889

Highest Prices Paid For RAW FURS

Write for Fur List and Book on Successful Trapping

TRAUGOTT SCHMIDT & SONS
136-164 Monroe Ave. Detroit, Mich.

HIGHEST PRICES

Paid for all kinds of Raw Furs

I need large quantities of all kinds of furs, and it will pay you to get my price list. I especially solicit furs from all northern and central sections. Write for price list and shipping tags today to
O. L. SLENNER
P. O. Box 112 East Liberty, O.

EVERGREENS HILL'S 38 Hardy, Tested Varieties

Fine for windbreaks, hedges and lawn planting. All hardy, vigorous and well rooted. We ship everywhere. Write for free Evergreen book and 50 Great Bargain sheet.
D. HILL NURSERY CO., Box 5230 Dundee, Ill.

Strawberry Plants postal will bring complete and nicely pictured book, tells all about my vigorous stock grown best way. Mayers Plant Nursery, Merrill, Mich.

Saving Through Cooperation

By DR. W. O. HEDRICK

Professor of Economics at The Michigan Agricultural College

IN the great campaign for righteousness in the use of our resources, the farmers who are organized into cooperative associations have an especial means with which to help. The simple fact that they have cooperated and work together at all is of itself a great riddance of waste. Rivalry or competition among the neighbors of a community is always wasteful and expensive and is only tolerated because it affords an incentive or stimulus which is better than none. How quickly, however, when some great community or national goal is to be reached—like winning the present war for example—does the government shake us out of our selfish rivalries and self-seeking and oblige us all to work together for the common end!

The prime purpose of cooperation among farmers is to furnish themselves with an efficient agency. The farmers who organized the cooperative associations in Shiawassee county last summer did so to provide a service or to avoid paying heavy tolls. In both cases they prevent waste by cooperation. Unquestionably as time goes on they will find that through being organized they are able to remedy many evils which previously had been endured.

The enormous wastes from producing mixed or unstandardized grains, fruit and live stock, may be avoided through cooperative associations. Different varieties of corn raised in the same neighborhood through crossing hinders the general improvement of corn in that community. Live stock will remain inferior in a community where each farmer has his own breed. In general the whole community is apt to lose its sense of the best types of grains or stock where no organized effort is made to emphasize distinctive varieties or breeds. The well known achievements of cattle and grain improvement, and cow-testing associations in remedying these conditions indicate what cooperative can do in bettering the situation. Again, in pre-

venting the spread of contagious diseases and insect pests, the need of community cooperation is self-evident.

It is in the marketing, however, of the unstandardized or miscellaneous farm products that the greatest wastes occur. Ungraded products are always apt to sell at the price of the poorest grades in the consignment which is a distinct loss to the farmer. Over four million bushels of "no-grade" wheat were received in the Minneapolis elevators two recent years while only one million were shipped out, the rest having been skillfully "mixed" by the dealers so as to make the grades and thus bring a higher price. Regrading is a fruitful source of profit to middlemen everywhere, but is invariably at the expense of the farmer. Furthermore, the "no-grade" producing neighborhood loses the benefits of a widely known reputation such as it could easily have if it produced standardized products. The repute of Howell, Michigan, as a center for the breeding of Holstein cattle, and of Kalamazoo for the production of a high quality of celery illustrates the possibilities of the community reputation—the marketing worth of which is known to everybody. Few farmers undoubtedly will ever farm upon sufficient scale to make it worth while to advertise their products individually. But the same results may be obtained by many farmers in a community raising the same grade of product. Such an undertaking is possible only through cooperation.

Through cooperative associations farmers are learning the advantages of their personal credit whether it be little or large. A leading notion in the Rural Credit Law is that farmers will organize themselves into local cooperative associations in order to enjoy its help. Cattle buying associations among farmers, of which there are several in Michigan, are simply cases where members cooperate in the use of their credit. A law of the state enacted last winter and just coming into use permits the cooperative use of credit in land drainage. And another increasingly common association in this state, of which one was recently organized by farmers near Howell, provides for the cooperative use of credit for general purposes.

The scheme for doing this is of the simplest type imaginable. Sixty or more farmers in a neighborhood having confidence in each other but having, as individuals in part or wholly, no credit upon which they could borrow, sign individual notes for a specified sum of money. Any member thenceforth wishing to buy upon credit uses these notes as collateral to his own note and his troubles in obtaining loans are at an end. As none of these notes are made payable at any particular time they are used over and over again and naturally perform a large amount of service. This association of collateral cooperative credit, as it is called, as well as other forms, are perfectly practicable in any community and all of them show a means by which the credit resource of every farmer may be saved.

And finally in the lesson which the "selective draft" principle has brought to our minds, during the past summer is emphasized the need of using every talent which the nation possesses so that none may go to waste. Is it possible that in a similar manner cooperative organizations may enable a community to save its many resources in human talent. In any farm neighborhood may be found a man extremely successful in handling live stock, another shrewd in making bargains, and another successful in growing grain, etc. None of these men has room

enough upon his own farm to employ fully his special talent, while about him is an entire neighborhood most of whose members lack his particular talents. What greater saving could be made in this neighborhood than to effect through some cooperative arrangement a plan which would give the buyer scope for his talent by allowing him to buy for the neighborhood, the stockman similarly to handle the animals of the community and the grain expert the crops?

Farmers' cooperative associations have a privileged place—owing to the Clayton amendment to the Sherman anti-trust law—before the courts of the land. Provided they are "instituted for purposes of mutual help, such organizations, or their members, shall not be held or construed to be illegal combinations or conspiracies in restraint of trade," are the words of the great amendment. What is the "mutual help" cherished by the provision? Why, the saving of waste to themselves by farmers through cooperation and in this way without lowering their own profits enabling them to sell more cheaply to the public.

BETTER ROADS FOR MICHIGAN.

The editor of the Gratiot County Herald points to the great waste of the taxpayer's money that comes from neglecting the upkeep of gravel roads, and says: "It would be far better to apply the whole \$13,000 revenue coming to this county from the auto tax to the repair of the gravel roads already built than to allow all this investment to go back year by year and finally be wholly lost. If every township having gravel roads would buy a truck and employ a man for six months every year to draw gravel, keep these roads in repair, drag them when necessary, fill the holes, draw gravel for new roads, if any are constructed, and deposit gravel at convenient intervals for repairs, these roads might be made lasting and this investment saved. Such a plan would save townships from \$1,000 to \$1,500 a year."

Saginaw county voters at a recent election adopted the general road law of the state.

The county road system is now operative in more than sixty counties of the state. Applications for over 1200 miles of new road to be built under the Covert act next summer are on file at Lansing.

Charlevoix county has voted a large bond issue for building concrete roads. Kent Co. ALMOND GRIFFIN.

BETTER PRICES FOR SUGAR BEETS.

Farmer patrons of the Owosso Sugar Company have received the offer of an \$8 guarantee, plus \$1 per ton for each cent per pound that sugar on the New York market goes over seven cents, or the average price for October to January inclusive. So if sugar goes to eight cents the growers will get \$9 for their beets, and so on up the scale. The guarantee for last season's beets was \$6 a ton, plus \$1 per ton for advances above five cents on the New York sugar market.

The Saginaw County Beet Growers' Association held its annual meeting and re-elected officers. A committee report was adopted recommending that farmers ask \$10 a ton for their 1918 beets, it being shown that it costs the average farmer over \$8 per ton to grow them. It was reported that Food Administrator Hoover will confer with the sugar manufacturers and the growers were advised to refrain from signing contracts until these conferences are held.

The Rich Flavor Grape-Nuts

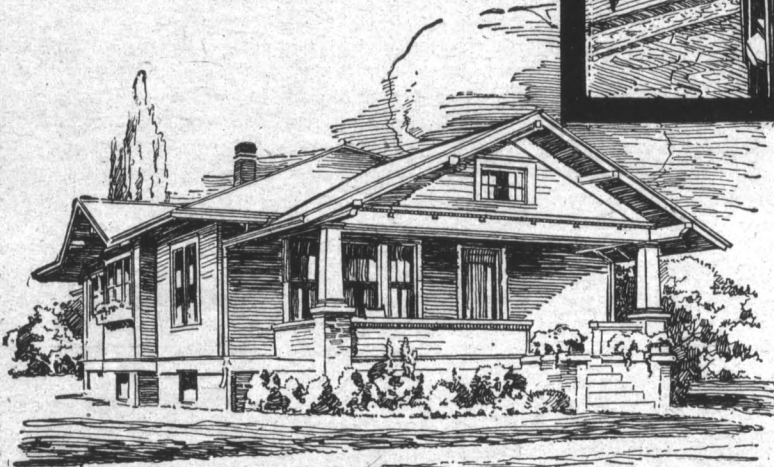
is due to the blending of malted barley with whole wheat flour. Wheat alone does not possess this rich flavor.

The wonderfully easy digestion of Grape-Nuts is also partly due to the barley for the barley contains a digestive which wheat lacks.

"There's a Reason" for Grape-Nuts



A mirror door takes up no space and is as handy in dressmaking time as a cheval-glass



CURTIS Woodwork Makes Every Inch Count

The colonnade, with bookcases in the pedestals, gives impressive size to the living and dining rooms of this small house, "Bramcote," shown in "Better Built Homes," Volume II. The convenient combination sideboard and cupboard takes up but little more space than a partition between dining-room and kitchen. There is the window seat, too, that's a storage space for household goods as well as a pleasant seat.

Nor overlook the mirror door that is handier than a cheval-glass in dressmaking time, because it takes up no room.

1866 CURTIS WOODWORK

"The Permanent Furniture for Your Home"

This permanent, immovable, built-in furniture of your home is easily kept clean. Dust cannot collect beneath and behind it. It's inexpensive, too, for such pieces as colonnades require no lath and plaster behind them. They utilize wall space.

The designs are all Curtis Standard Designs. Their advantages to you, the home builder, are many. You can get them promptly. You can get them much more cheaply than you can have special woodwork made to order. You can get them more cheaply now because farm products are comparatively higher than woodwork.

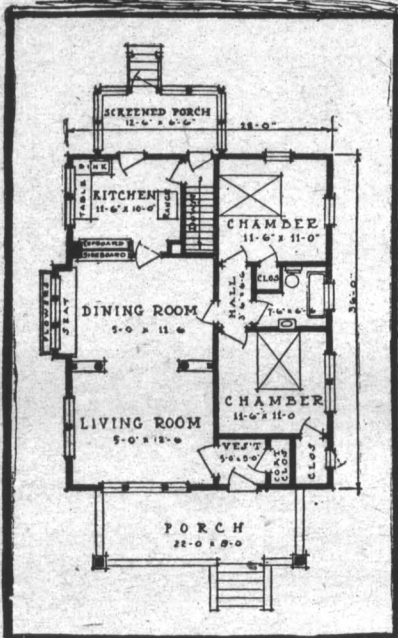
The range in variety of Curtis Standard Designs is astounding. Go to a Curtis Dealer and with him go through the big catalog showing every design of CURTIS Woodwork.

Do you like the colonial in architecture? In that catalog the Curtis Dealer can show you

colonial entrances, stairways, sideboards, colonnades, interior paneled doors, windows and trims, each true to the best lines of that era, each above criticism in material and craftsmanship. Do you like bungalows? Craftsman styles? You can find these and others, too, in the big catalog.

You see the Curtis Dealer is a good man to know. He is in a position to help you get the utmost out of your building funds. Go to him before you even start planning your home. He can help you avoid mistakes. He can offer many valuable suggestions, and render real service in your undertaking.

Get one of our free home books, keep in close touch with a Curtis Dealer, secure a good contractor, select Standard CURTIS Woodwork—we know of no better advice to the prospective home builder.



Doors
Windows
Window and Door Frames
Storm Doors and Windows
Screen Doors and Windows
Stairways
Newels
Sideboards
Colonnades
Bookcases
Mantels
Window Seats
Wall Panels
Ceiling Beams
Mouldings
Porch Columns
Porch Rail
Porch Balusters
Everything in Woodwork



Your Choice of Home Books FREE

These home books of plans are free. In furnishing woodwork for thousands of the better built homes of America we have seen about everything that is good in homes.

Surely we have overlooked no features of floor plans, no details of woodwork that make for convenience, comfort, and beauty in a home.

These good things we have worked out, adapted, and combined into home plans, we have published these plans and offer you your choice of two volumes free.

In each book about thirty houses are shown you in a way that you can quickly understand. There's an exterior view and an interior. The floor plans are clear. There is an illustration of some one particular piece of CURTIS Woodwork that goes into that home. Suggestions for trim are included.

For the country or smaller town home builder there is no service equal to that which is rendered by these home books and a Curtis Dealer in co-operation. Simply mail the coupon for your choice of these books, free.

THE CURTIS COMPANIES, SERVICE BUREAU 1716-1816 South Second Street, Clinton, Iowa

Manufacturing and Distributing Plants at

Clinton, Iowa Lincoln, Neb. Minneapolis Wausau, Wis. Oklahoma City Chicago Detroit
Sioux City, Iowa Topeka, Kansas Dayton, Ohio Eastern Offices at Pittsburgh and Washington

The makers of CURTIS Woodwork guarantee complete satisfaction to its users.
"We're not satisfied unless you are"

THE CURTIS COMPANIES, SERVICE BUREAU 1716-1816 S. Second St., Clinton, Iowa

Without obligation, please send me, free

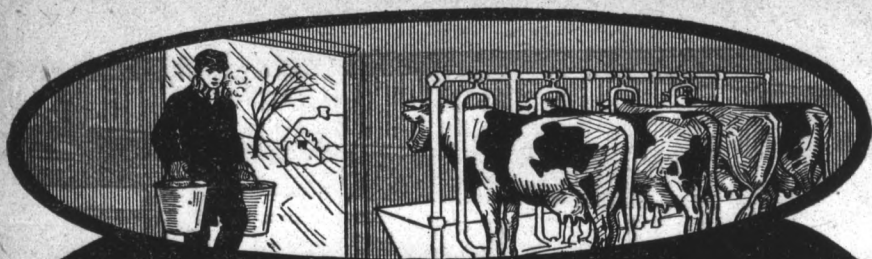
"Better Built Homes"—Vol. II—(\$3150 and under)
"Better Built Homes"—Vol. III—(\$3150 and up)

Mark the book you wish

Name.....

R. F. D..... Town.....

State.....



Your Cows Need This Great Milk-Making Winter Feed

Yes, sir! They need International Special Dairy Feed—right now when Jack Frost has taken away all chance of pasture.

INTERNATIONAL Special Dairy Feed

stimulates the appetite, keeps bowels open, and above all, *increases* the milk flow and *lowers* your feed bill. Hundreds of dairymen report a gain of two quarts of milk per day from each cow. Figure out what this would mean from your herd.

A ton of International will feed a cow six months and in that time *increase* the milk yield by a value of at least ten dollars. Yet it costs less than home grown feed.

Try a Ton Today

If you would keep your cows in prime condition during the "barn period"—if you would reduce your feed bill—if you would bring the milk production to its highest natural capacity, and keep it there—try a ton of International. Go to your local dealer today. If he does not sell it don't take a substitute. Write to us. *Be sure you get International.*

International Sugar Feed Co.

Minneapolis, Minn.

Mills at Minneapolis and Memphis



The Country's Most Popular Dairy Feed

Guarantee SPREADER

the most satisfactory spreader made for spreading lime, ground limestone and commercial fertilizer.

Write The Guarantee Manufacturing Co.
Dept. B. 1, BALTIMORE, MD.

for their beautiful illustrated catalog which fully describes all the latest improvements on the GUARANTEE LIME & FERTILIZER SPREADER, also mixing, covering and harrowing attachment, ground limestone and commercial fertilizer.

You Will Save Money By Writing To The Above Referred to Company Today

Order Armour's Fertilizers Now!

For immediate shipment in cars loaded to capacity. Railroads are overcrowded. Every day's delay lessens your chances of increasing or even growing normal crops.

Don't Delay — Order Today

Armour Fertilizer Works

General Offices: CHICAGO

Atlanta, Ga.	Greensboro, N. C.	Wilmington, N. C.
Nashville, Tenn.	Jacksonville, Fla.	Augusta, Ga.
Baltimore, Md.	New Orleans, La.	Houston, Texas.

WRITE NEAREST OFFICE

When Writing to advertisers please state that you saw their ad. in The Michigan Farmer.

Giving the Bull His Ph. D.

By I. J. MATHEWS

PICTURES and names of the world's tester's private record as well as on champion dairy animals are com- the stable milk sheet.

mon. Below the picture the record of the individual is usually given. To explain what this record consists of and the conditions under which it was made will clarify the popular atmosphere on the question of what constitutes greatness in a dairy bull.

Some bulls are great through their ability to carry off the blue ribbon wherever shown in competition with other bulls of the same class and while such an individual is truly great, there have been cases where the individual was neither the get of good ancestors nor the getter of outstanding progeny.

There are other great bulls made so by great masters who understand the art and science of advertising, but again this criterion of greatness does not always show the true value of the bull inasmuch as many of the world's greatest individuals have been lost before their value was known. Then, there can be no doubt but that a great many bulls have gone down to oblivion because they were always used on grade cows or because their daughters were owned by dairymen who did not believe in official testing.

Most bulls now known widely have, however, achieved fame because of the fact that their daughters were uniformly good milkers. In some instances this capacity to convert feed into milk has been handed down from the sire to the third and fourth generation of females. King Segis (86-75-46). The figures in the parentheses are like so many hieroglyphics unless one understands them. Properly construed, they tell tales of greatness. They mean that King Segis had eighty-six daughters which were tested officially and came up to the requirements set by the breed association for their age. King Segis had also seventy-five sons, each of which had sired at least one daughter that was tested officially and came up to the requirements. Out of his eighty-six tested daughters forty-six of them had heifer calves which became cows that came up to the breed requirements as shown by the official test.

What is a tested daughter? Some breeders believe there exists a hokuspokus about feeding which makes it possible for these cows to come up to the standard, hence they have no faith in the test and never try it. The idea is, however, far from the truth for many cows have made exceptional records with very ordinary methods. Moreover, it may be said in candor that some record cows are fed rather elaborately. In great contrast, however, attention is called to the fact that many cows are fed elaborately, yet never come up to the breed requirements because they do not possess the inherent capacity.

How is a Cow Tested?

To show how a cow is tested, we will assume Jim Jones to own a cow that he believes capable of coming up to the association's requirements. He writes to the secretary of his breed association giving the name and number of this cow and the approximate date on which she will freshen. This information is in turn conveyed to the state department charged with supervising these tests. As soon as the owner notifies the state department that the cow has calved, a tester is sent to start the test; he comes unheralded. He must be at the farm at least one milking period before the test commences and at this time he satisfies himself that the cow has been milked dry. At the next milking, the tester weighs the pail, sits in full view of the attendant while the milk is being drawn, then takes possession of the pail, contents and all, weighing the same on a pair of scales he brings with him. This weight is recorded in the

After the milk has been poured back and forth from one bucket to another four or five times, the tester dips out a pint or half-pint sample. Out of this he takes enough to make the Babcock test; likewise he takes out an amount proportionate to the total weight of the milk produced. This last sample enters into a sample containing a portion of the milk at each drawing. This sample is called a "composite" one and is sent to the state institution supervising the test in order that the tester's averages may be verified.

This procedure goes on for seven days or as long a period as the owner wishes. Each milking is carefully weighed and tested and the official results are those which the tester computes, using his own weights and tests. This is what is known as an official test.

The semi-official test is one that is usually conducted for a year and the weights and tests are taken two days out of every month, seldom the same two days in the month. The tester shows up without warning, weighs and tests the milk the same as in the official test and the fat percentage for the whole month is computed on the average of the two days. If the weights given by the owner on the stable sheet do not materially differ from the general run of weights which the tester finds when he comes to the farm, the breed association usually takes the weights reported by the owner. This is called a semi-official test and is by many breeders given more credence than the official test because it shows what the cow can do over an entire lactation period rather than for a little spurt when she is at her best. Both tests are good, however, and the short-time test has the advantage in that it can be conducted a little cheaper. At the same time, it shows what the cow is capable of doing when up to maximum speed.

A point rarely mentioned is that practically all of these high-record cows are milked three and four times a day and that most semi-officially tested cows are milked three times a day. Some breeders claim this to be impractical and hence should be discontinued, but the fact is that a cow high in milk will produce enough more to pay for the added time incurred in making the one or two extra sittings.

Bulls receive their Ph. D.'s when their daughters can qualify under these rigid and searching requirements. "By their fruits ye shall know them" applies to bulls as well as men, and under these conditions, the truly famous bulls of the dairy breeds are so because they have been able to leave their impression on the dairy cattle of countless generations to come.

LIVE STOCK NEWS.

According to Charles Broughton, of Whiteside county, Illinois, farmers are holding their small grains for spring and summer stock feeding. In compliance with the request of the government food bureau, farmers have put in a large acreage of winter wheat.

John Pearson, of Washington county, Iowa, was on the Chicago market a short time ago with a carload of steers which averaged in weight 1,314 pounds and found a ready purchaser at \$12.25 per 100 pounds. The cattle were bought on the twentieth day of last August, at which time they averaged 1,020 lbs., and cost \$9.25. They were run on pasture up to the close of August, when they were started on a little green corn. They were kept on a corn ration, which was steadily increased until they were on a full feed. The steers made gains of 294 pounds in 110 days. This was the fourth load of cattle fed in 1917 by this young feeder, and he said they all made him money. In July he marketed a carload of cattle which sold for \$13.40. As feeders he paid \$9.75 for them.

DAIRYMEN HAVE DIFFICULTIES THIS WINTER.

Not in a long time have dairymen been called upon to use products of such uncertain food value as they have this year. The extreme lateness of the growing and ripening season left farmers last fall with large quantities of inferior grain and fodder which they have to feed on their farms or allow it to go to waste. High prices have tended to encourage the sale of all merchantable products, thus further depleting the dairyman's supplies of standard feeding stuffs.

As a result of this condition, the feeder of dairy cows must exercise additional precaution to keep the animals in good health and producing condition. Where one has feeds of known value, it is a comparatively easy task to figure out proper rations; but where the quantity of digestive food nutrients in the feeds vary within a considerable margin the balancing is made a more difficult and unsatisfactory job. However, this is the problem before many dairymen this winter.

In the absence of exact chemical analyses of this immature fodder and inferior grains, the feeder must take recourse to the old method of "feeding and watching." The cow's health and her performance at the pail are the feeder's best guide when dealing with this class of feeds. Even when using grains and roughage of standard quality, where the most scientific methods are employed in parcelling out to the animals, the feeder must make the animal the court of last resort in deciding the value of the ration. With a large number of dairymen this winter, however, they will be obliged to look to the animal almost entirely in compounding the food rations. This naturally will require more skill and careful attention than is needed where the scales and tables eliminate most of the chance in going wrong.

A man can find more reasons for doing as he wishes than for doing as he ought.—Ruskin.

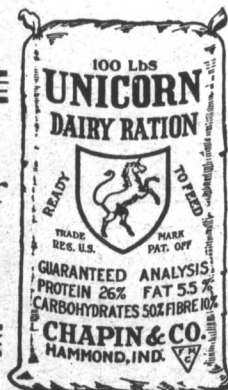
WHY KEEP COWS?

- ❑ Why not let cows keep you? The average cow is insufficiently fed and working two-thirds time. The lost one-third would be nearly all profit.
- ❑ What you want is results not theory. What makes a 10000 lb. or 30000 lb. cow? Simply good feeding methods and the right feed. Our business is feeding cows right.
- ❑ Why did Jolie Topsy make 1032 lbs. fat? She was fed Unicorn Dairy Ration. Unicorn helps any cow do her best.
- ❑ Practice beats theory. You can't fail with Unicorn. Dairying is profitable with good cows. Feed your cows Unicorn and make more money.
- ❑ Don't save fifty cents and miss fifty dollars. Representative leaders of every dairy breed are now using Unicorn with satisfaction. Every bag equally uniform. Send for Cow Testers' Manual free and proofs.

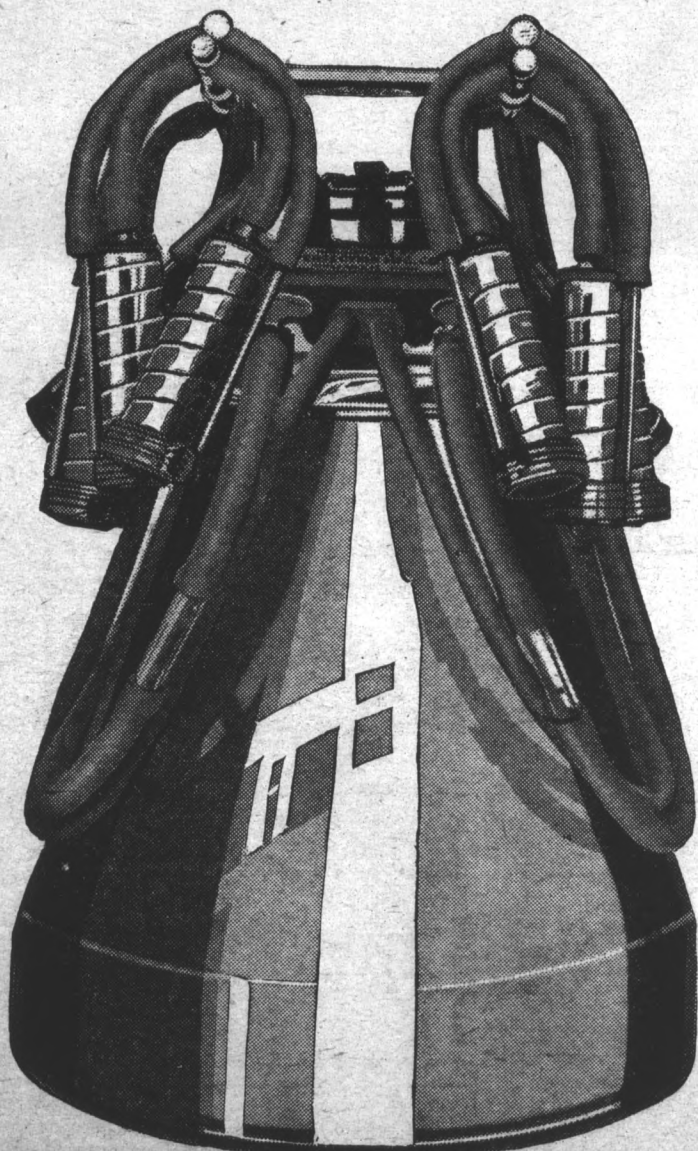
CHAPIN & CO.,

Dept. M, CHICAGO

A necessity for



successful dairying



PERFECTION MILKER

"I Milk Thirty Cows An Hour, Alone."

THAT'S what farmers who use the Perfection are saying from coast to coast.

The Perfection is the friend who comes in without grumbling or complaining and does the milking. He milks each cow carefully and quickly. He keeps the milk clean. He doesn't howl and swear at the switching of the cow's tail. His quiet businesslike ways seem to please the cow better than those of the hand milkers. With one good man he can milk 30 cows in an hour. And he never quits his job.

The Perfection milks nature's way, with a gentle suction, a spiral downward squeeze, followed by a period of complete release. The

suction is adjustable to exactly suit hard or easy milking cows. The Perfection teat cup fits all sizes of teats. It is easy to clean. If your son or your hired man has been called to the colors, you will still be able to get your milking done easily, if you have the Perfection to help you. You can even increase the size of your herd, if you wish and thereby do your share in increasing the production of dairy foods of which the country really is in need.

C. F. Andrews of Richmond, Vermont, says:

"I milk 32 cows with my Perfection Milker in a satisfactory manner in about an hour. I see no change in the amount of milk we get. We have no teat or udder trouble. I know of 40 Perfections in this State, each one of which are satisfactory, and if I were to install another outfit, it would be a Perfection."

T. P. Peterson of Blooming Prairie, Minn., says:

"I use two double unit Perfection Milkers, and with them milk 27 cows in less than an hour. My cows made more butter fat per cow last year, milked with a Perfection Milker, than they ever made before. I bought another Perfection Milking Machine last fall for my other farm. I prefer the Perfection to any of the other makes that I have seen, and I believe it is easier on the cows, and the expense of keeping it in repair is very small. I am satisfied that it has no bad effect on the cows if properly operated. I would not be without a Perfection Milker as long as I milk cows."

Get a Perfection Milker and increase your earning capacity. Write today for free copy of our new illustrated catalog.

Perfection Manufacturing Company

2126 E. Hennepin Avenue

Minneapolis, Minnesota

TO THE MILK PRODUCERS OF THE
DETROIT AREA.

The Michigan Milk Producers' Association desires to call your attention to some very important facts.

First, recently there has been a very great increase in the amount of milk coming into Detroit. The Detroit supply has increased over twenty per cent.

Second, consumption has decreased about fifteen per cent, due to the following reasons:

The United States government is advising the conservation of all foods, butter, cheese, cream and milk with the rest. The government has ordered the elimination of milk from some of the baked goods, such as bread.

The people of the cities have not been educated to the food value of milk and many think it too expensive for family use at the price fixed by the milk commission. Consequently, this surplus is growing larger each day.

The Detroit buyers cannot continue to store great quantities of milk in their refrigerators.

Remember that an over supply, especially of a perishable product, is a serious menace to any industry.

Another very serious fact is that certain producers have insisted upon ignoring the decision and findings of their association and the Detroit Milk Commission. They want to be independent and are selling their product to a party who is cutting the price to a ruinous rate in the city. If this continues it will result in a milk slaughter, the like of which you have never seen. The Detroit dealers cannot continue to pay the commission price for milk unless they can sell at the commission price. If you ignore the commission findings, and sell independently, your losses will be of your own choosing. We repeat to you again, that the producer and buyer who will not cooperate, who will not be governed by the commission findings, are a serious menace to their own interests. A stabilized industry is our only hope in this day of organized cooperation.

Milk in Detroit today, at the commission price, fourteen cents per quart, is the cheapest food product on the market, but the people do not realize this. You have never laid before them the facts concerning the food value of milk. You have never advertised your product.

Other industries organize, advertise and cooperate. The farmer, in his desire to be independent, wants to go alone, and he does this always at his own loss.

To relieve the present unfortunate condition, every can of milk that can be, should be kept out of the Detroit market for the next two months.

The Detroit distributors are now making contracts with our association, by which they agree to accept no milk, except that produced by members of the Michigan Milk Producers' Association. We advise all producers to sign the application and agreement of the Michigan Milk Producers' Association at once.

As, with a large surplus on hand, it is self evident that a date in the near future must be fixed beyond which we can no longer ask the Detroit distributors to accept milk from producers who are not members of our association.

A very large proportion of the Detroit dealers seem disposed to treat you fairly, and we are hoping in years to come, to secure to them a more uniform supply through the months of the year, so as to avoid a serious surplus and waste at any period of the year.

It has been and is the policy of the officers of the Michigan Milk Producers' Association to be broad-minded and fair in the treatment of the producer and buyer. We propose to continue this policy, for upon such action only, can we hope to stabilize the dairy industry in the Detroit area.

Very truly yours,

R. C. REED,

Field Secretary Michigan Milk Producers' Association.

Here's the Biggest Money Maker You Can Put on Your Farm!

That's a stout statement, but the facts bear it out. There isn't another implement made that will bring you as great return for the cost and the work as a good spreader will. You know that the question of fertility of your land is at the bottom of your success as a farmer. You cannot keep on taking crops from the soil unless you restore the fertilizing elements.

Fertilizing elements go straight down. They will not spread themselves. Therefore, if you are going to get bumper crops, you have to put manure over every inch of the soil. You can't do that by the old pitchfork and wagon method, and you can't do it with many of the spreaders offered.

I've been building manure spreaders ever since I was fifteen years old. I sold over two million dollars worth of them last year, and every one of them is giving satisfaction today. I've learned something in all these years about these machines, and I've put everything I know into building the

NEW IDEA

Registered U.S. Pat. Off.

The Original Wide Spreading Spreader

Look at its wide distribution—seven feet at least. It was the first wide spreader, and it has always held the lead. Look at the way it pulverizes the manure—so fine that you can safely scatter it over growing corn. Can you do that with any other?

Then it's light draft—easy for the team. It's low down—easy for the men. You can load the bed thirty inches high, and scatter 8, 6, 9, 12 or 15 loads to the acre.

Let me tell you that without a New Idea Spreader you are wasting your most valuable asset—the fertility of your land. With a New Idea standing where you can throw the manure from the stalls right into it, hauling it on your fields as soon as it is full, you are getting every dollar's worth of crop food right where it is needed, at the least labor, just when it is needed.

Ask any county agent, any experiment station man, what right distribution of manure will do for you.

I haven't exaggerated a bit. Thousands of good farmers have proved it themselves. Thousands know it pays to use the right kind of spreader, and that the New Idea is right in every particular.

Stop wasting your fertilizer! Feed your land and get more out of it! Let me send you my book, "Helping Mother Nature," which tells the facts about manure, and full description of the peerless New Idea, a money maker for your farm.

See the machine at the New Idea dealer's. If you don't know him, we will send you his name.

B. C. OPPENHEIM, Mgr.

NEW IDEA SPREADER CO.

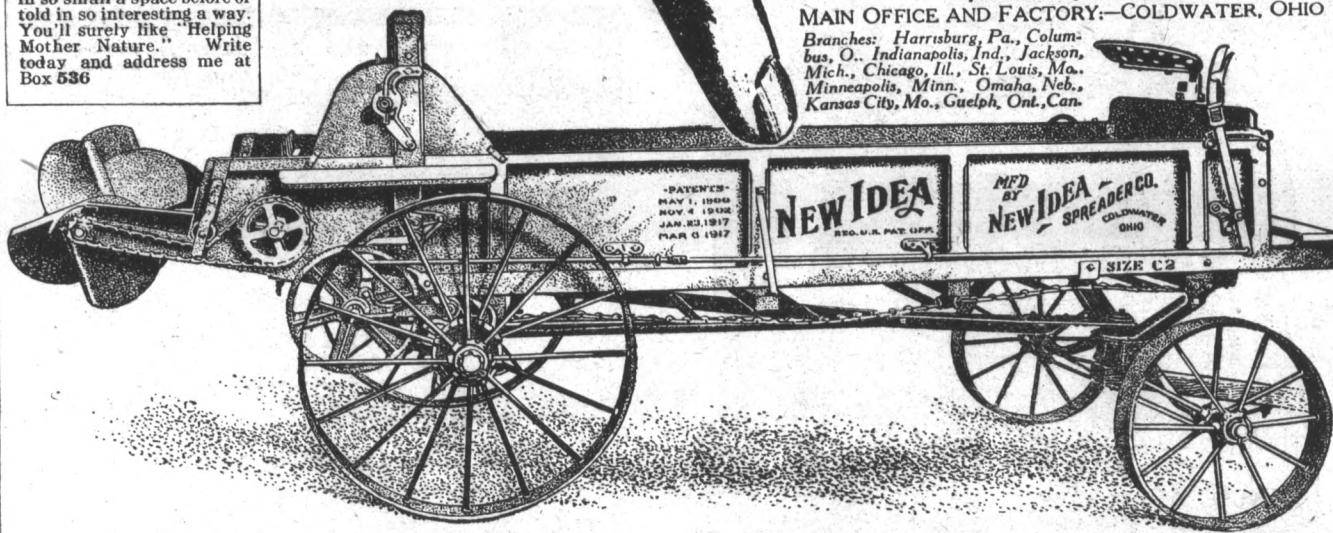
"Spreader Specialists"

MAIN OFFICE AND FACTORY—COLDWATER, OHIO

Branches: Harrisburg, Pa., Columbus, O., Indianapolis, Ind., Jackson, Mich., Chicago, Ill., St. Louis, Mo., Minneapolis, Minn., Omaha, Neb., Kansas City, Mo., Guelph, Ont., Can.

SEND FOR THESE FREE BOOKS

They're well worth having. Our catalog tells all about the famous New Idea Spreader, and "Helping Mother Nature" reads like a story. You never saw as many dollar-saving facts collected in so small a space before or told in so interesting a way. You'll surely like "Helping Mother Nature." Write today and address me at Box 536



\$17.95 Sent on Trial Upward American Cream SEPARATOR

Thousands in Use giving splendid satisfaction justifies investigating our wonderful offer: a brand new, well made, easy running, easily cleaned, perfect skimming separator only \$17.95. Skims warm or cold milk closely. Makes thick or thin cream. Different from picture, which illustrates our low priced, Bowl is a sanitary marvel and embodies all our latest improvements. Our Absolute Guarantee Protects You. Besides wonderfully low prices and generous trial terms, our offer includes our—

Easy Monthly Payment Plan

Whether dairy is large or small, or if you have separator of any make to exchange, do not fail to get our great offer. Our richly illustrated catalog, sent free on request, is a most complete, elaborate and interesting book on cream separators. Western orders filled from Western points. Write today for catalog and see our big money saving proposition.

American Separator Co., Box 1061, Bainbridge, N. Y.

Write for Book
Today



FARM WAGONS

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

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



Healthy Udder —Good Milker

The milk flow will be easier and more generous if the udder is free from sores, cuts, chaps, bruises, cracks, bunches or inflammation. Bag Balm, the great healing ointment, is used in thousands of the best dairies for all udder troubles, cow pox, and any exterior wound or hurt. Caked Bag is quickly removed by Bag Balm; its great penetrating qualities soothe and soften the tissues and hasten normal healing. Keep Bag Balm on hand always.

Sold in big 50c packages by feed dealers and druggists. Write for free booklet, "Dairy Wrinkles."

DAIRY ASSOCIATION CO., Lyndonville, Vt.

When writing to advertisers please mention the Michigan Farmer.

Magazine Section

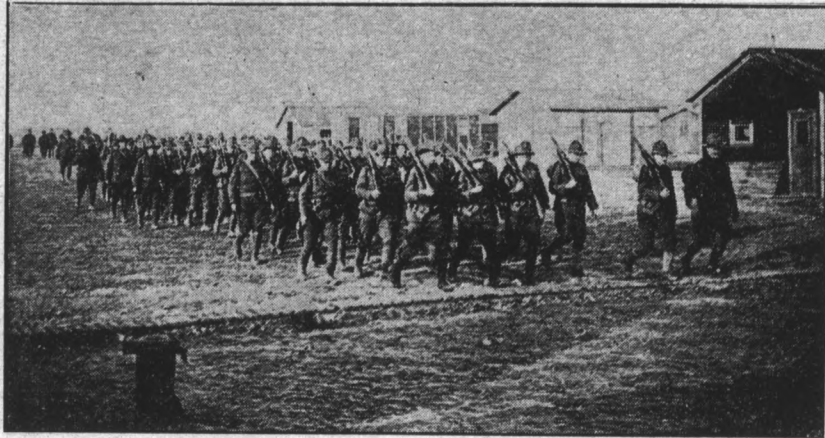
LITERATURE
POETRY
HISTORY and
INFORMATION

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

The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

This Magazine Section forms a part of our paper every week. Every article is written especially for it, and does not appear elsewhere

WORLD EVENTS IN PICTURES



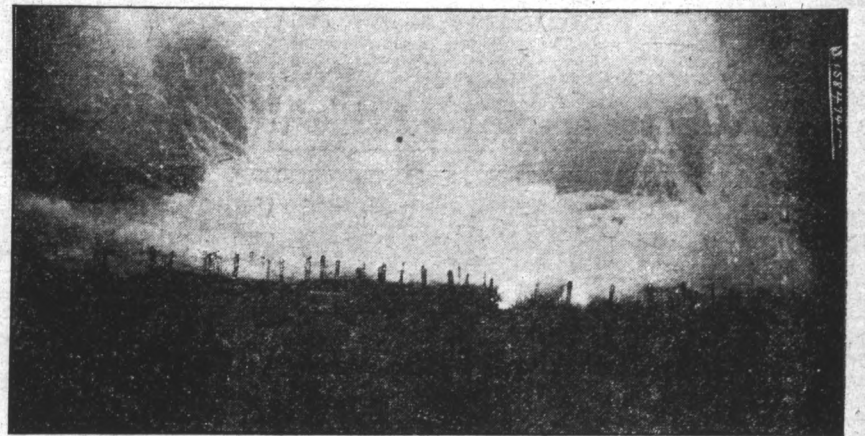
American Engineers who Dropped their Tools and Fought the Germans to a Standstill in the Cambrai Campaign.



So Thoroughly Have the Huns Drenched the Allied Lines with Asphyxiating Gases that School Children are Obligated to Have Gas Masks to Protect Themselves in Emergencies.



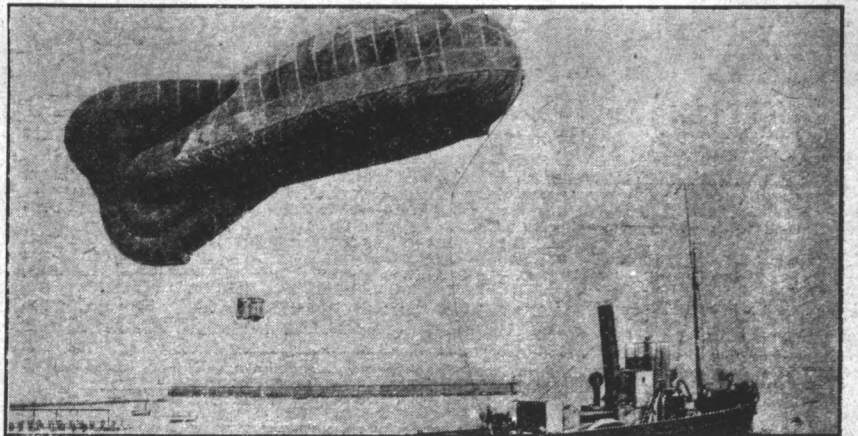
Members of the Boston Red Sox who have Joined the Colors and Are Training to Fight for Uncle Sam as they Have for Baseball Pennants.



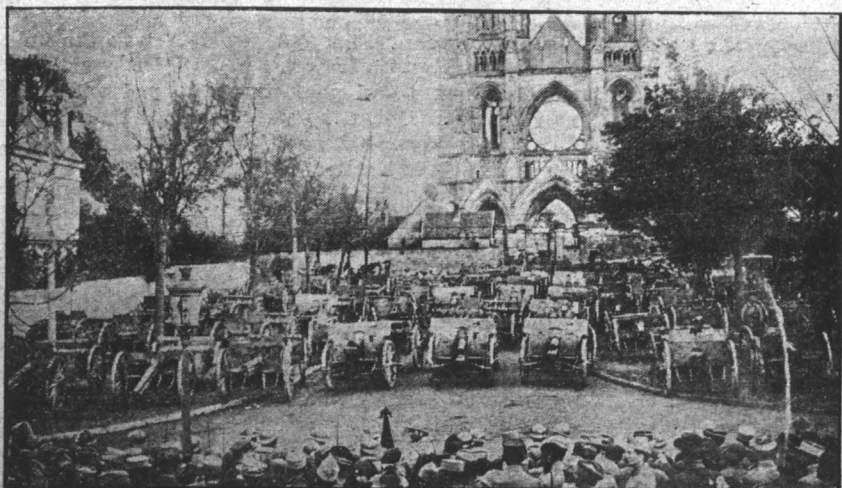
An Incendiary Grenade Attack where Flashes from Bursting Shells Turned Night Into Day. Troops Often Advance Under Such a Barrage of Fire.



A British Dressing Station Located Near the Front Lines and Within Range of the Enemy's Fire. British Batteries in Action in the Foreground.



A French Sausage Balloon Formerly Used for Observation Work on Battle Fronts Now Employed for Coast Patrol Work.



An Exhibit of Guns Captured by the French in Battle of Chemin des Dames.

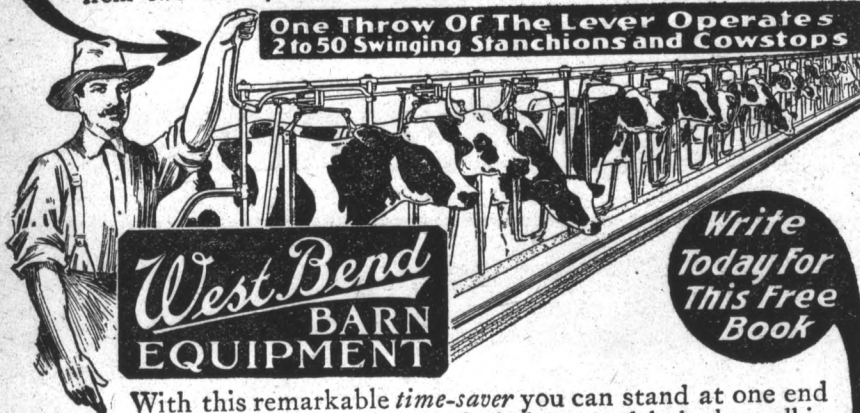


Picture of Boiler in an Interned German Ship Showing How Crews Tried to Render the Vessels Unfit for Use by Melting Down Through "Dry Firing."

Put This Time-Saver In Your Stables

Why half equip your barn with modern dairy fixtures? Only the best—the most convenient—the greatest time-saving equipment will prove the *best investment* in the long run.

You'll surely want the West Bend one-lever control which operates from two to fifty stanchions *at once*.



Write Today For This Free Book

With this remarkable *time-saver* you can stand at one end of a row of 50 cows, throw a single lever, and lock them all in their stanchions, or release them—if you use West Bend Swinging Stanchions and Cow Stops. With the same equipment you can release any cow or lock her in separately. It's the greatest time-saving, labor-saving device in modern barn equipment. With this equipment you can lock in or release 50 cows in about the same time you would individually spend on one cow, with ordinary equipment and do it quicker and with absolute *safety* for you do not have to approach the cows' heads.

Cows Can't Get Their Heads In Wrong

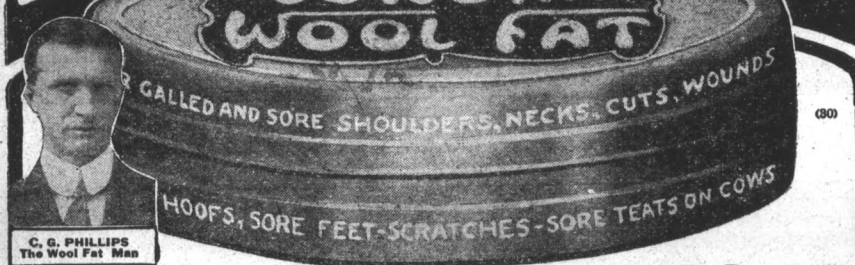
The West Bend Automatic Cow Stop prevents the animal putting its head any place but the right one. West Bend Barn Equipment costs no more than the "other kind"—but there is no comparison between them. The West Bend Line is complete, including Stanchions, Stalls, Bull and Calf Pens, Feed and Litter Carriers, Watering Systems, Barn Ventilators, etc. We can equip any barn, large or small.

Get The West Bend Catalog NOW!

Ask your local barn equipment dealer about the West Bend Line. Write us for complete catalog and details of our *free service department*. Find out all about the West Bend Line before you place an order for barn equipment of any kind.

WEST BEND BARN EQUIPMENT CO., 280 So. Water St., West Bend, Wis.

FREE THIS BOX OF FREE



I Want You to Try this Healing Compound at My Expense

I am making this liberal offer because I know that after you have tested this wonderful remedy you will never be without it again.

CORONA WOOL FAT is extracted from the skin and wool of sheep—its healing, soothing, penetrating qualities are unlike anything you have ever used. For Galled and Sore Shoulders, Necks, Collar Boils, Barb Wire or other Cuts, Wounds, Scratches, Split Hoofs, Sore and Contracted Feet on horses, Sore Teats on Cows, etc., it has no equal. It will not blister.

I don't ask you to take my word for it—get this free box and prove it for yourself. A postal brings it free and postpaid. We also manufacture Corona Distemper Cure for horses and cows and Corona Balm for household use. Corona Remedies are for sale by leading Blacksmiths, Druggists, Hardware dealers and Harness dealers. Send for free trial box TODAY.

C. G. PHILLIPS, Mgr., THE CORONA MFG. COMPANY, Box 13 Kenton, Ohio

FIRST OLD DETROIT NATIONAL BANK

MEMBER FEDERAL RESERVE BANK

BUSINESS men and financial institutions to whom a Detroit connection is desirable find in the strength and country-wide connections of this bank exceptionally efficient and valuable service.

DETROIT

Profitable Employment

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

Get Your Hide Tanned Let Us Tan Your Hide

and make them into Coats, Robes, Furs, Gloves, Mitts and Caps.

Sylvania Tanning Co. Sylvania, O.

We Want to Start 100 New Agents (men and women this month, taking orders for trees & shrubbery for spring delivery and other special inducements for quick action. Pay weekly. Write for outfit. Perry Nursery Co., Rochester, N. Y.

The Road to Camp Custer

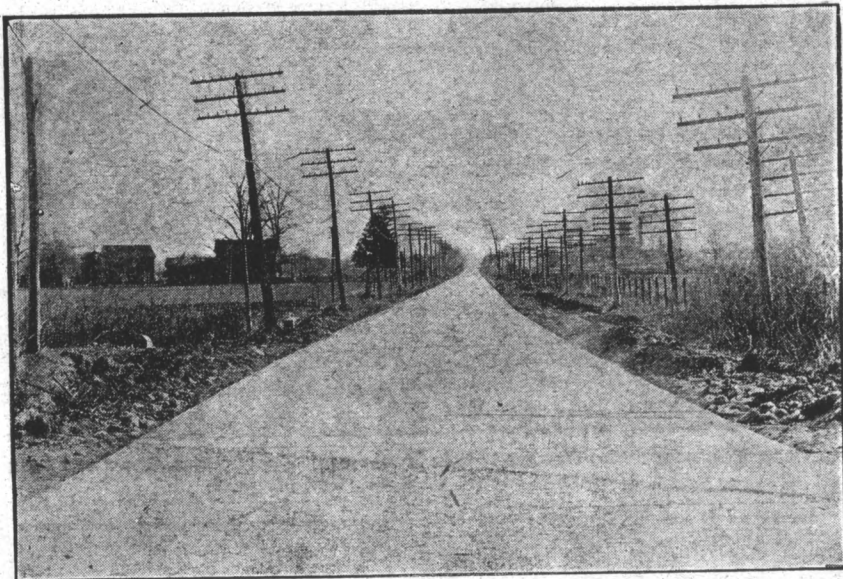
By J. H. BROWN

MUCH interest has been taken in the construction of the county road that runs west of Battle Creek to the main entrance of Camp Custer.

This is the first strip of "asphalt concrete" to be built in Michigan right out in the country past farm homes that have never had even a decent gravel road for the farmers to haul their produce to this city. For several years it has been a problem as to what kind of a pavement is best to build on the main or trunk lines of highway across the state and between the larger cities. Gravel wears out too fast.

while hot and rolled by large and heavy steam rollers until the material is cooled enough on the base to support it. The difference in laying sheet asphalt is that the mixture is ten parts of melted asphalt to ninety parts of graded hard sands. This mixture, while hot, is laid all in one body or sheet on the concrete base. The asphaltic concrete cost somewhat less and will wear exactly as well as the sheet asphalt.

The reason we are inclined to believe the asphaltic concrete surface on a concrete base best of all, is that the surface can be kept in good repair for many years. When a hole begins to



Concrete is being tried in Wayne county and is giving good service, so far. Brick has been used quite generally in Ohio.

The accompanying picture is of a section of the asphaltic concrete country road from Battle Creek to Camp Custer. It looks as smooth as glass but it is not at all slippery like sheet asphalt. It is a joy to drive over this road and it will stand all kinds of heavy truck traffic. When bad spots appear in this pavement it can be repaired exactly as is done with the sheet asphalt surface on Detroit city streets.

The concrete base is four to five inches thick on this new road. The asphaltic concrete top is two inches thick, and made of a mixture of eight parts of melted asphalt to ninety-two parts of hard and finely crushed stone and hard sand, thereby making a species of concrete. The mixture is laid

show it can be cut out and new material put in at once. Traffic will not be delayed during repair. There will be a good bond around the edge and in twenty-four hours any vehicle may run over the spot.

Asphaltic concrete cost considerably less than brick pavement and is more easily repaired. It is not necessary to provide expansion joints. The Wayne concrete roads are fine, but are showing some wear, and the expansion joints are more or less tiresome to drive over after a few miles.

Gravel roads are the best and cheapest for many of our country roads between cities and villages where the traffic is not too hard or heavy. But gravel will not stand the fierce traffic on the trunk roads and our farmers cannot be taxed to build and keep them up. The state and federal government must provide much of the funds, and is already doing it.

Bumper the White Rabbit

By GEORGE ETHELBERT WALSH

Copyright, 1917, by Geo. E. Walsh

Bumper Meets a Fox

WHEN the White Rabbit hopped ashore from his raft, he was so happy that he gave the board a kick with his two hind legs, and sent it spinning far out into the stream. He supposed that he was all alone, and no one had seen him land, but he was surprised when a voice near him cried out:

"Look out! What are you trying to do?"

There was a flop in the water, and when Bumper turned he saw a queer looking fish swimming toward the shore, using his hind legs instead of fins to propel him along. He had big, staring eyes, and a green head, with white under his throat.

"That's what I call a mean trick!" the swimmer added, hopping upon a lily-pad, for it was Mr. Bull-Frog that Bumper had mistaken for a queer fish. "You upset me from that leaf and disturbed my sleep. If I hadn't been an

excellent swimmer I should have been dead by this time."

"What did I do?" asked Bumper, in surprise.

"What did you do?" was the indignant retort. "What but push that board against my lily-pad and knock me in the water! I call that doing a good deal."

Bumper was inclined to laugh at the angry Bull-Frog, who was swelling up to twice his usual size and puffing out his cheeks; but he refrained from this when he realized that he had unintentionally disturbed the frog's noonday siesta. So he answered in a friendly way, hoping to pacify his feelings.

"I'm sorry, Mr. Frog, but I didn't see you on that lily-pad. The fact is, your head is exactly the color of the lily-pad, and no one could distinguish it a few feet away. What a lovely green it is, too—your head, I mean."

Mr. Bull-Frog was apparently as sus-

ceptible to flattery as Mr. Crow, and his ruffled feelings began to subside. "Yes, I fancy it is a pretty green," he said. "I've always heard that the lily was the prettiest of flowers, and that's why my family is attracted to it. Would you like to sun yourself on one of these pads? They're very soft and cool."

"No, thank you," laughed Bumper. "I'm afraid I'd get my feet wet. Besides, I am desperately hungry. If you don't mind I'll eat some of these delicious leaves and grasses."

"Go ahead. I don't mind. But I can't see what you like about them to eat."

"Neither can I see why a frog likes flies and insects. Ugh! The thought of eating them makes me sick."

"Well," remarked Mr. Frog, "I suppose everyone to his taste. As for me, I prefer flies and worms, and—"

He stopped suddenly and looked through the low brush into the woods back of the river front. Bumper was so busy filling his little stomach with green, succulent things that he scarcely noticed the other's hesitation.

—and," continued Mr. Frog, after a pause, "some animals prefer eating rats, lizards, toads, and rabbits."

"Rabbits!" exclaimed Bumper. "Who eats rabbits?"

"Mr. Fox for one," answered the Frog, "and if my eyes don't deceive me there's one in the bushes waiting to eat you. If you'll excuse me, I'll take a dive. I've known Mr. Fox to eat frogs when he was very hungry."

There was a flop in the water, and the bull-frog disappeared from sight. Bumper reared up on his hind legs and looked around him. He had never seen a fox, but his mother had often told him tales about their cruelty. They were forever hunting little rabbits to eat, and they were as sly and cunning as they were barbarous.

Bumper's quick eye caught sight of Mr. Fox hiding in the bushes, and, for a moment, his heart beat a loud tattoo. What was he to do? Jump back in the river and try to swim across to the opposite shore, or face the fox and try to escape from him by running?

The woods were very thick all along the river's bank, and there were many good hiding-places; but Mr. Fox stood ready to head him off either way he ran. Bumper was in a quandary just what to do.

"Good morning, Mr. Fox!" he called, hoping to gain time by being polite and friendly.

Mr. Fox sniffed the air, raising his nose several inches above his head. He seemed quite uncertain about something, but his nose apparently satisfied him.

"Good morning," he answered finally, grinning. "But what a joke you played on me, Mr. Rabbit. I couldn't believe my own eyes. What's happened to you?"

"Why, nothing," stammered Bumper, mystified. "Why do you ask such a question?"

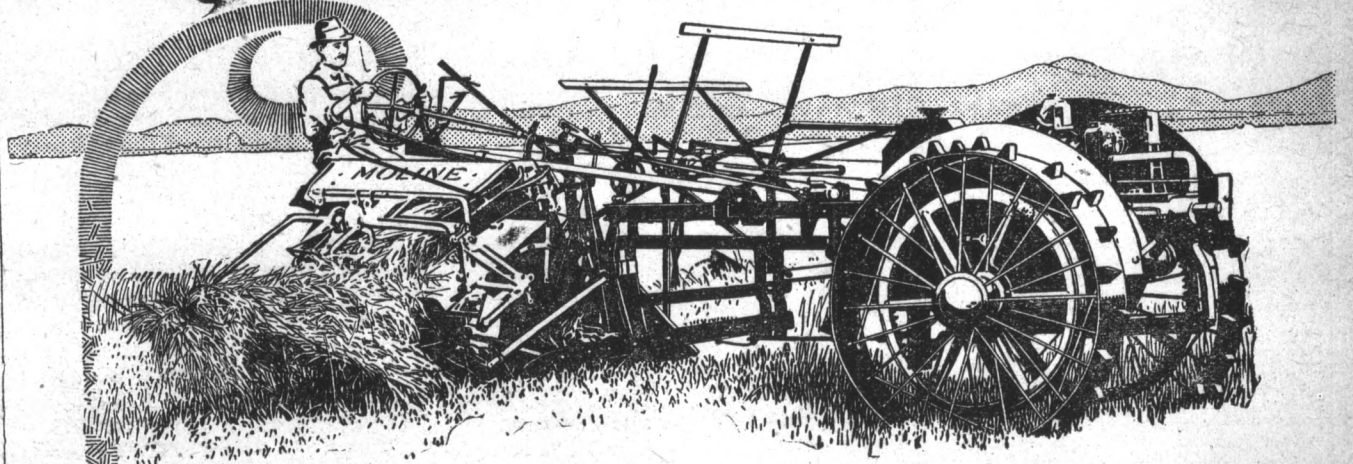
"Why? Because you're all white. I thought first you were a ghost. And your eyes—they're pink. Whoever heard of a white rabbit with pink eyes?"

Bumper was quick to see the cause of the fox's surprise. Like the crow, he had never seen a white rabbit before. (Continued on page 65).

CHILDREN'S PLEDGE.

I will avoid all waste, to this I truly swear;
I will be careful of my clothes and everything I wear.
No foolish pennies will I spend, but save that I may give
To those less fortunate than I who find it hard to live.
And what I take upon my plate I'll eat up every bit;
Nor make complaint because I am not fond of it.
And dishes now I'll learn to eat, as fast as I am able;
But one thing I will not be, that's "finicky at table!"
This pledge I take because I am
A soldier true of Uncle Sam.

ONE MAN CAN FARM MORE LAND *with the*



MOLINE UNIVERSAL TRACTOR

"It Solves the Farm Help Problem"

TWO MILLION MEN will be gone from the farms because of the war—strong, skilled, willing workers, only a small part of whom can be replaced by older men, boys and women. Yet production of food must be increased. There is only one way—equip the men left on the farms so they can do more work than ever before.

With the Moline-Universal—the original two-wheel tractor—*One Man* can farm more land than was ever before possible, because—

One Man has power at his command equal to five horses, capable of doing the work of seven horses owing to its greater speed and endurance. This power is always available for any farm work.

One Man operates the Moline-Universal Tractor from the seat of the implement to which it is attached, where he must sit in order to do good work.

One Man can start in the spring and go from one operation to another—plowing, harrowing, planting, cultivating, mowing, harvesting grain or corn, spreading manure, filling the silo, cutting wood, etc., doing all farm work from one year's end to another, independently of horses or hired help.

All these one-man operations with the Moline-Universal are possible because it is mounted on two wheels, all its weight is traction weight; it is powerful—pulls two 14-inch bottoms easily—yet it is light so

that it does not pack the soil. The Moline-Universal attaches direct to the implement, making one compact unit.

One woman or boy operates the Moline-Universal as easily as a man. Miss Ruth Harding of Albion, N. Y., a proud owner of a Moline-Universal, writes: "I have never called a man from his work to assist me with the tractor in any way."

Thousands of Moline-Universal Tractors are now at work under every conceivable condition in all parts of the United States and in Canada, England, France, Sweden, Norway, Denmark, Russia, Italy, Spain, Mexico, Peru, Argentine, Brazil, Cuba, Guatemala, South Africa, Australia. Wherever a Moline-Universal Tractor is sold there is immediately a big demand for more.

The demand for Moline-Universal Tractors has far exceeded our expectations. We built an enormous factory which is devoted entirely to making Moline-Universal Tractors and three times have erected large additions to cope with the enormous demand. We now have the largest tractor factory in the world.

Moline sales and service branches cover the country. No purchaser is ever more than a few hours away from Moline service.

The Moline-Universal will solve your help and power problems. It is ready for you now. Write us today for free booklet giving full description of the Moline-Universal and name of nearest Moline dealer.

Address Department 42

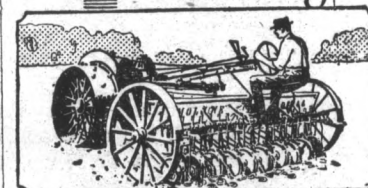
MOLINE PLOW COMPANY, Moline, Illinois



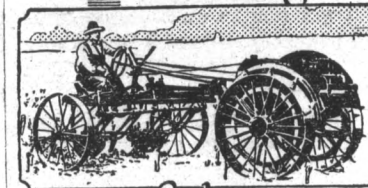
Plowing



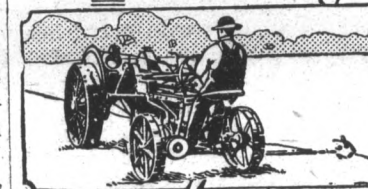
Harrowing



Seeding

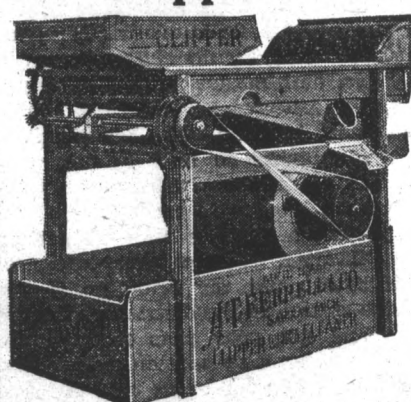


Cultivating



Mowing

The "Clipper" Grain and Seed Cleaners



The Clipper is different in principle from all other grain and seed cleaners. It has been thoroughly tried out by years of constant use by thousands of the best farmers, the U. S. Department of Agriculture, Agricultural Colleges, Experimental Farms and hundreds of the leading seedsmen, seed corn growers, etc.

The Clipper is the only mill that has the "Vertical Blast", which weighs every seed and kernel, separating the light, shrunken, immature seed from the plump, heavy mature seed, 98% of which will germinate under test. This point alone makes much of the difference between crop success and failure.

No Mill Will Do Good Work Without the Proper Assortment of Screens

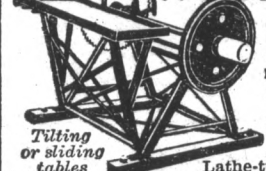
We furnish an outfit of 12 screens for cleaning and grading all kinds of seed, grain, seed corn, clovers, alfalfa, millet, timothy, flax, peas, beans, cow peas, soy beans, etc. And, after the most careful study and tests in actual work, we guarantee this screen outfit to be the best that has ever been offered with any mill. There are screens for clover containing buckhorn or plantain, timothy seed containing pepper grass, for separating cockle from wheat and many other difficult separations.

Sold Under a 30 Day Guarantee of Satisfaction or Money Refunded
Made in Two Sizes: No. 1-B \$38.00. (Freight prepaid to any point east of the Mississippi River.)
No. 2-B \$35.00.

In Successful Farming Three Factors are Prominent—the Soil, the Man and Good Seed.
The Clipper Cleaner puts success within your reach by insuring the Good Seed.
Write for Catalog and the address of the nearest jobber.

A. T. FERRELL & CO., SAGINAW, W. S., MICH.

APPLETON WOOD SAWS



Give perfect service for years. Tremendously strong rigid frame of angle steel, or hardwood, bolted, braced and mortised—can't get out of line from any strain. Lathe-turned steel shaft. In non-rigid boxes; dust proof, non-heating, self-adjusting—keep saw true and steady even after years of wear. Ten styles. Send for booklet.

APPLETON MFG. CO. 620 Fargo St., Batavia, Ill.

Maple Syrup Makers

You get best Results with our **Champion Evaporator**

Quick work, fuel saving, durability and **BEST QUALITY OF SYRUP**

Write us for CATALOGUE. **Champion Evaporator** Company, Makers;



Hudson, Ohio

Please Mention The Michigan Farmer When Writing to Advertisers

**To be sure of your
INDIANA
SILO
Order NOW!**

THE Nation is mobilized for war service. Raw materials are being fast diverted for Government use. To make sure of having an Indiana Silo next year, order now. It will cost nothing to do this and it will save you much money later on. This is no time for experiments. You need a proved, practical silo. You need an Indiana Silo. Sixty thousand Indiana Silos are now in use. Every owner is a booster.

The war is demanding the products of the farm. An Indiana Silo will make your corn go twice as far. It means you can feed twice as much stock or keep the same number of head on half the grain. It means cheaper costs for producing beef and pork. It means increased production of milk and butter. It means money for you and victory for the cause.

Write today for catalog and our special offer to early buyers. Address nearest office.

THE INDIANA SILO COMPANY
532 Union Bldg., Anderson, Indiana
532 Silo Bldg., Kansas City, Mo.
532 Indiana Bldg., Des Moines, Iowa
532 Live Stock Exchange Bldg., Fort Worth, Texas

**MILWAUKEE
Mayer
CUSTOM MADE
HONORBILT**



For style and comfort wear

Mayer

HONORBILT SHOES For all the Family
Ask your dealer for Mayer Shoes. Look for the trademark on the sole.

**F. Mayer Boot & Shoe Co.
Milwaukee, Wis.**

BROWN FENCE
135¢ per Rod Up

FREE!

Get my big book and sample of Brown Fence. Compare our prices and quality with others. We save you Big Money. Prices 13¢ per Rod up. **DIRECT FROM FACTORY-FREIGHT PREPAID**

We use heavy **DOUBLE GALVANIZED** Wire. 150 styles—Hog, Sheep, Poultry, Horse, Cattle, Rabbit Fence—Gates, Lawn Fence, Steel Posts and Barb Wire. Write today for big money saving catalog and sample to test—free.

**THE BROWN FENCE & WIRE CO.
DEPT. 249 CLEVELAND, OHIO**

Rider Agents Wanted

Everywhere to ride and exhibit the new **Ranger Motorbike** completely equipped with electric light and horn, carrier, stand, tool tank, coaster-brake, mud guards and anti-skid tires. Choice of 44 other styles, colors and sizes in the famous "Ranger" line of bicycles.

DELIVERED FREE on approval and 30 DAYS TRIAL. Send for big free catalog and particulars of our Factory-direct-to-Rider marvelous offers and terms.

TIRES Lamps, Horns, Wheels, Sundries, and parts for all bicycles—at half usual prices. **SEND NO MONEY** but tell us exactly what you need. Do not buy until you get our prices, terms and the big **FREE** catalog.

**MEAD CYCLE COMPANY
Dept. T-77 CHICAGO**

SALESMEN WANTED

The draft and enlistment took some of our best Salesmen. This territory is now open and we would be pleased to hear from interested persons. Must be exempt from draft. Permanent. Fine opportunity for the right man.

SAGINAW MEDICINE CO., Desk E., Saginaw, Mich.

Inside the Lines

By EARL DERR BIGGERS & ROBERT WELLES RITCHIE

Copyright by The Bobbs-Merrill Co.

CHAPTER VI. A Fugitive.

NO, madam does not know me; but she must see me. Oh, I know she will see me. Tell her, please, it is a girl from New York all alone in Paris who needs her help."

The butler looked again at the card the visitor had given him. Quick suspicion flashed into his tired eyes—the same suspicion that had all Paris mad.

"Ger-son—Mademoiselle Gerson. Ah, that name, excuse me, if I say it—that name ees—"

"It sounds German, yes. Haven't I had that told me a thousand times these last few days?" The girl's shoulders drooped limply, and she tried to smile, but somehow failed. "But it's my name, and I'm an American—been an American twenty-two years. Please—please!"

"Madam the ambassador's wife; she ees overwhelm with woark." The butler gave the door an insinuating push. Jane Gerson's patent-leather boot stopped it. She made a quick rummage in her bag, and when she withdrew her hand, a bit of bank paper crinkled in it. The butler pocketed the note with perfect legerdemain, smiled a formal thanks and invited Jane into the dark cool hallway of the embassy. She dropped on a skin-covered couch, utterly spent. Hours she had passed moving, foot by foot, in an interminable line, up to a little wicket in a steamship office, only to be told "every boat is sold out." Other grilling hours she had passed similarly before the express office, to find, at last, that her little paper booklet of checks was as worthless as a steamship folder. Food even lacked, because the money she offered was not acceptable. For a week she had lived in the seething caldron that was Paris in war time, harried, buffeted, trampled and stampeded—a chip on the froth of madness. This day, the third of August, found Jane Gerson summoning the last remnants of her flagging nerve to the supreme endeavor. Upon her visit to the embassy depended everything: her safety, the future she was battling for. But now, with the first barrier passed, she found herself suddenly faint and weak.

"Madam, the ambassador's wife will see you. Come!" The butler's voice sounded from afar off, though Jane saw the gleaming buckles at his knees very close. The pounding of her heart almost choked her as she rose to follow him. Down a long hall and into a richly furnished drawing-room, now strangely transformed by the presence of desks, filing cabinets, and busy girl stenographers; the click of typewriters and rustle of papers gave the air of an office at top pressure. The butler showed Jane to a couch near the portieres and withdrew. From the tangle of desks at the opposite end of the room, a woman with a kindly face crossed, with hand extended. Jane rose, grasped the hand and squeezed convulsively.

"You are—"

"Yes, my dear, I am the wife of the ambassador. Be seated and tell me all your troubles. We are pretty busy here, but not too busy to help—if we can."

Jane looked into the sympathetic eyes of the ambassador's wife, and what she found there was like a draft of water to her parched soul. The elder woman, smiling down into the white face, wherein the large brown eyes burned unnaturally bright, saw a trembling of the lips instantly conquered by a rallying will, and she patted the small hand hearteningly.

"Dear lady," Jane began, almost as a

little child, "I must get out of Paris, and I've come to you to help me. Every way is closed except through you."

"So many hundreds like you, poor girl. All want to get back to the home country, and we are so helpless to aid every one." The lady of the embassy thought, as she cast a swift glance over the slender shoulders and diminutive figure beneath them, that here, indeed, was a babe in the woods. The blatant, self-assured tourist demanding assistance from her country's representative as a right she knew; also the shifty-sloe-eyed demi-vierge who wanted no questions asked. But such a one as this little person—

"You see, I am a buyer for Hildebrand's store in New York." Jane was rushing breathlessly to the heart of her tragedy. "This is my very first trip as buyer, and—it will be my last unless I can get through the lines and back to New York. I have seventy of the very latest gowns from Poiret, from Paquin and Worth—you know what they will mean in the old town back home—and I must—just simply must get them through. You understand! With them, Hildebrand can crow over every other gown shop in New York. He can be supreme, and I will be—well, I will be made!"

The kindly eyes were still smiling, and the woman's heart, which is unchanged even in the breast of an ambassador's wife, was leaping to the magic lure of that simple word—gowns.

"But—but the banks refuse to give me a cent on my letters of credit. The express office says my checks, which I brought along for incidentals, can not be cashed. The steamship companies will not sell a berth in the steerage, even, out of Havre or Antwerp or Southampton—everything gobbled up. You can't get trunks on an aeroplane, or I'd try that. I just don't know where to turn, and so I've come to you. You must know some way out."

Jane unconsciously clasped her hands in supplication, and upon her face, flushed now with the warmth of her pleading, was the dawning of hope. It was as if the girl were assured that once the ambassador's wife heard her story, by some magic she could solve the difficulties. The older woman read this trust, and was touched by it.

"Have you thought of catching a boat at Gibraltar?" she asked. "They are not so crowded; people haven't begun to rush out of Italy yet."

"But nobody will honor my letter of credit," Jane mourned. "And, besides, all the trains south of Paris are given up to the mobilization. Nobody can ride on them but soldiers." The lady of the embassy knit her brows for a few minutes while Jane anxiously scanned her face. Finally she spoke:

"The ambassador knows a gentleman—a large-hearted American gentleman here in Paris—who has promised his willingness to help in deserving cases by advancing money on letters of credit. And with money there is a way—just a possible way—of getting to Gibraltar. Leave your letter of credit with me, my dear; go to the police station in the district where you live and get your pass through the lines, just as a precaution against the possibility of your being able to leave tonight. Then come back here and see me at four o'clock. Perhaps—just a chance—"

Hildebrand's buyer seized the hands of the embassy's lady ecstatically, tumbling words of thanks crowding to her lips. When she went out into the street, the sun was shining as it had not shone for her for a dreary terrible week.

At seven o'clock that night a big

Roman-nosed automobile, long and low and powerful as a torpedo on wheels, pulled up at the door of the American embassy. Two bulky osier baskets were strapped on the back of its tonneau; in the rear seat were many rugs. A young chap with a sharp shrewd face—an American—sat behind the wheel.

The door of the embassy opened, and Jane Gerson, swathed in veils, and with a gray duster buttoned tight about her, danced out; behind her followed the ambassador, the lady of the embassy and a bevy of girls, the volunteer aids of the overworked representative's staff. Jane's arm went about the ambassador's wife in an impulsive hug of gratitude and good-by; the ambassador received a hearty handshake for his "God speed you." A waving of hands and fluttering of handkerchiefs, and the car leaped forward. Jane Gerson leaned far over the back, and, through cupped hands, she shouted: "I'll paint Hildebrand's sign on the Rock of Gibraltar!"

Over bridges and through outlying faubourgs sped the car until the Barrier was gained. There crossed bayonets denying passage, an officer with a pocket flash pawing over pass and passport, a curt dismissal, and once more the motor purred its speed song, and the lights of the road flashed by. More picket lines, more sprouting of armed men from the dark, and flashing of lights upon official signatures. On the heights appeared the hump-shouldered bastions of the great outer forts, squatting like huge fighting beasts of the night, ready to spring upon the invader. Bugles sounded; the white arms of search-lights swung back and forth across the arc of night in their ceaseless calisthenics; a murmuring and stamping of many men and beasts was everywhere.

The ultimate picket line gained and passed, the car leaped forward with the bound of some freed animal, its twin headlights feeling far ahead the road to the south. Behind lay Paris, the city of dread. Ahead—far ahead, where the continent is spiked down with a rock, Gibraltar. Beyond that the safe haven from this madness of the millions—America.

Jane Gerson stretched out her arms to the vision and laughed shrilly.

CHAPTER VII.

The Hotel Splendide.

MR. JOSEPH ALMER, proprietor of the Hotel Splendide, on Gibraltar's Waterport Street, was alone in his office, busy over his books. The day was August fifth. The night before the cable had flashed word to General Sir George Crandall, Governor-general of the Rock, that England had hurled herself into the great war. But that was no concern of Mr. Joseph Almer except as it affected the hotel business; admittedly it did bring complications there.

A sleek well-fed Swiss he was; one whose neutrality was publicly as impervious as the rocky barriers of his home land. A bland eye and a suave professional smile were the ever-present advertisements of urbanity on Joseph Almer's chubby countenance. He spoke with an accent that might have got him into trouble with the English masters of the Rock had they not known that certain cantons in Switzerland occupy an unfortunate contiguity with Germany, and Almer, therefore, was hardly to be blamed for an accident of birth. From a window of his office, he looked out on crooked Waterport Street, where all the world of the Mediterranean shuffled by on shoes, slippers and bare feet. Just across his desk was the Hotel Splendide's reception room—a sad retreat, wherein a superannuated parlor set of worn red plush tried to give the lie to the reflection cast back at it by the dingy gold-framed mirror over the battered fireplace. Gaudy steamship posters and lithographs of the Sphinx and kindred tourists' delights were the walls' only decorations. Not even the potted palm,

which is the hotel man's cure-all, was there to screen the interior of the office-reception room from the curious eyes of the street, just beyond swinging glass doors. Joseph Almer had taken poetic license with the word "splendide;" but in Gibraltar that is permissible; necessary, in fact. Little there lives up to its reputation save the Rock itself.

It was four in the afternoon. The street outside steamed with heat, and the odors that make Gibraltar a lasting memory were at their prime of distillation. The proprietor of the Splendide was nodding over his books. A light footfall on the boards beyond the desk roused him. A girl with two cigar boxes under her arm slipped, like a shadow, up to the desk. She was dressed in the bright colors of Spain, claret-colored skirt under a broad Romany sash, and with thin white waist, open at rounded throat. A cheap tortoiseshell comb held her coils of chestnut hair high on her head. Louisa—the sophisticated Louisa of the Cafe Riche and the Winter Garden. A timid little cigar maker she was, here in Gibraltar.

"Louisa!" Almer's head bobbed up on a suddenly stiffened neck as he whispered her name. She set her box-



"Haven't I Been Josepha for Nearly a Year?"

es of cigars on the desk, opened them, and as she made gestures to point the worthiness of her wares, she spoke swiftly, and in a half whisper:

"All is as we hoped, Almer. He comes on the Princess Mary—a cablegram from Koch just got through today. I wanted—"

"You mean—" Almer thrust his head forward in his eagerness, and his eyes were bright beads.

"Captain Woodhouse—our Captain Woodhouse!" The girl's voice trembled in exultation. "And his number—his Wilhelmstrasse number—is—listen carefully: Nineteen Thirty-two."

"Nineteen Thirty-two," Almer repeated, under his breath. Then aloud: "On the Princess Mary, you say?"

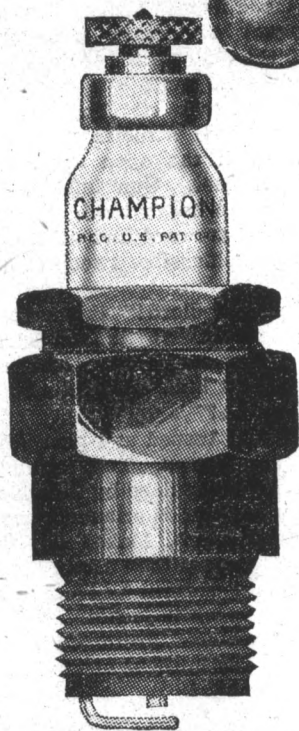
"Yes; she is already anchored in the straits. The tenders are coming ashore. He will come here, for such were his directions in Alexandria." Louisa started to move toward the street door.

"But you," Almer stopped her; "the English are making a round-up of suspects on the Rock. They will ask questions—perhaps arrest—"

"Me? No, I think not. Just because I was away from Gibraltar for six weeks and have returned so recently is not enough to rouse suspicion. And haven't I been Josepha, the cigar girl, to every Tommy in the garrison for nearly a year? No—no, senior; you are wrong. These are the purest cigars made south of Madrid. Indeed, senior."

The girl had suddenly changed her tone to one of professional wheedling, for she saw three entering the door. Almer lifted his voice angrily:

"Josepha, your mother is substituting these cigars. Take them back and



Heavy Stone for high powered cars \$1.25

IF YOU put your spark plugs in a vise and exerted all your strength to subject them to the greatest possible pressure you would expect the porcelain to crumble.

Yet that's virtually what they must stand in your motor.

As you get under way, the explosions in your cylinders become so rapid that the force they exert is practically continuous.

In Champion-Toledo Dependable Spark Plugs the shoulders of the porcelain insulators are cushioned against this tremendous pressure.

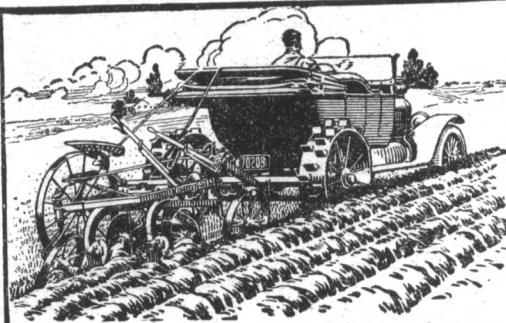
The two patented copper gaskets that protect the porcelain where the pressure comes are lined with asbestos so that the metal cannot touch the porcelain.

That's one reason why Champions are so much more durable and dependable than ordinary spark plugs.

Get the Champion-Toledo Plug designed to serve your kind of motor (your dealer or garage man knows which one) and you have assured maximum efficiency and durability.

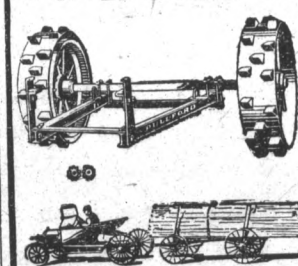
Be sure that the name "Champion" is on the porcelain—not merely on the box.

Champion Spark Plug Company, Toledo, Ohio



Plow and Pull
With **FORD** All That 4
Your **Pullford** \$155 **Horses Can**
F. O. B. Quincy, Ill.

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



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

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

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

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

Something for the Boys and Girls

Its fun to boost for the Michigan Farmer, besides we will pay you well to do it. Earn some Spending Money taking Michigan Farmer subscriptions. It's something any boy or girl can do and enjoy.

Write us and we will tell you about our subscription plan.

THE MICHIGAN FARMER,

Detroit, Mich.

PLANT MICHIGAN TREES

at wholesale prices, direct from Nursery to planter. Healthy acclimated, high grade, true to name fruit trees, berries ornamentals. The nation needs more fruit. He who plants this spring serves his country. A postal today will bring prices and descriptions.

Celery City Nurseries Box 18, Kalamazoo, Mich.

CLOVER

Buy now and save money. Wonderful value for the price. Higher later. Our stock pure Iowa Grown cleaned and tested. Also Timothy, Sweet Clover, Alfalfa and other farm seeds at wholesale prices which mean big saving. Write today. Don't buy until you get our reduced prices on all grades, and catalog.

A. A. BERRY SEED CO., Box 131, CLARINDA, IOWA

SCOTT'S FIELD SEEDS

Our seeds are selected and cleaned to be WEEDLESS and free from dead grains. They will go much farther than ordinary field seeds, nearly always adding enough to the crop to pay for themselves. Samples and catalog including "How to Know Good Seeds" free.

Write today. **O. M. SCOTT & SONS CO., 56 Main St., Marysville, O.**

Wet Beans

We buy them. Send exact sample in tin can. **W. L. IRELAND & CO., Grand Ledge, Mich.**

TIMOTHY SEED \$4.00 per bushel. High purity and germination, first class in every way. Timothy-Alsike Mixture \$4.50 per bushel, 45 lbs. Bags extra at 25c. each. **YOUNG-RANDOLPH SEED CO., Owosso, Mich.**

We want **BARLEY** Send us to Buy Samples **YOUNG-RANDOLPH SEED CO., Owosso, Mich.**

90 Miles to Centralia—



HASSLER
Shock Absorber
for Ford Cars

Make Your Long Trips a Pleasure

You can go any distance and any place in your Ford in comfort if you will equip it with the

HASSLER For Ford
PATENTED Shock Absorber Cars

It makes a Ford ride as easily as a \$2,000 car. Gives you all the effect of the expensive spring construction in the big 6, 8 and 12 cylinder limousines. Absorbs every jolt and jar. Prevents rebound and sidesway. Made of chrome vanadium steel—lasts as long as the car. Saves its price every year in greater tire mileage, reduced up-keep and decreased consumption of gasoline.

10-Day Free Trial Offer

Write today for Free Trial Blank and we will have a set of Hasslers put on your Ford without a cent of expense to you. Try them 10 days. Then if you are willing to do without them they will be removed without charge. Over 200,000 sets in use. Accept this offer and see for yourself. Write today—NOW.

ROBERT H. HASSLER, Inc.
Dept. K-4 Indianapolis, Ind.

One Man Alone Pulls Biggest STUMPS



Quickest! Cheapest! Best!

A Kirstin One-Man Stump Puller instantly makes you master of any stump! Many Kirstin owners pull stubbornest stumps in 4 to 10 minutes! AS CHEAP as 5 CENTS per stump! When stump starts, throw machine into high speed and out comes the biggest stump, roots and all. Positively no other machine like it. Has special, patented features. Recommended by leading Agricultural Schools and Forestry Bureaus.

Why have stumps when you can now pull them so easily, quickly and cheaply?

Amazing Offer To prove these claims, we will ship you any size or style Kirstin on THIRTY DAYS' FREE TRIAL—not one penny in advance. Return it if not pleased. If pleased, pay low price in small monthly payments. Kirstin Pullers as low as \$50. One-man style or HORSE POWER—all sizes. Three year guarantee with each machine.

Write! Don't endure stumps any longer. Send postal now for most valuable Stump Puller Book ever published—pictures—prices—terms—letters from Kirstin users and all about our Special Agent's Proposition—all free. Write!

A. J. KIRSTIN COMPANY
309 Ludington St. Escanaba, Michigan

Ditching Made Easy

With this Simplex Ditcher-Terracer Works in any soil, clay or gumbo. Digs V-shaped ditch down to 4 ft. Practically all steel. Reversible. Equal to 100 men. Pays for itself in a day.

Sent on 10 Days' Trial

Ditches, Terraces, Builds Levees, Levels Swamps, Fills Gullies, Grades Roads, Back Fills, Cleans out old ditches at low cost. Simplex Farm-Ditcher Co., Inc., Box 63 Owensboro, Ky.

Write for Ditching book and money back guarantee

Simplex
DITCHER-TERRACER

FARM WHERE WINTER IS ALMOST WINTERLESS

In the "Land of Perpetual Harvests", where sunshine, good soil and satisfying crop returns make life worth living. Land is cheap, PLUS a climate that doubles its productivity in the

NATION'S GARDEN SPOT

Virginia, the Carolinas, Georgia, Alabama & Florida

Write for information now to

Wilbur McCoy, Dept. F A. & I. Agent Jacksonville, Fla. G. A. Cardwell, Dept. F A. & I. Agent Wilmington, N. C.

ATLANTIC COAST LINE RAILROAD

The Standard Railroad of the South.

Please Mention The Michigan Farmer When Writing to Advertisers

tell her if I catch her doing this again it means the cells for her."

The cigar girl bowed her head in simulated fright, sped past the incoming tourists, and lost herself in the shifting crowd on the street. Almer permitted himself to mutter angrily as he turned back to his books.

"You see, mother? See that hotel keeper lose his temper and tongue-lash that poor girl? Just what I tell you—these foreigners don't know how to be polite to ladies."

Henry J. Sherman—"yes, sir, of Kewanee, Illinois"—mopped his bald pink dome and glared truculently at the insulting back of Joseph Almer. Mrs. Sherman, the lady of direct impulses who had contrived to stare Captain Woodhouse out of countenance in the Winter Garden not long back, cast herself despondently on the decrepit lounge and appeared to need little invitation to be precipitated into a crying spell. Her daughter Kitty, a winsome little slip, stood behind her, arms about the mother's neck and her hands stroking the maternal cheeks.

"There—there, mother; everything'll come out right," Kitty vaguely assured. Mrs. Sherman, determined to have no eye for the cloud's silver lining, rocked back and forth on the sofa and gave voice to her woe:

"Oh, we'll never see Kewanee again. I know it! I know it! With everybody pushing and shoving us away from the steamers—everybody refusing to cash our checks, and all this fighting going on somewhere up among the Belgians—" The lady from Kewanee pulled out the stopper of her grief, and the tears came copiously. Mr. Sherman, who had made an elaborate pretense of studying a steamer guide he found on the table, looked up hurriedly and blew his nose loudly in sympathy.

"Cheer up, mother. Even if this first trip of ours—this 'Grand Tower,' as the guide-books call it—has been sorta tough, we had one compensation anyway. We saw the Palace of Peace at the Hague before the war broke out. Guess they're leasing it for a skating rink now, though."

"How can you joke when we're in such a fix? He-Henry, you ne-never do take things seriously!"

"Why not joke, mother? Only thing you can do over here you don't have to pay for. Cheer up! There's the Saxonia due here from Naples some time soon. Maybe we can horn a way up her gangplank. Consul says—"

Mrs. Sherman looked up from her handkerchief with withering scorn.

"Tell me a way we can get aboard any ship without having the money to pay our passage. Tell me that, Henry Sherman!"

"Well, we've been broke before, mother," her spouse answered cheerily, rocking himself on heels and toes. "Remember when we were first married and had that little house on Liberty Street—the newest house in Kewanee it was; and we didn't have a hired girl, then, mother. But we come out all right, didn't we?" He patted his daughter's shoulder and winked ponderously. "Come on, girls and boys, we'll go look over those Rock Chambers the English hollowed out. We can't sit in our room and mope all day."

The gentleman who knew Kewanee was making for the door when Almer, the suave, came out from behind his desk and stopped him with a warning hand.

"I am afraid the gentleman can not see the famous Rock Chambers," he purred. "This is war time—since yesterday, you know. Tourists are not allowed in the fortifications."

"Like to see who'd stop me!" Henry J. Sherman drew himself up to his full five feet seven and frowned at the Swiss. Almer rubbed his hands.

"A soldier—with a gun, most probably, sir."

Mrs. Sherman rose and hurried to her husband's side, in alarm.

"Henry—Henry! Don't you go and get arrested again! Remember that last time—the Frenchman at that Bordeaux town." Sherman allowed discretion to soften his valor.

"Well, anyway"—he turned again to the proprietor—"they'll let us see that famous signal tower up on top of the Rock. Mother, they say from that tower up there, they can keep tabs on a ship sixty miles away. Fellow down at the consulate was telling me this morning that's the king-pin of the whole works. Harbor's full of mines and things; electric switch in the signal tower. Press a switch up there, and everything in the harbor—Blam!" He shot his hands above his head to denote the cataclysm. Almer smiled sardonically and drew the Illinois citizen to one side.

"I would give you a piece of advice," he said in a low voice. "It is—"

"Say, proprietor, you don't charge for advice, do you?" Sherman regarded him quizzically.

"It is this," Almer went on, unperturbed: "If I were you I would not talk much about the fortifications of the Rock. Even talk is—ah—dangerous if too much indulged."

"Huh! I guess you're right," said Sherman thoughtfully. "You see—we don't know much about diplomacy out where I come from. Though that ain't stopping any democrats from going abroad in the diplomatic service as fast as Bryan'll take 'em."

Interruption came startlingly. A sergeant and three soldiers with guns swung through the open doors from Waterport Street. Gun butts struck the floor with a heavy thud. The sergeant stepped forward and saluted Almer with a businesslike sweep of hand to visor.

"See here, landlord!" the sergeant spoke up briskly. "Fritz, the barber, lives here, does he not?" Almer nodded. "We want him. Find him in the barber shop, eh?"

The sergeant turned and gave directions to the guard. They tramped through a swinging door by the side of the desk while the Shermans, parents and daughter alike, looked on, with round eyes. In less than a minute, the men in khaki returned, escorting a quaking man in white jacket. The barber, greatly flustered, protested in English strongly reminiscent of his fatherland.

"Orders to take you, Fritz," the sergeant explained not unkindly.

"But I haf done nothing," the barber cried. "For ten years I have shaved you. You know I am a harmless old German." The sergeant shrugged.

"I fancy they think you are working for the Wilhelmstrasse, Fritz, and they want to have you where they can keep their eyes on you. Sorry, you know."

The free-born instincts of Henry J. Sherman would not be downed longer. He had witnessed the little tragedy of the German barber with growing ire,

NIGHT.

BY ALONZO RICE.

How blest to weary eyes the gracious Night!

The all-pervading dark that draws around

Our mortal ways its mantle deep, profound;

The bird, wing-weary from too long a flight,

Drops nestward; softly from the vane and height,

The bells of foldward-straying flocks resound;

Mid-furrow stands the plow in fallow ground,

And over fields shines out the home-stead light.

The day's dull burdens all are cast aside,

A creaking cart grows fainter down the lane,

Gates click and comes the sound of falling bars;

The Night stands forth, a fair, imperial bride,

Within her hand, a balm for every pain,

And in her hair, the radiance of the stars!

and now he stepped up to the sergeant truculently.

"Seems to me you're not giving Fritz here a square deal, if you want to know what I think," he blustered. "Now, in my country—" The sergeant turned on him sharply.

"Who are you—and what are you doing in Gib?" he snapped. A moan from Mrs. Sherman, who threw herself in her daughter's arms.

"Kitty, your father's gone and got himself arrested again."

"Who am I?" Sherman echoed with dignity. "My name, young fellow, is Henry J. Sherman, and I live in Kewanee, Illinois. I'm an American citizen, and you can't—"

"Your passports—quick!" The sergeant held out his hand imperiously.

"Oh, that's all right, young fellow; I've got 'em, all right." Kewanee's leading light began to fumble in the spacious breast pocket of his long-tailed coat. As he groped through a packet of papers and letters, he kept up a running fire of comment and exposition:

"Had 'em this afternoon, all right. Here; no, that's my letter of credit. It would buy Main Street at home, but I can't get a ham sandwich on it here. This is—no; that's my only son's little girl, Emmaline, taken the day she was four years old. Fancy little girl, eh? Now, that's funny I can't—here's that list of geegaws I was to buy for my partner in the Empire Mills, flour and buckwheat. Guess he'll have to whistle for 'em. Now don't get impatient, young fellow. This—Land's sakes, mother, that letter you gave me to mail in Algy-kiras—Ah, here you are, all proper and scientific enough as passports go, I guess."

The sergeant whisked the heavily creased document from Sherman's hand, scanned it hastily, and gave it back, without a word. The outraged American tucked up his chin and gave the sergeant glare for glare.

"If you ever come to Kewanee, young fellow," he snorted, "I'll be happy to show you our new jail."

"Close in! March!" commanded the sergeant. The guard surrounded the hapless barber and wheeled through the door, their guns hedging his white jacket about inexorably. Sherman's hands spread his coat tails wide apart, and he rocked back and forth on heels and toes, his eyes smoldering.

"Come on, father,"—Kitty had slipped her hand through her dad's arm, and was imparting direct strategy in a low voice—"we'll take mother down the street to look at the shops and make her forget our troubles. They've got some wonderful Moroccan bazaars in town; Baedeker says so."

"Shops, did you say?" Mrs. Sherman perked up at once, forgetting her grief under the superior lure.

"Yes, mother. Come on, let's go down and look 'em over." Sherman's good humor was quite restored. He pinched Kitty's arm in compliment for her guile. "Maybe they'll let us look at their stuff without charging anything; but we couldn't buy a postage stamp, remember."

They sailed out into the crowded street and lost themselves amid the scourings of Africa and south Europe. Almer was alone in the office.

The proprietor fidgeted. He walked to the door and looked down the street in the direction of the quays. He pulled his watch from his pocket and compared it with the blue face of the Dutch clock on the wall. His pudgy hands clasped and unclasped themselves behind his back nervously. An Arab hotel porter and runner at the docks came swinging through the front door with a small steamer trunk on his shoulders, and Almer started forward expectantly. Behind the porter came a tall, well-knit man, dressed in a quiet traveling suit—the Captain Woodhouse who had sailed from Alexandria as a passenger aboard the Princess Mary.

He paused for an instant as his eyes

met those of the proprietor. Almer bowed and hastened behind the desk. Woodhouse stepped up to the register and scanned it casually.

"A room, sir?" Almer held out a pen invitingly.

"For the night, yes," Woodhouse answered shortly, and he signed the register. Almer's eyes followed the strokes of the pen eagerly.

"Ah, from Egypt, Captain? You were aboard the Princess Mary, then?"

"From Alexandria, yes. Show me my room, please. Beastly tired."

The Arab porter darted forward, and Woodhouse was turning to follow him when he nearly collided with a man just entering the street door. It was Mr. Billy Capper.

Both recoiled as their eyes met. Just the faintest flicker of surprise, instantly suppressed, tightened the muscles of the captain's jaws. He murmured a "beg pardon" and started to pass. Capper deliberately set himself in the other's path and, with a wry smile, held out his hand.

"Captain Woodhouse, I believe," Capper put a tang of sarcasm, corroding as acid, into the words. He was still smiling. The other man drew back and eyed him coldly.

"I do not know you. Some mistake," Woodhouse said.

Almer was moving around from behind the desk with the soft tread of a cat, his eyes fixed on the hard-bitten face of Capper.

"Hah! Don't recognize the second-cabin passengers aboard the Princess Mary, eh?" Capper sneered. "Little bit discriminating that way, eh? Well, my name's Capper—Mr. William Capper. Never heard the name—in Alexandria; what?"

"You are drunk. Stand aside!" Woodhouse spoke quietly; his face was very white and strained. Almer launched himself suddenly between the two and laid his hands roughly on Capper's thin shoulders.

"Out you go!" he choked in a thick guttural. "I'll have no loafer insulting my guests in my house."

"Oh, you won't won't you? But supposing I want to take a room here—pay you good English gold for it. You'll sing a different tune, then."

"Before I throw you out, kindly leave my place." By a quick turn, Almer had Capper facing the door; his grip was iron. The smaller man tried to walk to the door with dignity. There he paused and looked back over his shoulder.

"Remember, Captain Woodhouse," he called back. "Remember the name against the time we'll meet again. Capper—Mr. William Capper."

Capper disappeared. Almer came back to begin profuse apologies to his guest. Woodhouse was coolly lighting a cigarette. Their eyes met.

CHAPTER VIII. Chaff of War.

DINNER that evening in the faded dining-room of the Hotel Splendide was in the way of being a doleful affair for the folk from Kewanee, aside from Captain Woodhouse, the only persons at table there. Woodhouse, true to the continental tradition of exclusiveness, had isolated himself against possible approach by sitting at the table farthest from the Shermans; his back presented an uncompromising denial of fraternity. As for Mrs. Sherman, the afternoon's visit to the bazaars had been anything but a solace, emphasizing, as it did, their grievous poverty in the midst of plenty contemptuous of a mere letter of credit. Henry J. was wallowing in the lowest depths of nostalgia; he tortured himself with the reflection that this was lodge night in Kewanee and he would not be sitting in his chair. Miss Kitty contemplated with melancholy the distress of her parents.

A tall slender youth with tired eyes and affecting the blase slouch of the

boulevards appeared in the door and cast about for a choice of tables. Him Mr. Sherman impaled with a glance of disapproval which suddenly changed to wondering recognition. He dropped his fork and jumped to his feet.

"Bless me, mother, if it isn't Willy Kimball from old Kewanee!" Sherman waved his napkin at the young man, summoning him in the name of Kewanee to come and meet the home folks. The tired eyes lighted perceptibly, and a lukewarm smile played about Mr. Kimball's effeminate mouth as he stepped up to the table.

"Why, Mrs. Sherman—and Kitty! And you, Mr. Sherman—charmed!" He accepted the proffered seat by the side of Kitty, receiving their hearty hails with languid politeness. With the sureness of English restraint, Mr. Willy Kimball refused to become excited. He was of the type of exotic Americans who try to forget grandpa's corn-fed hogs and grandma's hand-churned butter. His speech was of Rotten Row and his clothes Piccadilly.

"Terrible business, this!" The youth fluttered his hands feebly. "All this harrying about and peeping at passports by every silly officer one meets. I'm afraid I'll have to go over to America until it's all over—on my way now, in fact."

"Afraid!" Sherman sniffed loudly, and appraised Mr. Kimball's tailoring with a disapproving eye. "Well, Willy, it would be too bad if you had to go back to Kewanee after your many years in Paris, France; wouldn't it?"

Kimball turned to the women for sympathy. "Reserved a compartment to come down from Paris. Beastly treatment. Held up at every city—other people crowded in my apartment, though I'd paid to have it alone, of course—soldier chap comes along and seizes my valet and makes him join the colors and all that sort—"

"Huh! Your father managed to worry along without a val-lay, and he was respected in Kewanee." This in disgust from Henry J.

Kitty flashed a reproving glance at her father and deftly turned the expatriate into a recounting of his adventures. Under her unaffected lead the youth, who shuddered inwardly at the appellation of "Willy," thawed considerably, and soon there was an animated swapping of reminiscences of the Great Terror—hours on end before the banks and express offices, dodging of police impositions, scrambling for steamer accommodations—all that went to compose the refugee Americans' great epic of August, 1914.

Sherman took pride in his superior adventures: "Five times arrested between Berlin and Gibraltar, and what I said to that Dutchman on the Swiss frontier was enough to make his hair curl."

"Tell you what, Willy: you come on back to Kewanee with us, and mother and you'll lecture before the Thursday Afternoon Ladies' Literary Club," Sherman boomed, with a hearty blow of the hand between Willy's shoulder blades. "I'll have Ed Porter announce it in advance in the Daily Enterprise, and we'll have the whole town there to listen. Ezra Kimball's Boy Tells Thrilling Tales of War's Alarms." That's the way the head-lines'll read in the Enterprise next week."

The expatriate shivered and tried to smile.

"We'll let mother do the lecturing," Kitty came to his rescue. "How to Live in Europe on a Letter of Discredit." That will have all the gossips of Kewanee buzzing, mother."

The meal drew to a close happily in contrast to its beginning. Mrs. Sherman and her daughter rose to pass out into the reception room. Sherman and Kimball lingered.

"Ah-h, Willy—"

"Mr. Sherman—"

Both began in unison, each somewhat furtive and shamefaced.

(Continued next week.)

NUNN
FARM-WEAR SHOES
BUSH

When You Put On Your Shoes In the Morning

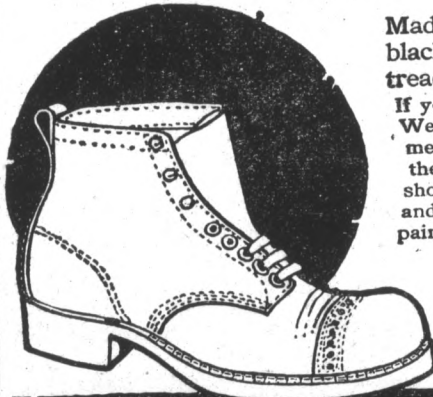
That's the test of their worth. If they are well-fitting, dry and good looking the day's work won't seem half so hard. As far as your feet are concerned, you can always look forward to a comfortable day if you wear

"FARM WEAR" SHOES For Farm Wear

They both look well and fit well and are as nearly waterproof as leather can be made. Also, they are double-tanned to resist uric acid, that enemy of leather that comes from barn yard service and sweaty feet.

Because they are made especially for farm service, "Farm-Wear" Shoes give

More Miles To The Dollar



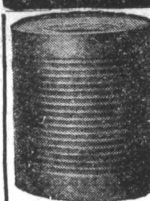
Made in all sizes and heights, black and chocolate—extra wide tread.

If your dealer doesn't carry "Farm-Wear" Shoes, tear out this advertisement, write your name and address in the margin, also size and height of shoe wanted—if single or double sole—and advise us if we shall mail you a pair. Dealers: Salesman upon request.

**NUNN & BUSH
SHOE COMPANY**

Dept. 513 Milwaukee, Wis.

Don't Pay Freight on Water Spray with Niagara Soluble Sulphur Compound In Powder Form



Assures Clean, Top-of-the-Market Fruit

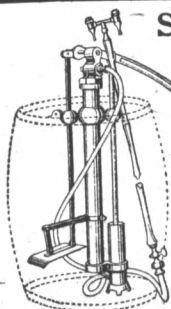
Dissolves Instantly in Cold or Hot Water. Consider This Comparison This 100 pound drum of Niagara Soluble Sulphur Compound is equivalent to a 600 pound barrel (50 gal.) of lime and sulphur solution. No leakage—No crystallization—Keeps indefinitely anywhere. Costs less to buy and saves labor, costs less to haul and handle, no bbl. to return.

Niagara Soluble Sulphur Compound, after 8 years of test, is declared by thousands of fruit growers to be superior to the old-fashioned lime and sulphur solution.

More Economical—Efficient—Convenient—Practical

Write today for spray calendar telling how to grow clean, high quality fruit and at the same time reduce your spray bills at least 25%.

NIAGARA SPRAYER COMPANY, 136 Main St., Middleport, N. Y.



SPRAY Your Fruits and Vegetables with an Eclipse Spray Pump THE FIRST SUCCESSFUL SPRAY PUMP MANUFACTURED

For 28 years we have been supplying fruit growers with spraying utensils. One of our largest customers is the U. S. Government. Could there be a better endorsement? Send for our free literature and get our special proposition—a liberal one.

MORRILL & MORLEY MFG. CO.,
Box 6, BENTON HARBOR, MICH.

First in the Field with a Successful Spray Pump

FERRIS GUARANTEED EVERGREENS

The World's Best Evergreens. Four times root-pruned and transplanted trees that will grow right from start.

PAY ONLY FOR TREES THAT GROW

I don't ask you to pay one cent for trees—only the actual cost of handling when you order—balance stays in your own pocket until end of first season, then deduct for all trees that failed to grow, or pay balance and I'll replace dead trees free. Write for full particulars and catalog. Also wonderful bargains such as 100 Everbearing Strawberries for \$1.50, guaranteed to bear first season clear up to frost. 100 Evergreens for \$1.50.

EARL FERRIS NURSERY CO.,
505 BRIDGE ST. HAMPTON, IOWA

You Must Spray

To Make Crops Pay There's a Brown's Auto-Spray that will suit you. 40 styles—hand, traction and power. All have non-clog nozzles—save endless trouble. Used by Experiment Stations, and over 450,000 farmers, gardeners, etc. Send today for catalog and Spraying Guide—both free.

E. C. BROWN CO.,
852 Maple St., Rochester, N. Y.

FRUIT-FOG

Not a solution but a perfectly atomized-Super spray that guarantees maximum fruit yields. Wonderful story of FRUIT-FOG, Spraying Guide and big Sprayer catalog FREE. Send postal today. No obligation.

Hayes Pump & Planter Co., Dept. D, Galva, Ill.

Mention the Michigan Farmer when writing Advertisers



That will mean much to you, Mrs. Housewife. Just think!—a Voss Swinging Wringer Washer with Plunging Vacuum Dasher does every bit of the washing and wringing.

A Voss Washer

will save you hours of time and hard work, washing your clothes better, and with less wear and tear.

Let us send you our new book. It will give you a lot of valuable information and show you the style machine to get for your own particular needs.

It is FREE, Address

Department A

VOSS BROS. MFG. CO.

DAVENPORT, IOWA

THE ORIGINAL CHEMICAL Indoor Closet
30,000 SOLD—FIFTH YEAR
More Comfortable, Healthful, Convenient
Eliminates the out-house, open vault and cess-pool, which are breeding places for germs. Have a warm, sanitary, odorless toilet right in your house. No going out in cold weather. A boon to invalids. Endorsed by State Boards of Health.

ABSOLUTELY ODORLESS
Put It Anywhere In The House
The germs are killed by a chemical process in water in the container. Empty once a month. No more trouble to empty than ashes. Closet absolutely guaranteed. Guarantee on file in the office of this publication. Ask for catalog and price.

ROWE SANITARY MFG. CO. 7410 6th ST., DETROIT, MICH.
Ask about the Ro-San Washstand—Hot and Cold Running Water Without Plumbing

FRESH FROZEN WHITING

A Good Sweet Tasting OCEAN FISH
We will deliver to your door by Parcel Post a box containing 9 1-2 to 10 lb. Round Whiting \$1.25 for or box containing 9 1-2 to 10 lb. Whiting, skinned and ready for the frying pan for \$1.75
The Government is asking every one to conserve the meat supply and use fish and is extolling them as healthy, easily digested and nutritive. You can give yourself a treat, save money and be Patriotic at the same time. Send personal check or money order. We guarantee delivery in good condition. Do It Now.

THE RANNEY FISH CO.
Address Parcel Post Dept. CLEVELAND, OHIO

\$12.00 FOR THIS FINE FUR COAT
Made from your own cow or horse hide to your own measure. We tan and manufacture the raw hide into a warm serviceable coat for this small charge.

Send Us Your Hides
We make up any kind of skin to suit your individual desire—

Also Ladies Coats and Furs, Auto Robes, etc.
We have been leaders in the tanning business since 1878 and guarantee satisfaction.

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

Reading Robe & Tanning Co.
112 East Street Reading, Mich.

20 Packets Seeds—10c

We want every reader to test "HARRIS SEEDS THAT HUSTLE." Send 40c. now—before you forget for this mammoth collection. We send you 20 separate packets finest varieties—one each—of Beet, Carrot, Cabbage, Celery, Cucumber, Lettuce, Cress, Muskmelon, Watermelon, Onion, Parsley, Parsnip, Radish, Salsify, Spinach, Tomato, Mixed Peppers, Giant Cosmos, Double Jap. Calendula and Children's Botanical Garden, a curiosity collection of flower seeds. With this collection we send rebate check for 10c. and big catalog of world's finest seeds.

HARRIS BROS. SEED CO., 250 Main St., Mt. Pleasant, Mich.

Buy **COFFEE WHOLESALE** IN 5-LB LOTS Get the BEST and SAVE 10 cts per pound. WE PAY POST, EXPRESS or FREIGHT IN TOP 1000 COFFEE CANS FOR PRICE LIST.

JEVNE COFFEE CO. (Est. 1881) Coffee Specialists
Dept. 7 : 2855-57 W. Madison St., CHICAGO.

Woman and Her Needs

At Home and Elsewhere

Try a Little Make Believe

ILL-luck always comes before good luck, and rain before the little flowers; what is worth having is worth working for."

I don't remember what fairy story I copied that from. The hero, of course, had just been ordered to do several strenuous stunts before he could have the princess, and he expressed himself as above. This philosophy appealed to me when I head the story to the children, and as all of us need sustaining these heart-breaking days, I am passing it on. We are certainly getting plenty of rain. If it can bring us enough pretty flowers to make up for these present ills, it will have to bring forth the greatest crop of blossoms this world has ever known.

Many of my well-meaning, but misguided friends, have frequently taken me to task for reading so much fiction. When I was a child I was chided for reading fairy stories; in high school Greek myths (and Mary J. Holmes), were condemned; later the authors affected were of a slightly different tone from Mrs. Holmes, but always there has been more fiction than what we are pleased to call solid reading. Perhaps my friends are right, too much fiction may be like too much sugar. But be that as it may, is there any better way to get you out of the sorrows, or just the plain monotony, of everyday? Of course, if you have a lively imagination you can get yourself out of the rut occasionally, but your own make believes are inclined to be too one-sided, at times venomous when you consider the villain, to be as effective as the other fellow's romances.

There's an educative side to it, too. For well written novels are by no means all fiction. History plays a large part in many of them. I've learned more of world history from the novels I have read than I ever did in school. What I know of the Aztecs I got from Lew Wallace's "Fair God." What I know of the history of Jerusalem came more from novels written around it than from the Bible. Rome and the Romans are real because of the plays and romances, not because I stood eighty-five in history test.

The bits of descriptive writing the best authors give us, too, how they carry us away to places we've never seen and probably never shall. If I should be dropped from an aeroplane somewhere in Europe I believe I could tell the country through the stories I have read. The English hedges, the French farms and vineyards, the plains of Russia, the dykes and windmills of Holland, even the Rhine, I'm sure would be familiar. Not because I've read books of travels or seen the places at the movies, but because some story has hammered them into my mind.

There are worse things to do with one's time than to read a good novel. Dare I say that gossiping is one? And just now, when everything is so dark and the future so uncertain, I doubt if there is anything much better to do than to forget it all for a time in some well-written book. But remember it is to be well written. So much trash masquerades under the name of fiction that it is small wonder some people class all novels as works of the devil. You can even get a better first-hand knowledge of war from a romance than you can from the newspapers, if you don't want to get away from the one big thing. Tolstoi's "Sevastopol" gave me a clearer picture of war than all

the magazine articles I've read, written by "our own correspondents" at the front.

And not the least that you get from fiction is the cheery little bits like the one quoted above. You get life, and life is checkered with bits of philosophy. When you get tired of bracing yourself with your own it's a great help to see that everyone else is doing the same thing.

DEBORAH.

LETTER BOX.

Education Better Than Wealth.

Dear Deborah.—Your page has given me so much pleasure that I wonder anyone can resent some of the things you say. I believe it's the one's hardest hit. I often feel like giving you three cheers. Your article under the heading of "A Woman's Problem," struck a responsive chord in my heart. I had tried about all the schemes you suggested, with a small son, and nothing seemed to have a lasting effect. I almost agree with "Nightingale" that if we teach our little ones nobleness, we have done our duty, even though they never hang up a single garment. But isn't being tidy and considerate of our elders a part of nobility, or cannot we expect this of youngsters of nine and ten? Perhaps it is as Mrs. New says, we are all a little too lenient.

I knew two brothers who received the same care and teaching. One was neat and tidy, while the other was just the reverse. When grown to manhood they still had the same habits. In spite of the mother's continual watchfulness, she could not break the child of the careless ways, neither did visions of a young lady help the case out either.

Let us hope that a good education may help them somewhat to overcome these defects (?), although in the case I mentioned it did not. The mother of those two boys was left with four small children to provide for. Suffer-

ing the lack of an education herself, she resolved her children would not be raised in ignorance if she had to go on two meals a day. They were sent to school every day even though they had to wear patched clothes which were cleverly mended in the evening after the little ones were in bed. All of the children received a good education, besides being taught how to be useful. The two boys mentioned are college graduates. After they started to high school they began to work their way which relieved the mother to some extent.

What this mother did others could do, and there would not be so many young people brought up uneducated.

In many districts, parents seem to think if they have taught the children how to work, and sent them to school long enough to write their own name, they have done their duty. There are some to this day who will go any limit to keep their children out of school, excusing themselves with the remark, "my children are no better than I was."

Just the other day a case came to my attention of parents faking about a child's eyesight as an excuse for keeping him out of school to help work on the farm. As matters looked suspicious a specialist was engaged to examine the child's eyes and found him to be normal. After that he was forced to attend school. In my opinion this is nothing short of a crime and should be termed a state's prison offense. It is time such parents woke up to the fact that an education is worth more than an eighty-acre farm. You can neither lose it nor squander it.

It is not necessary that all our children be college graduates, but a good eighth-grade schooling is within the reach of all. Put them further if possible. So let us all see that our children are well educated, set them good examples, give them a good environment, teach our boys to respect womanhood, and avoid bad company, and if they do not do their duty, surely we will have a clean conscience.—Hopeful.

Conservation Day Suggestions

Meatless Day.—Breakfast, potato puff; dinner, fish chops; supper, cabbage and nut salad.

Wheatless Day.—Breakfast, corn bread with rice; dinner and supper, potato bread.

Potato Puff.—Beat till creamy two cups of mashed potatoes, a little salt, two tablespoons of melted butter. Pour into this two eggs well beaten and six tablespoons of cream. Pile lightly on buttered pie tin and bake till light brown.

Fish Chops.—Pick one can of salmon or other cold fish fine with a silver fork, add a tablespoon of lemon juice, a dash of pepper and salt to taste. Melt two tablespoons of butter in a sauce pan, stir in one-fourth cup sifted flour, and add one cup of scalded milk. Stir and boil until smooth, then stir in the fish. When the mixture is cold, form into flat cakes to resemble chops, dip in beaten egg, then in fine crumbs and again in egg, and fry. Serve with your favorite fish sauce.

Cabbage and Nut Salad.—For every two cups of shredded cabbage allow one-half cup of hickory nut meats or walnut meats. Cut the nuts in thin slices with a sharp knife, mix with the cabbage, and add boiled salad dressing.

Corn Bread with Rice.—Two cups of

sour milk, one scant teaspoon of soda, two cups of boiled rice, one cup of corn meal, one tablespoon of shortening. Mix in order named and bake in a well greased dish until firm.

Potato Bread.—Clean thoroughly and boil without paring twelve medium-sized potatoes, allowing them to become very soft. Pour off water, peel and mash potatoes, while hot, being careful to leave no lumps. Take three pounds or five solidly packed half-pint cupfuls of mashed potato and when at the temperature of lukewarm water add two compressed yeast cakes which have been dissolved in four tablespoons of warm water. Rinse yeast cup with a fifth tablespoon of water and add to potato. Then add one and a half level tablespoons of salt, three level tablespoons of sugar, and one-half pint, scant, of sifted flour. Mix thoroughly with hand, and do not add more water at this stage. Let this rise until very light, about two hours at a temperature of eighty-six degrees. To this sponge, which will not be very soft, add two pounds of bread flour, and knead until a smooth and elastic dough is formed. The dough must be very stiff, as the potato contains a large amount of water which causes dough to soften as it ferments. Therefore, do



Everything Tastes Better on the Farm

—everybody knows a farmer's wife has a "knack" for making things that taste great.

Why not add to your reputation by using Calumet Baking Powder? There's something about the taste of goodies made with Calumet that makes folks want to eat 'em all day long.

Give more serious thought to your Baking Powder. Try Calumet—follow the directions on the can. New bake-day results will be yours.

Calumet means greater economy, no loss of materials—big, light, fluffy bakings—absolutely pure foods and the same success every bake-day.

Try Calumet at once on our money-back guarantee.

Received Highest Awards



New
Cook Book
Free—
See Slip
in
Pound Can



You Can Kill Rats with RAT-NIP

Succeeds When All Else Fails.
Rats Can't Resist It.

15c and 25c in safety tubes at your dealers or sent direct.

Buffalo Specialty Co.,
Buffalo, N. Y.

Only \$2 DOWN
ONE YEAR TO PAY

\$29 Buys the New Butterfly Junior No. 2. Light running, easy cleaning, close skimming, durable. Guaranteed a lifetime against defects in material and workmanship. Made also in five larger sizes up to No. 5.

30 DAYS' FREE TRIAL Earns its own cost and more by what it saves in cream. Postal brings free catalog-finder and "direct-from-factory" offer. Buy from the manufacturer and save money.

ALBAUGH-DOVER CO., 2165 Marshall Blvd., CHICAGO

When writing to advertisers please mention
The Michigan Farmer.

absolutely necessary. Set back to rise until it is three times the original size. Divide dough into four parts, mold separately and put into warmed and greased pans. Allow it to rise until they have doubled in volume and bake for forty-five minutes.

The following cake recipe is contributed and recommended. One cup each of sugar and milk, one rounding tablespoon of shortening, two cups of flour, two teaspoons of baking powder. Sift flour, sugar and baking powder together and take out four tablespoons full. Then cream flour, sugar and shortening together, add milk and flavor to suit. Just before putting in oven sprinkle over the top the flour and sugar you saved out. This makes a good substitute for frosting.

IN PREPARATION LIES VARIETY.

BY L. M. THORNTON.

Too often the farmer's wife complains that her meal lack variety and attributes this to the fact that she is not within reach of the city grocery with its infinite variety of foods. Variety lies not so much in many kinds of food as in the ways in which they are prepared. With two vegetables, potatoes and cabbage; one fruit, apples; two meats, ham and fresh pork, an almost infinite number of dinners can be prepared, each appetizing and without repeating a single dish. The following are samples:

Dinner No. 1.

Roast Pork Sauerkraut
Boiled Potatoes in their Jackets
Apple Brown Betty

Dinner No. 2.

Pork Loaf Delicate Cabbage
Potato Salad with Dressing
Apple Snow

Dinner No. 3.

Boiled Ham
Potatoes Cooked in Ham Broth
German Cabbage with Sour Sauce
Apple Pie

Dinner No. 4.
Fried Fresh Pork Mashed Potatoes

Hot Slaw
Baked Apples and Cream

Dinner No. 5.

Cold Sliced Ham
French Fried Potatoes
Boiled Cabbage
Apple Dumplings

Dinner No. 6.

Pork Pie Baked Potatoes
Scalloped Cabbage with Cheese.

Dinner No. 7.

Apple Fritters
Minced Ham with Gravy
Browned Potatoes
Cold Slaw
Dutch Apple Cake

Dinner No. 8.

Pork Croquettes Creamed Potatoes
Cabbage and Celery Salad
Apple Tapioca

Dinner No. 9.

Browned Hash Potato Soup
Cabbage and Olive Salad
Apple Pudding

Dinner No. 10.

Baked Ham Stuffed Baked Potatoes
Fried Cabbage
Apple Sauce Cake

Dinner No. 11.

Fried Ham with Cream Dressing
Mashed Brown Potatoes
Cabbage and Green Pepper
Apple Charlotte

Dinner No. 12.

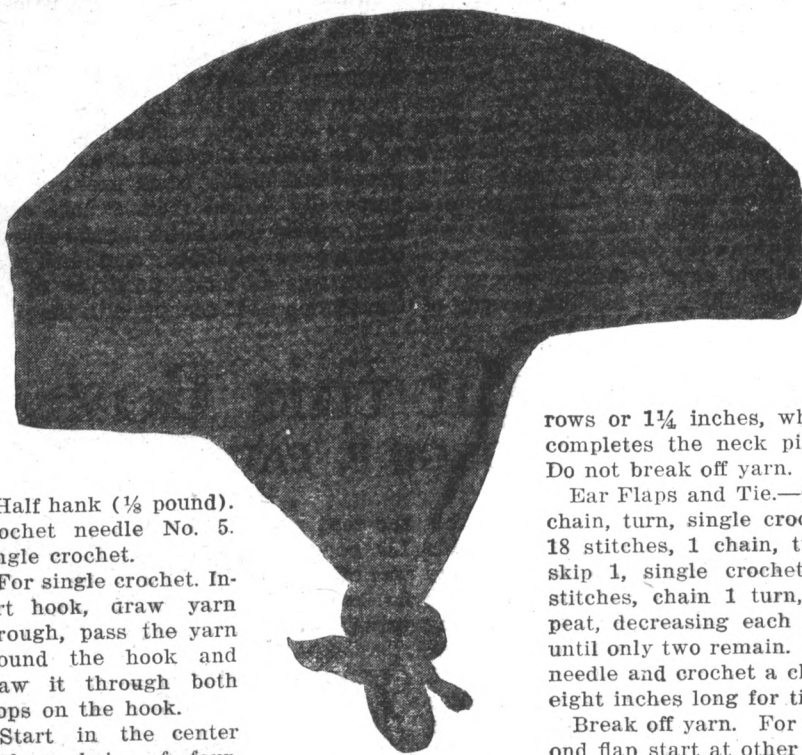
Rolled Stuffed Steak Riced Potatoes
Steamed Cabbage with Drawn Butter
Sauce

Dinner No. 13.

Broiled Steak French Fried Potatoes
Creamed Cabbage with Cheese
Apple Sauce with Sponge Cake

These dinners with brown or white bread, butter, tea or coffee and cookies make meals fit for the king's table.

The Standard Trench Cap



Half hank (1/2 pound).
Crochet needle No. 5.
Single crochet.

For single crochet. Insert hook, draw yarn through, pass the yarn around the hook and draw it through both loops on the hook.

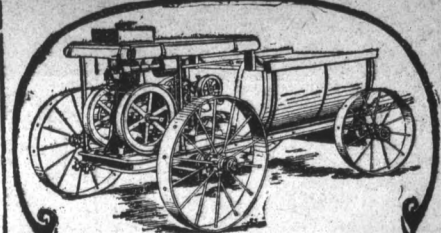
Start in the center with a chain of four, join one chain, single crochet into this, increasing enough to keep it flat and continue around and around, increasing gradually until you have a perfectly flat top, 6 1/4 inches in diameter. Then continue row after row without increasing for 4 1/2 inches. The cap should then measure eight inches from center of crown to edge of cap and about 22 inches around. Do not break off yarn. Chain one, turn, skip 1 stitch and single crochet 14 inches for neck piece, leaving 8 inches for front of cap. Then one chain, turn, skip 1 and crochet back and forth on the 14 inches, decreasing 1 stitch at first end of each row until you have 8

rows or 1 1/4 inches, which completes the neck piece. Do not break off yarn.

Ear Flaps and Tie.—One chain, turn, single crochet 18 stitches, 1 chain, turn, skip 1, single crochet 17 stitches, chain 1 turn, repeat, decreasing each row until only two remain. Put needle and crochet a chain eight inches long for tie.

Break off yarn. For second flap start at other end of neck piece and single crochet 18 stitches and continue directions same as first. Do not break off yarn, turn and single crochet all around cap and both sides of chain for tie. Cover flaps and tie with slightly damp cloth and press with moderately warm iron. A circular piece of cardboard 6 1/4 inches in diameter is a convenience in measuring for a flat top.

Don't forget that ladies' discarded woolen dresses make nice little suits for small boys as well as dresses for little girls. Now that woolens are so high, work up all the durable, discarded woolen garments in the house.



Hardie Power Sprayers

The best for 18 years, this year better than ever with more engine power, larger pump capacity and higher pressure with no big price advance.

Not an assembled proposition, but a machine in which every part is designed and built for High Pressure Spraying. High Duty Engine, the Famous Hardie Triple Pump, Peerless Pressure Regulator, Drop Forged Crank Shaft, Threadless Valve Cages, etc. When you see a Hardie Sprayer note its strength, simplicity, compactness, lightness and ease of operation. Send for catalog today.

THE HARDIE MFG. CO.
Hudson, Mich.

Branches in Portland, Ore.; Kansas City, Mo.; Hagerstown, Md.; Brockport, N. Y.
Leading manufacturers of spraying machines of every kind for over 18 years.

LET US TAN YOUR HIDE.

Horse or Cow hide, Calf or other skins with hair or fur on, and make them into coats (for men and women), robes, rugs or gloves when so ordered. Your fur goods will cost you less than to buy them and be worth more.

Our illustrated catalog gives a lot of information. It tells how to take off and care for hides; how and when we pay the freight both ways; about our safe dyeing process on cow and horse hide, calf and other skins; about the fur goods and game trophies we sell, taxidermy, etc.

Then we have recently got out another we call our Fashion Book, wholly devoted to fashion plates of muffs, neckwear and other fine fur garments, with prices; also fur garments remodeled and repaired.

You can have either book by sending your correct address naming which, or both books if you need both. Address

The Crosby Frisian Fur Company,
571 Lyell Ave., Rochester, N. Y.

Need for Nurses

The Government, through the Council of National Defense, is calling attention to the extreme need for a largely increased number of well trained graduate professional nurses for service not only in the military hospitals but also to replace nurses from civilian hospitals who have volunteered for military service. Emphasis is given to the standards required and to the fact that only professionally trained nurses can adequately serve both military and civilian requirements.

The Government has requested that all training schools immediately take steps necessary to increase the supply. It is important that every woman who can possibly serve and is ready to do so should become a student of a School of Nursing of recognized standards. The training cannot help but be of great advantage to any young woman whether she intends to adopt nursing as a profession or not, and there can be no greater service given to the Cause at this time by women, than by equipping themselves for this profession.

Mount Sinai Hospital Training School is planning to enlarge its classes during the period of the War. It is prepared now to enroll applicants for the Spring Class, which will open February 1, 1918. Application should be made to the Principal of the School, 1800 East 105th St., Cleveland, Ohio.

Heat Every Room



Through
One Register
with this Kalamazoo
Pipeless Furnace. Burn
any fuel. Easy to install.
Send for our catalog and
Get Wholesale Price
Save Money Deal direct
with manufacturers. Quick shipment—we
pay freight. Cash or easy pay-
ments. Write today. 113
KALAMAZOO STOVE CO., Mfrs.
Kalamazoo,
Mich. A Kalamazoo
Direct to You



Beacon FREE Lamp

Lights Your Home Like Day.
100 Candle Power Incandescent
pure white light from (kerosene) coal
oil. Beats either gas or electricity.
COSTS ONLY 1 CENT FOR 6 HOURS
We want one person in each locality to
whom we can refer new customers.
Take advantage of our Special Offer to
secure a Beacon Lamp FREE. Write
today. AGENTS WANTED.

HOME SUPPLY CO., 28 Home Bldg., Kansas City, Mo.

WITTE

"Kero-Oil" Engines

Immediate Shipment—All Styles—
2 to 22 H.P.—No Waiting—Big Factory—Big
Output—Prices most favorable. Write for my
terms and prices—Cash, Payments or No
Money Down.—ED. H. WITTE, Pres.
Ask for Catalog No. 1
WITTE ENGINE WORKS
2190 Oakland Ave., Kansas City, Mo.
2190 Empire Bldg., Pittsburg, Pa.

I Save
You \$15
to \$200

Please Mention The Michigan Farmer When
Writing to Advertisers



Our Boys and Girls

At Work and play



HAVING decided, then, that you are to open and keep a bank account, one of the very first things I wish to impress upon the minds of our boys and girls is this, that you should become money makers but not money misers, that you should become savers but not hoarders, that you should make money for good and legitimate purposes and save it in a way that it will be useful to you and to the world at large. I want you to learn to be good money spenders as well as savers.

When I say spenders I mean it in the broad sense of the word. A good spender is the one who uses his money to purchase that which shall be useful to himself or some other and make the world richer because of his expenditure. Does that look like an impossibility? Well, it is not, it is the keynote to a real and successful life.

If our boys and girls should take their money and hide it away in a stocking or bury it in an old iron tea kettle, they have not done a useful thing for the world. They have a few pennies of money where they can get it, to be sure, should the need come—that is, if some other person does not find and get it first; but it has been withdrawn from circulation, the world's cash is just that much smaller, that is, available cash, and to this extent they have actually reduced the world's possibilities.

On the other hand, if you will put your savings in a good bank you have not only started a relationship with the banker that will surely be useful to you, but you have also proven your usefulness to the world by placing your earnings where they are available for further and further uses and thus the chain of "confidence" has had another link forged, each one of which will help to carry on that dollar's worth of business with but three cents of actual cash.

Now, it will depend quite largely on your exact conditions, just what kind of a bank account you should best op-

How the World's Business Is Transacted - By COMFORT A. TYLER

Starting a Bank Account

en. If you are so situated that you will need to make frequent additions and withdrawals, then you will require what is commonly called a "commercial account" or a checking account. If you will likely wish to make more or less frequent additions but only rare withdrawals, then the regulation "savings account" would be most suitable for your needs. If you have some fairly round sums, say of \$50 or more, that you expect to leave for some considerable time without disturbing it either way, then you will find the bank certificate of deposit a very convenient form. Most banks will allow a little larger earning power, that is, will give a little larger rate of interest on certificates of deposit, if left for some stated period of time, say six months, a year or longer, than will they on the frequently changing account. This they can afford to do as the permanent deposits make permanent investments for the banker feasible and all are helped by it.

Now I know the average farm boy and girl does not have a whole lot of money at their disposal. I know the opportunities for adding to their own private little savings is not so very great in most cases. The writer was born and lived on a farm until he was past forty years old. I have been through all of those experiences that the farm boy gets whose parents were as poor as the little hardscrabble farm they lived upon and tried to make a living from. With this knowledge I say that I think the average farm boy and girl should have a savings account in some good bank. I say the parents of

these children are not doing just as they should by that boy or girl if they do not encourage this idea. It matters not to me if the savings are so small as to be almost a cipher, there is, may be, should be, must be, the spirit and habit of thrift planted in that boy or girl some day if they are to be useful citizens; and the sooner it begins, the earlier in life it is fostered into being, the easier it will come. So I hope every other boy and girl whose attention may be drawn to this article will start at once and open a little savings bank account. Tell your banker exactly what you want to do. No matter how small the amount—even if it is no more than one dollar, start an account. Many of the banks will lend you a little nickel safe to take home and slip your odd pennies and small pieces of money into it where it will be safe until you take it to the bank to be opened and the amount added to your savings.

A few days ago two small boys came to my desk and said they wanted to open savings accounts. I asked them how much money they had. One had eighty-seven cents and one had seventy-three cents. It is the rule of most banks, as with this one, that one dollar is required to open an account. I discussed the matter with them as seriously as if it had involved millions. The result finally was that they divided the money they had evenly, which gave them eighty cents each. I then personally loaned them twenty cents each, taking their notes for the amount with interest at six per cent until paid. There was as much formality in the transaction as if dealing with the pres-

ident of an automobile concern.

These boys have already made two payments each on their notes, and in a couple of weeks longer they will be out of debt. Was it a good thing to do? Of course it was, for they have started in business for themselves, are doing business in the right way, have learned something about the obligations of an indebtedness, for I held their bank books as collateral, taking a regular collateral pledge from them just as I would on a larger deal. These two lads are started right.

BOY GETS \$7.44 FOR ONE EAR OF SEED CORN.

Boys and girls, it pays to do your work well. It pays in dollars and cents besides in satisfaction. Members of a boys' corn club found this out at a recent annual corn show when an auction sale of seed corn brought in a total of \$52.94 distributed among three club members who had grown the corn.

The most remarkable incident of the show was the sale of the grand champion ear of corn. There are two remarkable things about this ear of corn, first the fact that the grand champion ear of the whole show was produced by a boy, and second that it was sold, not by the ear, but by the grain. Every single kernel on that ear was counted and paid for at the rate of one cent per kernel, the ear bringing \$7.44.

Shelby Holton, aged fourteen, grew the grand champion ear. He also grew some of the corn sold for seed, there being six half bushel crates belonging to Shelby which sold for a total of \$18.75. His receipts for the day were, therefore, \$26.19.

There are many ways in which it can be shown that it pays to do our work well, but when we can measure the advantage in dollars and cents it is much easier to understand. So, in doing our part of the farm work this summer we should be particular about doing well the things we undertake.

A Baby Beef Taught this Boy Arithmetic

By GEORGE F. PAUL

MERWIN BISHOP, a country boy of Atlantic, Iowa, has found out that arithmetic problems have a real interest and value for him when they help him to determine just how much he made per pound or per month on his prize-winning baby beef. As this feeding contest extended for a year, he

him by his father, for in feeding his calf he bought all his feed from his father and kept strict account of every bit of it. It was also necessary for him to know the market price of everything that he fed. For twelve months Merwin stabled, curried and fed his calf, which soon began to make rapid gains in flesh under this watchful and regular care.

At the end of the twelve-month period, Merwin again led his calf on the scales, but by this time it had grown into a handsome young heifer that tipped the scales at exactly 1,770 pounds. As she had weighed 390 pounds when the test started, it was not hard for him to figure out that she had made a gain of sixty-five pounds a month, or over two pounds a day. When he came to figuring out the gain in per cent, he made the rather remarkable discovery that she had gained exactly 200 per cent, or in other words, she was just three times as heavy as she had been when the test started.

He figured out that the total cost of

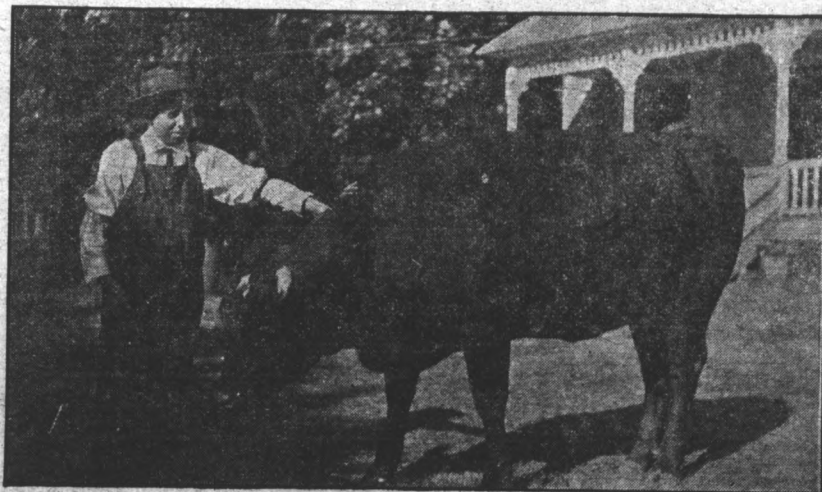
the feed was \$48.34 and the cost per 100 pounds gain was \$6.12. Merwin was offered 15½ cents a pound for the finished heifer, which would bring her value to \$181.35. In addition to having

one of the best heifers in the state, a heifer that had been developed under his personal care, Merwin had the pleasure of winning a \$35 prize offered by the Iowa Beef Producers' Association. Now he is busy trying to determine the total value of all he learned and earned while working for the prize.



The Homely Calf. had plenty of time in which to master percentage and decimals as applied to his rapidly growing red calf.

Merwin also had practice in making out such bills as might be presented to



The Big Fat Sleek Heifer.

Boys' and Girls' Club Notes

Conducted by E. C. Lindemann

At the Calhoun County Round-up and Exhibit held at Marshall on Friday and Saturday of last week there were over one hundred boys and girls from all sections of the county. Thirteen clubs were represented.

A. G. Kettunen has been employed by the college to promote poultry clubs during the coming season.

Loie Alwardt and Leona Alwardt, of the Community Club of Abscota, showed some real club spirit at the recent Calhoun county exhibit. Miss Anna B. Cowles, state club leader for girls, told the following story about these sisters at the club banquet: "These girls were expected to make exhibits of bread. Their bread was set on Wednesday night. On Thursday morning, they discovered that they had forgotten to put in the yeast. The yeast was added on Thursday but constant watching throughout the day failed to make it rise. At midnight they awakened and found that it had risen enough so that it could be baked. They got up, built a fire and baked the bread, returning to bed at 4:00 a. m. The bread was exhibited at the Marshall exhibit."

Club Bulletin No. 11, written by C. A. Spaulding, is now ready for distribution. It is called "Handicraft Work for Boys' Clubs." It is well illustrated and contains some valuable exercises for boys who are interested in manual work.

One of the potato club boys of Calhoun county drove thirty miles to get his potatoes in for the Marshall exhibit. He arrived too late for the banquet and his potatoes were frozen. He drove back to his home that night in order to help with the chores the next morning.

Miss Jessie Marie DeBoth has been employed as district leader for girls' clubs in the upper peninsula.

It cost approximately \$14,000 to promote boys' and girls' clubs in Michigan during the past year and the boys and girls who have reported up to date have produced more than \$70,000 in value of food products.

School Commissioner B. S. Tefft, of Saginaw, and County Club Leader C. P. Pressley, are giving a course of study in club leadership to rural teachers. The teachers meet once each month in Saginaw for intensive study. The first class met on Saturday, December 22, and thirty-five teachers attended.

Handicraft demonstration teams will be a feature of club work during the coming year. Teams will be trained for competition at the various county and state fairs.

Miss Ruth Collier, of Ceresco, Calhoun county, made a profit of over two hundred dollars on her poultry project last season.

The Gami Phi Handicraft Demonstration team demonstrated the making of the Michigan Garden Boy Cultivator before the Kent County Boys' and Girls' Club Round-up, and also before the annual meeting of county agricultural agents. At Grand Rapids they made the cultivator in forty-five minutes. At East Lansing they completed it in thirty minutes.

Ray White, of Albion, has been declared state champion for the pork production clubs of the state in the sow and litter project. He cared for a pure-bred Duroc-Jersey sow and raised seven pigs. His net profit from the one sow so far is \$44.95. The championship in the pork production class has not yet been decided.

January 15-16 are the dates for the corn and bean exhibits at the Michigan Agricultural College. The state cham-

pionships in these two projects will be decided at that time.

Boys interested in crop improvement work will be welcomed at the College on January 16.

Michigan bankers are ready to assist in the organization and financing of sheep clubs for boys.

BUMPER MEETS A FOX.

(Continued from page 57).

fore, and he suddenly gained confidence by this knowledge.

"How do you know I'm not a ghost?" he asked, smiling.

"How do I know? Ha! Ha! That's a good one! But I'll tell you how I know. I smell you. No ghost could have that delicious rabbit smell that fills my nose every time the wind blows toward me."

Bumper, for the lack of any words to say, laughed long and hard at this remark. Then he controlled himself, and added, "I wouldn't trust my nose, Mr. Fox. A rabbit's ghost might smell just as sweet and delicious as a real one."

"I don't believe it," grinned Mr. Fox. "Anyway, I'm going to find out. If you're a ghost, why, it will be easy enough for you to disappear."

"Yes of course but I should hate to disappoint you. Now, do you know where rabbits go when they die?"

"Yes, in my stomach."

Mr. Fox laughed long and loud at this cruel joke, and Bumper winced; but he was playing for time to think of a plan to escape. Evidently Mr. Fox was not to be outwitted by flattery, and he determined upon another ruse.

There was a fallen tree near him, but to reach it he would have to advance a few feet straight toward the fox. The heart of the tree was rotten and hollow, and to escape in this was Bumper's design. But how to distract Mr. Fox's attention until he could reach it was the question.

"Oh, Mr. Fox," he said suddenly, "I met Mr. Crow on the river, and he asked me about the white crows in the city. When I told him, he flew away to the city to see if living there would turn him white. That's a joke on Mr. Crow all right, isn't it?"

"Yes—but are there white crows in the city?"

"There are white rabbits. Then why not white crows, and white foxes?"

"White foxes?"

"Yes, why not? Didn't you ever see one?"

"No, but I've heard of them, it seems to me, but they live way up north, don't they?"

"If you want to see one now," continued Bumper, "look at the sun for ten seconds, and sneeze twice, and then—"

"What then?"

"Do as I tell you, and then I'll tell you the rest."

Mr. Fox, after all, was a little vain, or at least very curious, and this strange proposition interested him. He raised his head, and looked straight into the blinding sun.

"Now count—one, two, three, four, and sneeze," added Bumper.

No fox can look hard at the sun long without sneezing, and after counting six this one nearly sneezed his head off. That was what Bumper was waiting for. He made a dive for the hollow tree, and got inside of it. When Mr. Fox reached the log, and found the hole too small for him, he was quite mad, and said: "I'll make you pay for that trick some day, Mr. Rabbit."

(In next week's issue will be told Bumper's experience with the birds).

The How and Why of Caloric Pipeless Heating

The CALORIC is not a pipe furnace with the pipes left off. Neither is it an experiment, hastily put together to meet a demand. It is specially designed to heat homes, halls, churches, stores, factories, etc., more uniformly, economically and satisfactorily than they have ever been heated by other systems.

HERE'S THE SECRET

The CALORIC works thru Nature's own laws of circulation by air currents. Warm air rises. Cold air falls. Warm air and cold air cannot occupy the same space at the same time.

In the same volume that the warm air is pumped up into the house, an equal amount of cold air is drawn into the furnace, where it is heated, moistened by the vapor from the two-gallon water pan, and then recirculated through the register. This continues as long as the fire burns.

Thus there is a constant circulation of properly moistened warm air. Just as running water purifies itself, so this circulating warm air, passing thru heat of from three hundred to eight hundred degrees, in which no germ can live, is kept pure and healthful.

THE MONITOR STOVE & RANGE CO.

204 Gest Street

"99 Years of Service"

Cincinnati, Ohio

These BOOKS FREE! Send for Them Today! The Monitor Stove & Range Co., Cincinnati, Ohio. Please send me your books about the Caloric Pipeless furnace, without obligation on my part. Name P. O. County State.

Makes Farm Work Easy

IS there an International Harvester Mogul Kerosene Engine on your farm?

This is an important question because few factors contribute more to farm life, in the way of economy, time saving, comfort, and lasting satisfaction, than the right size and type of Mogul engine.

You don't mind the lack of hired help nearly so much when you have a Mogul engine to do the chores. Morning and night it takes care of the jobs that used to be so tedious and tiresome. It does not get tired or quit just when you need it most. When you find how useful it is and how cheaply it works, you buy more labor-saving machines for it to run until it is doing all the power jobs on the place.

Mogul engines are the standard steady reliable power. They are designed, made, backed and guaranteed by a manufacturing experience that grew out of three-quarters of a century of good farm machine building. They work economically on the cheapest engine fuel you can buy—kerosene or distillate. They start easily. They run steadily. They serve you well for years.

Buy Mogul power and run your farm more profitably and with less labor. See the dealer and write us for catalogues describing Moguls ranging in size from 1 to 50-h. p., in all styles, for all purposes, all using kerosene for fuel.

International Harvester Company of America

CHICAGO (Incorporated) U S A
Champion Deering McCormick Milwaukee Osborne

Please mention the Michigan Farmer when you are writing to advertisers and you will do us a favor



The Farmer's Friend

Formaldehyde has been rightly dubbed "The Farmer's Friend" because it serves the scientific farmer in a thousand ways.

FORMALDEHYDE The Farmer's Friend

is the best and cheapest disinfectant—officially endorsed as the standard treatment for seed grains. It rids seed grains of smuts and fungus growth, also flax wilt and scab and black-leg diseases of potatoes, insuring healthy grain, clean potatoes, onions, cucumbers, etc. One pint bottle costing 35 cents treats 40 bushels of seed. Big book free. Write to-day.

Perth Amboy Chemical Works
100 William Street New York

Nitrate of Soda

Data as to increased crop yields due to the use of Nitrate are available. Why not make your business of crop fertilizing profitable by the use of Nitrate of Soda whose efficiency is known?

A bushel of corn or wheat or a bale of cotton today will buy more Nitrate and more Acid Phosphate than ever before.

Send for "Increased Crop Yields from the use of Nitrate of Soda"

Dr. WM. S. MYERS, Director
Chilean Nitrate Committee
25 Madison Avenue, New York

Get ISBELL'S 1918 Seed Annual FREE

Buy
Seeds
DIRECT
On a Money Back Basis
Send your name and address today for the Isbell 1918 Catalog. It means crop insurance—and sure profits. You prove the quality of Isbell's Seeds before you plant.
Seed Samples FREE
Corn, Barley, Oats, Alfalfa, Clovers, Grass Seeds—best to be had. Check those you want. Paste this ad. on a postal and mail today. That will be a step to better crops and bigger profits. Now is the time to make every acre pay more.
S. M. ISBELL & CO.
919 Mechanic St., Jackson, Mich.

"As They Grow Their Fame Grows"

**WERTHAN
PAYS
HIGHEST
PRICES
FOR
EMPTY
BAGS**
**CASH FOR
EMPTY BAGS**
We pay highest prices and also freight charges. Be sure to get our prices before disposing of your bags. They're worth money to you and we'll pay you best cash price for them as soon as received and assorted. Write us at once stating how many you have.
WERTHAN BAG COMPANY
61 Dock Street St. Louis, Mo.

When writing to advertisers please mention The Michigan Farmer.

The Grizzly King

By JAMES OLIVER CURWOOD

Copyright by Paget Newspaper Service

THE creek which Thor was following was a tributary of the Babine, and he was headed pretty nearly straight for the Skeena. As he was traveling upstream the country was becoming higher and rougher. He had come perhaps seven or eight miles from the summit of the divide when he found Muskwa. From this point the slopes began to assume a different aspect. They were cut up by dark, narrow gullies, and broken by enormous masses of rocks, jagged cliffs, and steep slides of shale. The creek became noisier and more difficult to follow.

Thor was now entering one of his strongholds: a region which contained a thousand hiding-places, if he had wanted to hide; a wild, upturn country where it was not difficult for him to kill big game, and where he was certain that the man-smell would not follow him.

For half an hour after leaving the mass of rocks where he had encountered Muskwa, Thor lumbered on as if utterly oblivious of the fact that the cub was following. But he could hear him and smell him.

Muskwa was having a hard time of it. His fat little body and his fat little legs were unaccustomed to this sort of journeying, but he was a game youngster, and only twice did he whimper in that half-hour—once he toppled off a rock into the edge of the creek, and again when he came down too hard on the porcupine quill in his foot.

At last Thor abandoned the creek and turned up a deep ravine, which he followed until he came to a dip, or plateau-like plain, half way up a broad slope. Here he found a rock on the sunny side of a grassy knoll, and stopped. It may be that little Muskwa's babyish friendship, the caress of his soft little red tongue at just the psychological moment, and his perseverance in following Thor had all combined to touch a responsive chord in the other's big brute heart, for after nosing about restlessly for a few moments Thor stretched himself out beside the rock. Not until then did the utterly exhausted little tan-faced cub lie down, but when he did lie down he was so dead tired that he was sound asleep in three minutes.

Twice again during the early part of the afternoon the sapoos oowin worked on Thor, and he began to feel hungry. It was not the sort of hunger to be appeased by ants and grubs, or even gophers and whistlers. It may be, too, that he guessed how nearly starved little Muskwa was. The cub had not once opened his eyes, and he still lay in his warm pool of sunshine when Thor made up his mind to go on.

It was about three o'clock, a particularly quiet and drowsy part of a late June or early July day in a northern mountain valley. The whistlers had piped until they were tired, and lay squat out in the sunshine on their rocks; the eagles soared so high above the peaks that they were mere dots; the hawks, with meat-filled crops, had disappeared into the timber; goat and sheep were lying down far up toward the sky-line, and if there were any grazing animals near they were well fed and napping.

The mountain hunter knew that this was the hour when he should scan the green slopes and the open places between the clumps of timber for bears, and especially for flesh-eating bears.

It was Thor's chief prospecting hour. Instinct told him that when all other creatures were well fed and napping he could move more openly and with less fear of detection. He could find his game, and watch it. Occasionally

he would kill a goat or a sheep or a caribou in broad daylight, for over short distances he could run faster than either a goat or a sheep, and as fast as a caribou. But chiefly he killed at sunset or in the darkness of early evening.

Thor rose from beside the rock with a prodigious whoof that roused Muskwa. The cub got up, blinked at Thor and then at the sun, and shook himself until he fell down.

Thor eyed the black and tan mite a bit sourly. After the sapoos oowin he was craving red, juicy flesh, just as a very hungry man yearns for a thick porterhouse instead of lady fingers or mayonnaise salad—flesh and plenty of it; and how he could hunt down and kill a caribou with that half-starved but very much interested cub at his heels puzzled him.

Muskwa himself seemed to understand and answer the question. He ran a dozen yards ahead of Thor, then stopped and looked back impudently, his little ears perked forward, and with the look in his face of a small boy proving to his father that he is perfectly qualified to go on his first rabbit hunt.

With another whoof Thor started along the slope in a spurt that brought him up to Muskwa immediately, and with a sudden sweep of his right paw he sent the cub rolling a dozen feet behind him, a manner of speech that said plainly enough, "That's where you belong if you're going hunting with me!"

Then Thor lumbered slowly on, eyes and ears and nostrils keyed for the hunt. He descended until he was not more than a hundred yards above the creek, and he no longer sought out the easiest trail, but the rough and broken places. He traveled slowly and in a zigzag fashion, stealing cautiously around great masses of boulders, sniffing up each coulee that he came to, and investigating the timber clumps and windfalls.

At one time he would be so high up that he was close to the bare shale, and again so low down that he walked in the sand and gravel of the creek. He caught many scents in the wind, but none that held or deeply interested him. Once, up near the shale, he smelled goat; but he never went above the shale for meat. Twice he smelled sheep, and late in the afternoon he saw a big ram looking down on him from a precipitous crag a hundred feet above.

Lower down his nose touched the trails of porcupines, and often his head hung over the footprints of caribou as he sniffed the air ahead.

There were other bears in the valley, too. Mostly these had traveled along the creek-bottom, showing they were blacks or cinnamons. Once Thor struck the scent of another grizzly, and he rumbled ill-humouredly.

Not once in the two hours after they left the sunrock did Thor pay any apparent attention to Muskwa, who was growing hungrier and weaker as the day lengthened. No boy that ever lived was gamer than the little tan-faced cub. In the rough places he stumbled and fell frequently; up places that Thor could make in a single step he had to fight desperately to make his way; three times Thor waded through the creek and Muskwa half drowned himself in following; he was battered and bruised and wet and his foot hurt him—but he followed. Sometimes he was close to Thor, and at others he had to run to catch up. The sun was setting when Thor at last found game, and Muskwa was almost dead.

He did not know why Thor flattened his huge bulk suddenly alongside a rock at the edge of a rough meadow, from which they could look down into a small hollow. He wanted to whimper, but he was afraid. And if he ever wanted his mother at any time in his short life he wanted her now. He could not understand why she had left him among the rocks and had never come back; that tragedy Langdon and Bruce were to discover a little later. And he could not understand why she did not come to him now. This was just about his nursing hour before going to sleep for the night, for he was a March cub, and, according to the most approved mother-bear regulations, should have had milk for another month.

He was what Metoosin, the Indian, would have called munookow—that is, he was very soft. Being a bear, his birth had not been like that of other animals. His mother, like all mother-bears in a cold country, had brought him into life a long time before she had finished her winter nap in her den. He had come while she was asleep. For a month or six weeks after that, while he was still blind and naked, she had given him milk, while she herself neither ate nor drank nor saw the light of day. At the end of those six weeks she had gone forth with him from her den to seek the first mouthful of sustenance for herself. Not more than another six weeks had passed since then, and Muskwa weighed about twenty pounds—that is, he had weighed twenty pounds, but he was emptier now than he had ever been in his life, and probably weighed a little less.

Three hundred yards below Thor was a clump of balsams, a small thick patch that grew close to the edge of the miniature lake whose water crept around the farther end of the hollow. In that clump there was a caribou—perhaps two or three. Thor knew that as surely as though he saw them. The wenipow, or "lying down," smell of hoofed game was as different from the nechisoo, or "grazing smell," to Thor as day from night. One hung elusively in the air, like the faint and shifting breath of a passing woman's scented dress and hair; the other came hot and heavy, close to the earth, like the odor of a broken bottle of perfume.

Even Muskwa now caught the scent as he crept up close behind the big grizzly and lay down.

For fully ten minutes Thor did not move. His eyes took in the hollow, the edge of the lake, and the approach to the timber, and his nose gauged the wind as accurately as the pointing of a compass. The reason he remained quiet was that he was almost on the danger-line. In other words, the mountains and the sudden dip had formed a "split wind" in the hollow, and had Thor appeared fifty yards above where he now crouched, the keen-scented caribou would have got full wind of him.

With his little ears cocked forward and a new gleam of understanding in his eyes, Muskwa now looked upon his first lesson in game-stalking. Crouched so low that he seemed to be traveling on his belly, Thor moved slowly and noiselessly toward the creek, the huge ruff just forward of his shoulders standing out like the stiffened spine of a dog's back. Muskwa followed. For fully a hundred yards Thor continued his detour, and three times in that hundred yards he paused to sniff in the direction of the timber. At last he was satisfied. The wind was full in his face, and it was rich with promise.

He began to advance, in a slinking, rolling, rock-shouldered motion, taking shorter steps now, and with every muscle in his great body ready for action. Within two minutes he reached the edge of the balsams, and there he paused again. The crackling of underbrush came distinctly. The caribou were up, but they were not alarmed. They were going forth to drink and graze.

(Continued next week.)

MICHIGAN RABBIT BREEDERS' ASSOCIATION IS FORMED.

Recently, at Grand Rapids, the Hotel Browning was the scene of an enthusiastic throng of rabbit breeders. The meeting, which was called to order at four o'clock, precipitated an organization which is to be known to the public as the "Michigan Rabbit Association."

This association was formed to further the work of Mr. Hoover and give the rabbit a prominent place on our menus. This surely will be accomplished if the ambitions of these rabbit breeders are realized. The meeting was called to order by Mr. Mieras, of Grand Rapids, as chairman, through whose untiring efforts this organization was accomplished.

Mr. Alvah Brown discussed the rabbit situation and told of his ambition in that line. He has converted his former piggery into a rabbit farm and he says his efforts will not cease until he has succeeded in raising a million rabbits. He has selected Mr. V. E. Curtis, a well known and successful rabbit breeder, as his manager, under whose direction Mr. Brown's project is assured. Other discussions were made by Messrs. V. D. Hindelung, Ekolberner and James Heuy.

Michigan was well represented, many out-of-town members being present. The new organization starts with a membership of more than a hundred, several women being among this number, for they, too, have found it a profitable occupation.

With a little encouragement the rabbit industry promises to increase materially. Few people know how delicious the Belgian hare is when properly cooked and it is so easily digested that it is eagerly sought by hospitals for their patients. The banquet that followed proved conclusively the delicate flavor of the rabbit meat and the different varieties in which it could be prepared.

It was decided to hold semi-monthly meetings, and rabbit breeders desiring membership can secure an application blank by notifying any officer of the organization.

The officers of the new association are: President, Alvah Brown; vice-president, G. H. Barbour, of Chelsea; second vice-president, George Haarer, of Ann Arbor; third vice-president, C. C. Blackburn, of Samaria; secretary-treasurer, Fred De Vos, of Shelby; directors, D. Mieras, E. L. Brown, E. Haarer, Mrs. Mary Alice Davis, of Shelby, D. J. Vernon, Mrs. Mary Kolenderander, J. Griffith, D. O. Hogan, V. E. Curtis, V. D. Hindelung, Gale Johnson, A. A. Harrison, E. G. Blakely, C. V. Lemon, E. Van Lopik, James Heuy, G. H. Diamond, and P. Barker Mason.

HOME-MADE SHIPPING COOP.

This coop requires six pieces twelve inches long and six pieces thirty inches long, of one-by-two, one-by-three, or one-by-four inch stuff. Nail these pieces securely at the corners to make three frames 12x30 inches in size. Nail short pieces of lath across them not more than two inches apart. Nail the bottom on first, using lath or light boards, then the sides and lastly the top. Leave a six-inch opening in the middle of the top and nail strips of tin or leather across the opening at the ends and middle under which two lath may be slipped to close it. By having the end slats up and down instead of crosswise, as is customary, the crate is much stronger, and lighter stuff can be used for the frame, thus decreasing the cost of transportation. The partition through the middle not only strengthens the crate but reduces the risk of loss through crowding. Not over eighty pounds of two-pound broilers should be shipped in one coop, though in cool weather a coop will hold up to 120 pounds of hens. Crowding is to be avoided as it is likely to cause loss through deaths or shrinkage.

C. N. WHITTAKER.

H. H. Johnson
"Incubator Man"

Get Johnson's Poultry "Know How"

Get the money-making ideas that started 750,000 owners of

Old Trusty

—invented by a practical engineer and poultry raiser. Freight or express prepaid. Write and get price I have been quoting in 1917. Book free.

M. M. JOHNSON CO.
Clay Center, Neb.

MAIL A POSTAL TODAY

Be a money-maker this year with Old Trusty

Let Me Send this Book FREE

The Famous Old Trusty Incubator and Brooder

\$8.95 **Champion 140-Egg Belle City Incubator**

Prize Winning Model—Hot Water—Copper Tank—Double Walls of Fibre Board—Self Regulated—Thermometer Holder—Deep Nursery. When ordered with \$5.25 Hot Water 140-chick Brooder—both cost only \$12.95.

Freight Prepaid East of Rockies

Satisfaction Guaranteed

Over 650,000 Satisfied Users

Start Early—Order Now—Share in my \$1000 Cash Prize

Conditions easy. Write for my Free Book, "Hatching Facts"—it tells all. With this Champion Hatching Guide and my Guide Book for setting up and operating, you are sure of success. Jim Rohan, Pres.

Belle City Incubator Co., Box 14 Racine, Wis.

1-2-3 Months' Home Test

130 Egg Incubator and Brooder Both for \$12

If Ordered Together. Freight Paid East of Rockies. Hot water copper tanks, double walls, dead air space, double glass doors, all set up complete, or 180 Egg Incubator and Brooder \$14.75. FREE Catalogue describing them. Send for it TODAY or order direct.

Wisconsin Incubator Co., Box 44 Racine, Wis.

MANKATO SPECIAL

Big Book FREE

Get it quick—express prepaid—Mankato Special with six great improvements: Large oil tank, new automatic regulator, new heating system, new ventilating system, wonderful results. Write for book.

Mankato Incubator Co., Box 717 Mankato, Minn.

EXPRESS PREPAID

Write Today

150 EGG INCUBATOR CHICK BROODER

Both made of Calif. Redwood. Both for \$12.50

Incubator is covered with asbestos and galvanized iron; has triple walls, copper tank, nursery, egg tester, thermometer, ready to use. 30 DAYS' TRIAL—money back if not O.K. Write for FREE Catalogue Now.

Ironclad Incubator Co., Box 121 Racine, Wis.

64 BREEDS Valuable New Poultry Book Free—108 pages. Fine pure-bred chickens, ducks, geese and turkeys. Choice, hardy, Northern raised. Fowls, eggs and incubators at low prices. America's greatest poultry farm. 25th year in business. Write today for Free Book.

R. F. NEUBERT CO., Box 817, Mankato, Minn.

"LEE'S POULTRY BOOK"
"CARE OF BABY CHICKS"
"ALL ABOUT EGGS"
"SECRETS OF SUCCESS WITH CHICKENS" Books

5 Poultry

POINTER'S FOR SUMMER & FALL! This Lee Poultry Library of five booklets for 5c Free stamps to cover mailing. Send at once to GEO. H. LEE CO., 265 Lee Building, Omaha, Neb.

POULTRY SUPPLIES and equipment needed from legions to buildings. 40 page free catalogue quotes lowest prices on hundreds of articles.

GEORGE B. FERRIS, 684 Shirley Street, Grand Rapids, Mich.

FOR SALE 3500 egg Candee Incubator at a bargain only been run 1 season.

D. S. CLARK, Pulaski, Mich.

POULTRY

HOMESTEAD FARMS

POULTRY SALE

We have the following birds for immediate delivery. Pullets—full grown and about ready to lay: 24 White Plymouth Rocks; 20 Barred Plymouth Rocks; 10 S. C. Rhode Island Reds; 10 White Leghorns; also 20 Leghorns two-thirds grown; 12 Black Orpingtons. Yearling Hens—moulting finished 60 S. C. White Leghorns; 30 S. C. Rhode Island Reds; 12 Black Orpingtons. Cockerels—Rose and Single Comb White Leghorns; Barred Plymouth Rocks; Rhode Island Reds; Black Minorcas. These are season closing sales.

HOMESTEAD FARMS, Bloomingdale, Mich.

BREEDING COCKERELS

Trapnested, bred-to-lay stock. S. C. White Leghorns, combs slightly frosted \$1.25 each. Barred Rocks \$2 each. **SUNNYBROOK POULTRY FARM, Hillsdale, Mich.**

Barred Rocks Cockerels for sale from strain with records to 290 eggs a year. \$2 to \$3 each. Circular free. **FRED ASTLING, Constantine, Mich.**

Barred Plymouth Rock cockerels \$3.00 each. Full blood from prize-winning heavy laying strain. **J. A. Barnum, Union City, Mich.**

Barred Rocks Cockerels from good laying strain \$3.00 each two for \$5.00. **A. A. WOOD & SON, Saline, Mich.**

Barred Rock Cockerels Pullets and Hens best Pullets record 248 eggs. **W. C. COFFMAN, R. 3 Benton Harbor, Mich.**

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

Breeding Stock Hens and Cockerels pure bred S. C. W. Leghorns \$1.25 up. **White Line Poultry Farm, Hillsdale, Mich.**

LIGHT BRAHMA Cockerels, good ones, \$3 each. **W. E. PALMER, Vandalia, Mich.**

Ferris White Leghorns

A real heavy laying strain, trapnested 17 years, records from 200 to 264 eggs. Get our special summer prices on yearling hens, breeding males, eggs for hatching, 8-week-old pullets and day old chicks. We ship C. O. D. and guarantee results. Catalog gives prices; results you can get by breeding this strain. Send for your copy now—it is free.

GEORGE B. FERRIS, 984 Union, Grand Rapids, Mich.

Pine Crest S. C. White Orpingtons, special sale of year old cocks and hens also young cockerels. **MRS. WILLIS HOUGH, PINE CREST FARM, Royal Oak, Mich.**

Laybitt S. C. W. Leghorns Large, great layers. Pure white, bargain in choice breeding hens now. **Everfresh Egg Farm, Ionia, Mich.**

BUFF Leghorns, breeding cockerels also a few fine pens of four hens and cockerel for \$10. More hens \$2 extra. **Dr. William A. Smith, Petersburg, Mich.**

Fowlers Buff Rocks Cockerels Pullets and hens for sale from two dollars up according to quality. **B. B. FOWLER, Hartford, Mich.**

RHODE ISLAND REDS and plymouth Rocks Males \$1.50 to \$2.00, according to age. \$2 to \$3; P. B. hens weight \$10 lbs. eggs \$1.50; \$1.00; \$1.20; \$1.30. Mammoth Bronze Tom Turkeys \$1 to \$3 lbs. according to age \$6 to \$25, 10 eggs \$3. **J. Morris & J. Barsan, Vassar, Mich.**

RHODE ISLAND REDS, Both Combs. Cocks, Hens, Cockerels and Pullets at reasonable prices. **Interlakes Farm, Box 39, Lawrence, Mich.**

R. C. Br. Leghorn Cockerels. Leading strains in America, bred from winners. \$2 each after Dec. 1. A square deal, orders promptly filled. **E. Himebaugh, Coldwater, Mich.**

R. C. Br. Leghorn cockerels \$1.50 and \$2. A few nice Imperial Pekin Ducks \$2 each. Drakes all sold. **Mrs. Wm. Nickert, Carson City, Mich.**

S. C. W. Leghorn hens two years old and late hatchlings \$1 each. Cockerels, utility and trapnested \$1.50 to \$5. **Hillcrest Poultry Farm, Ypsilanti, Mich.**

S. C. Rhode Island Cockerels, pure bred—fine large dark red birds, will improve your flock. Price \$2.50 each. **Alfred Deichmann, Pigeon, Mich., R. 3.**

SILVER Golden and White Wyandottes. Choice breeding stock of sale after Oct. 1st, a few bargains in yearling hens. **C. W. Browning, R. 2, Portland, Mich.**

WHITE Wyandottes. I have a fine lot of April and May hatching cockerels for \$3.00 and \$3.00 each. **DAVID RAY, 709 Norris St., Ypsilanti, Michigan.**

White Wyandottes 50 extra choice cockerels \$3 to \$5. 1 ship on approval and guarantee satisfaction. **Milton E. Stewart, R. 3, Augusta, Mich.**

\$1 each for immediate sale. 45 S. C. W. Leghorn yearling hens that averaged 160 eggs each their first year. Must be sold at once to make room. **H. S. FISH, R. 4, Manchester, Mich.**

Cockerels—From Chicago Coliseum winning stock. \$3 and up "Ringlet" & Buff Rocks, both combs Red, Spanish, Orpingtons, Wyandottes. **Tyrone Poultry Farm, Fenton, Mich.**

White Chinese Ganders Pekin Ducks and a few R. C. Br. Leghorn hens. Cockerels all sold. **MRS. CLAUDIA BETTS, Hillsdale, Michigan**

FOR SALE Pure bred Mammoth Bronze Turkeys. **R. L. Caro, Mich.**

FINE large White 'Rock' Cockerels, \$4 to \$5. Also a few pullets. Prize winning stock. State your wants to **Mrs. Elsie M. Robinson, Petersburg, Mich.**

BREEDERS' DIRECTORY.

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

We Offer a Few Special Bargains

In S. C. White Leghorn cockerels, Rambouillet rams, Hampshire pigs (either sex) and Holstein bulls. A good chance for a small investment to reap the benefit of a large expenditure of capital and years of expert breeding.

Flanders Farm, Orchard Lake, Mich.

CATTLE.

WOODCOTE ANGUS

Trojan-Ericas and Blackbirds only Breeders of the dam and former owners of the sire (our herd bull) of the Grand Champion Bull at the International Chicago for 1917.

WOODCOTE STOCK FARM, Ionia, Mich.

Registered Aberdeen Angus. Twelve yearling heifers for sale. Our motto: size with quality best of breeding. Price \$130 each for bunch. **F. J. WILBER, R. 4, Clio, Mich.**

3 1/2 Lbs. Butter A Day From A Grade Guernsey

This cow produced in one month 93.9 lbs. butter fat, equivalent to 109.5 lbs. of butter—over 3 1/2 lbs. daily—and 1,566.1 lbs. milk testing 6% fat.

Use a Guernsey Bull

Guernsey grades are the cows for profit. They are the most economical producers of butter fat. It has that wonderful natural yellow color. Write for book showing how to make more profits from scrub cows.

American Guernsey Cattle Club, Box 1, Peterboro, N.H.

Registered Guernseys

Stock always for sale. May Rose Strain—Herd Tuberculin tested, annually. Never had a reactor—no abortion. **J. M. WILLIAMS, North Adams, Mich.**

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

Guernseys—For Sale, four young registered cows. Tuberculin tested. **Geo. N. Crawford, Holton, Mich.**

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

GUERNSEYS—REGISTERED BULL CALVES

Containing blood of world champions. **HICKS' GUERNSEY FARM, Saginaw, W. S., Mich.**

THE DIFFERENCE between a purebred **HOLSTEIN** and the average **COW**

Some official Averages of Holsteins	Average of all cows in U. S.
7,000 Quarts of Milk a year	1,823 Quarts of Milk a year

The world's record, 31,246.9 pounds of milk in one year, was made by a Holstein cow. Write for free information about this profitable breed.

THE HOLSTEIN-FRIESIAN ASSOCIATION OF AMERICA, Box 164, Brattleboro, Vt.

For Sale Registered Guernsey bull calves May Rose breeding. **R. 2, Holland, Mich.**

REG. HOLSTEINS: Herd headed by Albina Bonte Butter Boy No. 33124. Dam's record at 6 yrs. butter 28.53 lbs. milk 619.4. Yearly record at 2 1/2 yrs. butter 802 lbs. milk 18622 lbs. **W. B. READER, Howell, Mich.**

CLUNY STOCK FARM

100--REGISTERED HOLSTEINS--100

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

Write us your wants.

R. BRUCE McPHERSON, Howell, Mich.

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

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

\$50 Gets son of 30 lb. bull dam is grand-daughter of De Kol 2nd Butter Boy 3 rd. Her dam 18.96 lb. 2 yr. old. **M. L. McLAULIN, Redford, Michigan.**

A Few Fine Bulls For Sale

Bigelows Holstein Farms, Breedsville, Mich.

"TOP - NOTCH" HOLSTEINS

"Milk production is an inherited ability. Good cows must be bred to good pure-bred bulls if progress in dairying is to be made."

Extract U. S. Dept. of Agric. Bulletin.

Here is a great "Milk" Bull having the ability to transmit large milk and butter production. **Born Sept. 20, 1916.**

His Sire's 3 nearest { Butter 7 days 30.87 lbs.
Dams average { Milk 385 days 20854 lbs.
His Dam's Records { Butter 385 days 842 lbs.
Handsomely marked, about 1/4 white. Price \$200.

McPherson Farms Co., Howell, Mich.

I Always Have Holsteins To Sell

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

L. E. CONNELL, Fayette, Ohio

WINWOOD HERD

REGISTERED HOLSTEINS

Holton, Mich.

Reference: Old State Bank, Fremont, Mich.

Flint Maplecrest Boy sire in service. His sire is Maplecrest Korndyke Hengerveld, his 3 Nearest Dams each over 30 lbs. of butter in 7 days. His dam and grand dam both made over 1232 lbs. of butter in 1 year. It is the yearly cow we are looking for to deliver the goods. **Flint Maplecrest Boy's Dam's** Gluck Vasser Bell, 30.57 lbs. of butter in 7 days and 120 lbs. in 30 days. Her butter fat test is 5.27. This looks about right to the man who goes to the creamery. We have Bull Calves from 2 weeks to 8 months old for sale at dairy farmers' prices all out of A. R. C. Heifers. Write & tell us the kind of a bull you want.

John H. Winn, (Inc.), Holton, Mich.

FOR Sale One registered Holstein bull calf. Sire's twenty nearest dams have 7 da. records av. 25.53 lb. butter. Dam to be tested. A finely marked, growthy individual. **Long Vein Farm, R. 3, Box 10 A, Rochester, Mich.**

2 CHOICE Holstein bulls nearly old enough for service. No. 1 born January 24, 1917, sire's dam, grand-dam and great grand-dam's semi-official records average 842 lbs. butter. Dam of calf 18 lbs. butter 7 days assessor 2yr. old, average per cent fat 4.3. No. 2 Sired by 23 lb. bull and out of a 14 lb. junior 2-yr. old. **O. L. BRODY, Owner, Port Huron, Mich.**

Chas. Peters, Herdsman, Three Rivers, Mich.

Butter Fat Counts

Holstein Bull Calves from a 30 lb. 6.53 % Sire. Dam are grand daughters of the King of the Pontiacs. Their dams grand daughters of Sadie Vale Concordia the first 30 lb. cow. **Edwin S. Lewis, Marshall, Mich.**

Holstein Bull Calf born Mar. 7, fine individual a prize winner from 29.62 lb. Sire and 28.50 lb. 4 yr. old dam. Price low. **A. F. LOOMIS, Owosso, Mich.**

Reg. Holstein bull and heifer calves for sale. Extra heavy milking dams. **O. L. HULETT & SON, Okemos, Mich.**

Bull calves sired by a double g.-son of Friend Hengerveld De Kol Butter Boy from dams of the greatest yearly record breeding. Write for photos and prices & etc. **Ontonagon Valley Holstein Farm, Bruce's Crossing, Mich.**

Our Yearling Bulls

are sold. Why not buy a calf and raise your next herd sire. Sons of our 32 lb. herd sire at reasonable prices. A limited number of females. **E. M. Pierce & Son, Manchester, Mich.**

Additional Stock Ads. on Page 69

Piles Cured Without the Knife



The Largest Institution In the World for the Treatment of Piles, Fistula and all Other Diseases of the Rectum (Except Cancer)

WE CURE PILES, FISTULA and all other DISEASES of the RECTUM (except cancer) by an original PAINLESS DISSOLVENT METHOD of our own WITHOUT CHLOROFORM OR KNIFE and with NO DANGER WHATSOEVER TO THE PATIENT. Our treatment has been so successful that we have built up the LARGEST PRACTICE IN THE WORLD in this line. Our treatment is NO EXPERIMENT but is the MOST SUCCESSFUL METHOD EVER DISCOVERED FOR THE TREATMENT OF DISEASES OF THE RECTUM. We have cured many cases where the knife failed and many desperate cases that had been given up to die. WE GUARANTEE A CURE IN EVERY CASE WE ACCEPT OR MAKE NO CHARGE FOR OUR SERVICES. We have cured thousands and thousands from all parts of the United States and Canada. We are receiving letters every day from the grateful people whom we have cured telling us how thankful they are for the wonderful relief. We have printed a book explaining our treatment and containing several hundred of these letters to show what those who have been cured by us think of our treatment. We would like to have you write us for this book as we know it will interest you and may be the means of RELIEVING YOUR AFFLICTION also. You may find the names of many of your friends in this book.

We are not extensive advertisers as we depend almost wholly upon the gratitude of the thousands whom we have cured for our advertising. You may never see our ad again so you better write for our book today before you lose our address.

Drs. Burleson & Burleson

804 The Burleson Bldg.

Grand Rapids, Michigan



Scenes of Prosperity

are common in Western Canada. The thousands of U.S. farmers who have accepted Canada's generous offer to settle on homesteads or buy farm land in her provinces have been well repaid by bountiful crops of wheat and other grains.

Where you can buy good farm land at \$15. to \$30. per acre—get \$2. a bushel for wheat and raise 20 to 45 bushels to the acre you are bound to make money—that's what you can do in Western Canada.

In the provinces of Manitoba, Saskatchewan or Alberta you can get a

Homestead of 160 Acres Free and other land at very low prices.

During many years Canadian wheat fields have averaged 20 bushels to the acre—many yields as high as 45 bushels to the acre. Wonderful crops also of Oats, Barley and Flax. Mixed Farming is as profitable an industry as grain raising. Good schools, churches, markets convenient, climate excellent. Write for literature and particulars as to reduced railway rates to Supt. of Immigration, Ottawa, Can., or to

M. V. McINNES,

178 Jefferson Ave., Detroit, Mich.

Canadian Government Agent.



What 15c Will Buy You from the Nation's Capital

Washington, the home of the Pathfinder, is the nerve-center of civilization; history is being made at this world capital. The Pathfinder's illustrated weekly review gives you a clear, impartial and correct diagnosis of public affairs during these strenuous, epoch-making days.

The little matter of 15c in stamps or coin will bring you the Pathfinder 13 weeks on trial. The Pathfinder is an illustrated weekly, published at the Nation's center, for the Nation; a paper that prints all the news of the world and tells the truth and only the truth; now in its 25th year. This paper fills the bill without emptying the purse; it costs but \$1 a year. If you want to keep posted on what is going on in the world, at the least expense of time or money, this is your paper, and we will send the Pathfinder on probation 13 weeks. The 15c does not repay us; we are glad to invest in new friends.

THE PATHFINDER, Box 78, Washington, D. C.

Community Clubs

Form a Michigan Farmer Community Club in your neighborhood. It means a saving for you and your neighbors on Michigan Farmer subscriptions. These clubs are easy to form because there are a lot of people in your neighborhood who are interested in the Michigan Farmer and want to take it. Those who are now subscribers will also want to take advantage of these club rates when renewing their subscriptions.

Community Club Rates.

2 yearly subscriptions.....\$1.50	5 yearly subscriptions.....3.00
3 yearly subscriptions.....2.00	8 yearly subscriptions.....4.25
10 yearly subscriptions.....5.00	

All Community Club orders must be sent direct to the Community Club.

The Michigan Farmer
Detroit, Michigan

When Writing to advertisers please state that you saw their ad. in The Michigan Farmer.

Grange.

STATE GRANGE OFFICERS.

Master—John C. Ketcham, Hastings.

Overseer—C. H. Bramble, Tecumseh.

Lecturer—Dora H. Stockman, Lansing.

Secretary—Jennie Buell, Ann Arbor.

Treasurer—Frank Coward, Bronson.

Executive Committee.—Jas. Helme,

Adrian; Geo B. Horton, Fruit Ridge;

J. W. Hutchins, Hanover; W. F. Taylor,

Shelby; Wm. H. Welsh, Sault Ste Marie;

N. P. Hull, Dimondale; Burr Lincoln,

Harbor Beach.

STATE GRANGE MEETING.

(Continued from last week.)

As was stated in the preliminary report of the recent meeting of State Grange, the war crisis brought to the session a wealth of new and strong subject matter for discussion and action. In a broad way, almost every such resolution related itself more or less directly to the scarcity of food, shortage of labor or to unsatisfactory marketing facilities. These were the outstanding practical aspects of the meeting. This installment of our report will deal with these features.

Direct Marketing.

Recurring again and again in officers' and committee reports, rang out the call for better selling methods for farm produce; petition after resolution asked for relief which would enable farmers to respond to the nation's requirement for increased production without mortgaging the farm home to meet wages and production costs. Stories from strong men of how their wives and children had worked early and late the past season; authenticated reports of repeated losses by early frosts; pleas for relief from middlemen's unjust profits and unreliable market reports—these made the undertone voiced by a body of people, not unwilling but unable to meet fully the nation's demand upon them for more food. Out of this mass of statement and suggestion, let us select a few definite conclusions, arrived at by a body of 368 farm men and women who probably very fairly represent the rural rank and file in Michigan.

Perhaps significant as anything, as showing the drift of economic thought in this body, was a resolution recommended favorably by the committee on legislative action, with the Hon. A. B. Cook as chairman, and later endorsed by the Grange. It reads as follows:

Whereas, our state game and fish warden, by establishing a system of direct marketing of fish has accomplished a very material saving to thousands of consumers of fish, therefore, Be it resolved, that we compliment our official on this service rendered and urge the passage of any needed legislation to make it possible for the state to engage in the business of marketing on any occasion when it is expedient to do so.

A resolution, introduced by Burr B. Lincoln, of the Executive Committee, and adopted by the Grange, placed the delegates on record as "of the opinion that the Detroit Live Stock Market should issue a correct daily market report and give representative sales; also that prices should be uniform with other markets." To make this of practical effect, the State Master was instructed to take up the matter of quotations with the Detroit market in the line of the resolution.

While the Michigan Grange system of cooperative buying gave the greatest satisfaction to delegates by reporting that it had had the heaviest patronage of any year in its history, on the other hand the demand for a unified and supervised system of cooperative selling surged higher than ever. It would not down, and it now looks as if still greater progress will be made in 1918 by the Grange in this direction than has ever been made before.

(Continued next week.)

Farmers' Clubs

FEATURES OF THE ANNUAL MEETING.

Address of Dr. Ray Shipman Wilbur, President of Stanford University, and personal representative of Food Commissioner Hoover.

Food is the most important thing in the immediate war. President Wilson realized the importance of it, when he appointed Mr. Hoover to look after the situation. We started this administration with a small group of three as a membership, and this group has increased to thousands as members.

Changes are taking place rapidly; things are happening every day that mean a lot to this country. When I was in Washington a week or so ago, I was surprised to see the changes that had taken place there, as they indicate what is being done along the lines of speeding up on this great war.

We have entered upon a war, in which we can do but little from the standpoint of militarism, inside of from one to two years. It takes so long to build ships and train soldiers. Our little army of one million men, is but a handful compared with the other armies that are representing a single nation.

We have got to maintain our men who are at the front, help our allies with food supplies and feed our own people here in this country. Shortage of food—insufficient nourishment—might cause a revolution of the French and English troops, to say nothing of our own army, and what would this mean to our country?

Tracing the Russian revolution, it started with food riots. Well-fed people do not revolute. An empty stomach makes a poor citizen. It is expected that there will be revolution after revolution in Russia this winter, as they only have eighty per cent of food supplies. Italy has recently underwent a disaster, which was due to shortage of food. There was a change in the rations supplied the soldiers, and they became unruly. All shortages of food supplies in the allied countries, means that the United States will have to make up the deficiency.

We cannot afford to have any of the other allied nations have such a disaster, as Russia and Italy. Therefore we have got to supply the necessary food. This is the situation we face today. It is the most important feature. Are we going to be able to maintain our troops, and the troops of Great Britain and France? There is an insufficient food supply in Great Britain and France, and the same condition prevails over all Europe.

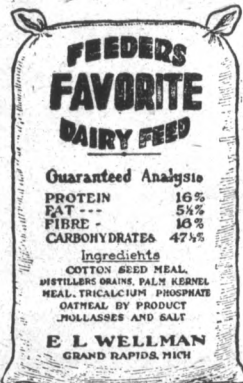
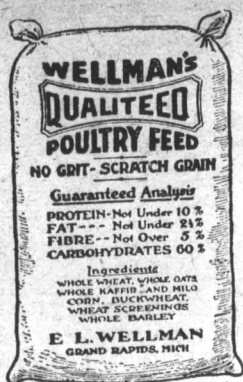
Germany has mastered her food supply through Sweden, for the exchange of ore. She has supplied herself. She can go on fighting indefinitely. We must take care of our allies, and to do it thoroughly and promptly, we must organize ourselves to meet this demand. We must get together on this one vital question and solve it. We have got to deal with submarines and shortage of shipping facilities. We have got to look forward to the fact of supplying food to replace the millions of tons lost every year, through the agency of the submarines. We have got something to do, but we can do it. We have got to supply the demand of these countries, that have been unable to raise their usual harvest, countries that before now, have supplied themselves.

We have got to make our harvest big enough to supply all of these stricken people. How are we going to meet the demand? We have got to raise bigger crops and conserve. We have got to make our supply meet the demand, or we will lose the war. We cannot lose, we have got to win.

In order to win, we have two great powers to fight. We have got the power of the Prussian government, backed by long years of preparedness. We have got to fight an army of veterans, who have been drilled and trained since childhood, for one great purpose. The other power is our soldiers, who have a strength that knows no defeat—inherited from those great men who fought and died for freedom. Are we going to back our boys, with the food that they will need to help them onward to that great victory?

We can do but little at the present time to block the purpose of Germany, except through food supplies to our allies. We have got to hold them up with one hand, while we get ready with the other.

(Concluded next week.)



WELLMAN'S QUALITEED FEEDS

For Live Stock

Four Reasons Why You Should Buy QUALITEED FEEDS

Your country needs your wheat.

Excess wheat feeding is injurious to the livestock.

Scientifically prepared feed from corn and oats and less than ten per cent wheat gives best results. Fat and healthy stock is result of its use. Increase your profits! Use the up to date method of feeding!

Our brands are highest quality at lowest price. Ask your dealer.

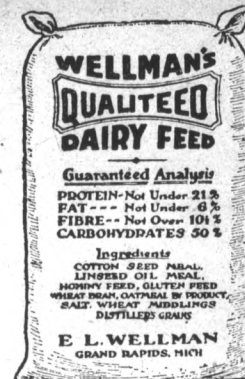
SPLIT CARS—CAR LOAD PRICES.

Feed Dept.

E. L. WELLMAN,

Feed, Grain and Beans

Grand Rapids, Michigan



CATTLE

OAK LEAF FARM

Herd sire Lenawee Pontiac Calamity King offer Registered Holstein bull calves from the above sire whose dam holds the milk and butter (32%) record for 7 days in the state of Ind.

Reg. Holstein Bull Calves Pontiac Korndyke and Hengerveld DeKol Breeding at Farmers Prices. John A. Rinke, Warren, Mich.

For Sale Registered Holstein bulls ready for service and bull calves from 30 lb. sire and A. R. O. dams with records up to 25 lbs.

Wm. GRIFFIN, R. 5, Howell, Mich.

3--HOLSTEIN BULLS--3

Ready for service at Long Beach Farm, Augusta, Mich.

Holstein bull, 12 mos. old, light in color 20 lb. dam, 30 lb. sire, \$100; bull calves without papers \$25.

DEWEY C. PIERSON, Hadley, Mich.

Extra Good Grade Holstein Cow, for sale, freshened in Nov. gives daily average of 55 lbs. or better. E. A. Lindenstruth, Grosse Point Farms, Mich. Phone Hickory, 1246 J.

Four Registered Holstein Cows, 3 to 4 years old, in fine condition, overstocked. Must sell. Prices very reasonable, if taken at once. Starkweather Stock Farm, Northville, Mich.

HEREFORDS

10 bull calves for sale, Perfection Fairfax and Prince Donald breeding.

ALLEN BROS., PAW PAW, MICH.

Herefords Bob Fairfax 49427 at head of herd. Stock for sale. Both sexes either polled or horned. EARL C. McCARTY, Sec'y Mich. H. B. Ass'n, Bad Axe, Mich.

Jersey Bulls for Sale from high-producing dams, with testing Assoc. records, also on semi-official test. O. B. Wehner, R. 6, Allegan, Mich.

Jersey Bulls For Sale

Ready for service. Raleigh -- St. Lambert breeding. Waterman & Waterman, Packard Rd, Ann Arbor, Mich.

For Sale Two registered Jerseys bull calves. Splendid individuals. Good pedigrees. Priced to sell. Long View Farm, R. 3, Box 10A, Rochester, Mich.

FOR Sale 3 cows, 3 yrs. old with records, 1 heifer, 2 yrs. old, 2 heifers 1 yr. old, 2 heifer calves, 1 bull 6 mo. old out of an imported daughter Noble of Oakland. For price and pedigrees write FRED A. BRENNAN, Sec. Capac, Mich.

Choice Bulls ready for service. Also heifers for sale. Strong in the Blood of Royal Majesty. Come and see them or write for particulars. THE WILDWOOD HERD, Alvin Balden, Capac, Mich., Phone 143-5.

FOR SALE Registered Jersey bulls, ready for service. SMITH and PARKER, R. 4, Howell, Mich.

MAPLE Lane R. of M. Jersey Herd has for sale R. of M. cows, daughters of R. of M. cows, bull calves, heifer calves and bulls. All from 500 & 600 lb. dams. IRVIN FOX, Allegan, Mich.

Jerseys and Duroc Jerseys

The most important thing in buying a Jersey bull is to get one backed up by generations of high producers. Brookwater offers to sell a few choice bull calves of this kind. Our herd of Durocs has won more prizes at the State Fairs this year than any other.

Boar Pigs and Yearlings For Sale.

H. W. MUMFORD, OWNER

BROOKWATER FARM

O. F. FOSTER, MANAGER

Ann Arbor, Mich., R. 7.

Jerseys. Heifer calves, solid color, \$10 to \$25. Choice breeding. Also bull calves.

PETER H. DOUMA, R. 2, Holland, Mich.

Shorthorn Cattle of both Sex for Sale

W. W. KNAPP, Howell, Michigan.

Shorthorns—Dairy or beef bred. Breeding stock all ages for sale at farmers prices. C. W. Crum, Secy. Cent. Mich. Shorthorn Breeders' Ass'n, McBride, Mich.

BIDWELL SHORTHORNS For Beef and Milk.

5 Bulls ready for service, 15 months to 2 years, for sale; also good Scotch-topped cows and heifers. Modern, sanitary equipment. One hour from Toledo, Ohio. N. Y. C. Ry. Visitors Welcome. Write us.

BIDWELL STOCK FARM Box B, Tecumseh, Michigan.

Shorthorns for sale, 5 bulls Scotch top 10 to 14 mos. 3 roan, 1 white, 1 red, price \$150 to \$250. Isom of Max-walton Sultan, 19 mos. \$350. C. Carlson, Leroy, Mich.

Bates Shorthorns the original milk strain young bulls 8 mos. old for sale. Price \$150 to \$200. J. B. HUMMEL, Mason, Mich.

Shorthorns. Bulls 9 mos. to 12 mos. old from good milking cows. Prices reasonable. COLLAR BROS., R. 2, Conklin Mich.

Milking Shorthorns—Bull calf 5 mos., by a Grand-son of General Clay, dam by a son of General Clay. \$150. A few females. S. E. BOOTH, Morrice, Mich.

Registered Shorthorn calves sired by Diamond King 2nd. 410475, both sexes \$150. Twenty cows \$250 each. WM. J. BELL, Rose City, Mich.

For Sale Shorthorn Bulls 6 mo. to 2 years old from good milking cows. R. B. Clyde Station, H. J. DeGarmo, R. 6, Milford, Mich.

Shorthorns both sexes, hard catalogues mailed free. CHARLES R. HORRIE, Hart, Mich.

SHORTHORNS. Butterfly Sultan, half brother to International Sr. Champion, in service. For good bulls, cows, and heifers. W. B. McQuillan, Howell, Mich.

For sale: Reg. Shorthorns. Two Roan bull's, one 15 mos. one 9 mos. and one Red heifer 13 mos. old. J. A. BATCHELOR, Howell, Mich.

Milking Shorthorns and Polled Durhams, 20 head cows of heifers and young bulls, Sultans Duchess and Sittytton Duchess included. M. J. Hallsted, R. 1, Orion, Mich.

Shorthorns Maxwellton Monarch 2nd. 387323 half brother to 5 Grand Champions in service. For good bulls, cows, and heifers. JOHN SCHMIDT, R. 5, Reed City, Mich.

Cattle For Sale

2 Loads feeders and two loads yearling steers. Also 2 can show you any number 1, 2 and 3 years old from 600 to 1200 lbs. Isaac Shantum, Fairfield, Iowa, R. 3

HOMESTEAD FARMS

We have for immediate delivery the following thoroughbred registered stock:
Shorthorn Durhams, Milking strain Scotch topped, one roan cow, Mary Bell, 13419, seven yrs. old, with calf by Maplewood Martin, 517094. Also one heifer calf, Apr. 19, 1917, Bates milking strain. Advance orders for spring calves, both sexes.
Jerseys—Advance orders for spring bull calves. Blood lines on application.
Hampshire and Duroc Jersey Hogs—A limited number of boar and sow pigs. Write for full description of any stock.

HOMESTEAD FARMS, Bloomingdale, Mich.

HOGS.

DUROCS service boars, bred sows, fall pigs. Express paid. J. H. BANGHART, E. Lansing, Mich.

Pinehurst offers: Registered Spring Boars, tried brood sows, One Great Herd Boar. Write your wants. Orlo L. Dobson, Quincy, Mich.

Duroc Jersey Spring gilts and fall pigs either sex. E. D. HEYDENBERG, Wayland, Mich.

Duroc Sows & Gilts

guaranteed safe in pig. Fall boars and gilts not related. You want more size and feeding qualities; buy now. Cat. giving breeding and description of 30 sows. NEWTON BARNHART, St. Johns, Mich.

Duroc Jersey: Extra good spring pigs for sale. CAREY U. EDMONDS, Hastings, Mich.

Duroc Jerseys—boars of the large heavy boned type, Prize winning stock, prices reasonable, type and breeding considered, also gilts bred to Junior Champion boar for spring farrow. F. J. Drott, R. 1, Monroe, Mich.

DUROC JERSEY SOWS Bred to one of the best young boars in Mich. for Mar. farrow. RUSH BROS., Romeo, Mich.

A FEW Duroc Jersey bred gilts for sale. Some extra good fall boars. W. C. TAYLOR, Milan, Mich.

Duroc gilts bred for April farrow \$35 to \$40; fall yearlings bred for April farrow \$45 to \$50 wght 175 lb. to 250 lb. Priced for 10 days. H. G. Kessler, Cassopolis, Mich.

DUROC Jerseys. Orders booked now for early spring pigs. R. O. R. I. Red cocks \$3.00, eggs in season. E. E. CALKINS, R. 6, Ann Arbor, Mich.

BRED GILTS

To Wm. B. No. 47049, Longfellow No. 18575 sire of 1st prize young herd at Iowa State Fair. Fall pigs and breeding boars.

J. CARL JEWETT, Mason, Mich.

O. I. C. Choice Spring boars and gilts out of prize winning stock. All stock guaranteed. The long bodied and Big Boned type. Write for photo and low prices. A. V. HATT, Grass Lake, Mich.

Chester Gilts bred for March farrow early fall pigs both sexes from best blood lines. F. W. ALEXANDER, Vassar, Mich.

Raise Chester Whites?

Like This
the original big producers

I HAVE started thousands of breeders on the road to success. I can help you. I want to place one hog from my great herd in every community where I am not already represented by these fine early developers—ready for market at six months old. Write for my plan—More Money from Hogs.
G. S. BENJAMIN, R. F. D. 10, Portland, Michigan

Big Type O. I. C's.

Stock of all ages for sale. We showed at four state fairs and won more champions and Grand Champions than all the other breeders together double, we were Premier Breeder and Exhibitor at every fair we showed. We breed the best. We sell the best. We guarantee them to be the best. Write your wants. Get our Catalogue. We ship on approval. CRANDELL and SON, Cass City, Mich.

O. I. C'S choice May boar also some choice fall pigs. WEBER BROS., Royal Oak, Mich.

O. I. C's 2 choice May boars & Sept. & Oct. pigs sired by First Premium boar Mich. State Fair 1917. Clover Leaf Stock Farm, R. 1, Monroe, Mich.

O. I. C. & CHESTER WHITE SWINE. Strictly big type with quality. Have a choice lot of boars fit for early fall service. These boars will be sold worth the money. Also have some fine gilts. I will ship O. O. D. NEWMAN'S STOCK FARM, R. 1, Marlette, Mich.

O. I. C'S. Registered serviceable boars. Bred gilts. Aug., Sept., Oct., pigs. Registered Shropshire ewe lambs. G. P. Andrews, Dansville, Mich.

O. I. C. Am offering some good boars of May farrow and fall pigs either sex. O. J. THOMPSON, Rockford, Mich.

O. I. C. For sale a few extra good gilts bred for March and April farrow. H. W. MANN, Dansville, Mich.

BOARS--SOWS

Big type big bone. For the next 30 days we will sell Big type Poland Chinas at bargain prices. April boar weighing 300 lb. Open gilts. Summer and fall pigs everything goes. Get busy.

J. C. BUTLER, Portland, Michigan, Bell Phone.

LARGE Type P. C. Largest in Mich. Spring Boars ready to ship. The kind that make good. Come and see the real big type kind. Expenses paid if not as represented. Free livery from Parma. W. E. LIVINGSTON, Parma, Mich.

Big Type Poland Chinas: April and May pigs, healthy and growing. L. W. BARNES & SON, Byron, Mich.

LARGE Type P. C. Some growthy spring Boars and Gilts ready to ship, come and see them. Free livery from Augusta. W. J. Hagelshaw, Augusta, Mich.

Additional Cattle Ads. on Page 71

Markets.

GRAINS AND SEEDS

WHEAT.—The demand for wheat continues strong with the quantity of offerings limited. Mills report an active demand for flour. One year ago No. 2 red wheat sold on the local market at \$1.96 per bushel. Present prices here are: No. 2 red wheat \$2.17; No. 2 mixed \$2.15; No. 2 white \$2.15.

CORN.—The heavy storm throughout the corn growing sections of the country was a disturbing factor in the corn trading circles at the opening this week, curtailing receipts and shipments. The government has promised additional cars for handling the corn crop, but these would be of little account at present, due to weather conditions mentioned above. While the cold weather is making available much of the corn that otherwise could not be moved from the farms, the fact still remains that an unprecedented amount of this year's crop must be fed by the growers. Local prices show little change. One year ago No. 3 corn sold here at \$1.03½ per bushel. Last week's Detroit quotations were:

	No. 3 Mixed.	No. 3 Yellow.
Wednesday	1.95	2.00
Thursday	1.95	2.00
Friday	1.90	1.95
Saturday	1.90	1.95
Monday	1.90	1.95
Tuesday	1.90	1.95

Chicago.—January corn \$1.27½ per bushel; May \$1.25½.

OATS.—This cereal is receiving more attention from dealers than any other. Millers and feed men are active buyers on the local market. The low grading of corn is turning much attention from that grain to the oat deal. A year ago standard oats were quoted at 60½c per bushel. Last week's Detroit quotations were:

	No. 3 Standard.	No. 3 White.
Wednesday	82½	82
Thursday	83	82½
Friday	82½	82
Saturday	83	82½
Monday	83½	83
Tuesday	83½	83

Chicago.—January oats 78½c per bu; March 77½c; May 76c.

RYE.—Demand is fair and offerings small. Cash No. 2 \$1.84.

BEANS.—Market is inactive and steady, with cash beans quoted in Detroit at \$12.10 per cwt. The trade is inactive in Chicago with the tendency toward easier prices for all grades excepting red kidneys. Michigan pea beans, hand-picked \$13.25 per cwt. for sound dry stock; red kidneys \$17 for fancy; \$14.15 for fair to choice.

PEAS.—Chicago market is dull with field peas quoted at \$6.50@7 per cwt.

SEEDS.—Scarce and firm. Prime red clover \$17; March \$16.75; alsike at \$14.50; timothy \$4.

FLOUR AND FEEDS

FLOUR.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Standard patent \$11.10@11.15; spring patent \$11.30; rye flour \$10.50@10.70 bbl.

FEED.—The government is regulating the prices of bran, shorts, "middlings," mixed feeds and flour middlings. The prices of these products will hereafter be based upon price of wheat to millers. 100-lb. sacks jobbing lots: Bran \$34.40; standard middlings \$36.40; fine middlings \$43.40; cracked corn \$81; coarse corn meal \$77; corn and oat chop \$60 per ton.

HAY.—In carlots at Detroit: No. 1 timothy \$24.50@25; standard timothy \$23.50@25; No. 2 timothy \$22.50@23; light mixed \$23.50@24; No. 1 clover \$19@20 per ton.

Pittsburgh.—No. 1 timothy \$30@30.50; No. 2 tim. \$27.50@28; No. 1 light mixed \$28@28.50; No. 1 clover mixed \$29.50@30.50; No. 1 clover \$29.50@30.50.

STRAW.—In carlots on track at Detroit: Wheat and oat straw \$10.50@11; rye straw \$11.50@12.

DAIRY PRODUCTS

POULTRY.—(Live).—Poultry firm is fair, and stocks are gaining. Fresh creamery firsts 47½c; fresh creamery extras 49@49½c.

Chicago.—An easy feeling pervades the market without any quotable change in prices. Creamery extras 49c; extra firsts 48@48½c; packing stock 33½@34c.

CHEESE.—Michigan flats 23½c per lb; New York flats 25c; brick 27½c; long horns 27½c; Michigan daisies

24½c; Wisconsin daisies 25½c; Wisconsin double daisies 25½c; domestic Swiss 35@40c for prime to fancy; limburger 28@29c.

DRESSED CALVES.—Fancy 21@22c; choice 19@20c; common 17@18c.

POULTRY PRODUCTS

PULTRY.—(Live).—Poultry is firm and in moderate supply. Best spring chickens 27@28c; No. 1 hens 26@27c; ducks 27@28c; geese 26@27c; turkeys 26@27c.

Chicago.—(Live).—Receipts small, demand slow and market rather quiet. Fowls 21@22c; spring chickens 23½c; ducks 23c; geese 21@22c; turkeys, good 24c. (Dressed).—Fowls 24@25c; ducks, fancy 26c; geese 24c; turkeys 32@32½c.

EGGS.—Eggs are firm and fresh receipts almost too scarce to quote. Fresh firsts 53c.

Chicago.—Receipts of fresh eggs continue moderate and demand is fair, high prices restricting consumption somewhat. Fresh Michigan firsts sell for 55@56½c; ordinary firsts 52@54c; miscellaneous lots, cases included 50@55c per dozen.

FRUITS—VEGETABLES

POTATOES.—There were 13 cars of potatoes on the Detroit market Monday morning. No early sales were whites, sacked sold to jobbers at \$2.10 per cwt. Same stock is selling in Cleveland at \$1.85@2 per cwt; in New York City at \$2.37@2.50; in Buffalo at \$2@2.40; in Pittsburgh mostly \$2.25; in Cincinnati, bulk, at \$2.25; in Indianapolis at \$2@2.40. The Chicago market is steady with scarcely no Michigan stock offered.

Farmers are receiving \$1.30@1.35 per cwt. at sidetracks in Wisconsin; \$1@1.15 in Colorado; \$1.50@2.25 at Rochester, N. Y. No sales are reported from Maine. At Grand Rapids, Mich., U. S. grade No. 1 is quoted at \$2.

CABBAGE.—There is very little doing in carlot shipments at Detroit. The Cleveland market is receiving from the jobbers \$55 per ton in bulk for Danish stock; Buffalo has a firm market; New York City is paying \$50@55; Cincinnati \$55@60, while Chicago is paying \$2.85@3.10 per bbl. for Holland seed from Wisconsin.

ONIONS.—In Detroit the demand is light, with whites quoted at \$2.25 and yellows at \$2.50 to jobbers. Yellows are selling at \$2@2.50 in Buffalo; \$2.50 @3 in New York; \$3 in Pittsburgh and \$1.25@1.50 for 70-lb. sacks in Chicago.

APPLES.—There were eight cars on the tracks at Detroit on Monday morning. Russets sold to jobbers on Saturday at \$3.75 for fair stock; Hubbardston in poor condition at \$3. The market at Chicago is steady with the demand and movement moderate. The trade is substantially the same in Cincinnati and Pittsburgh.

GRAND RAPIDS

The potato movement continues very light, due to scarcity of cars, stormy weather and low prices. The price offered growers is around 75c, while consumers in cities are paying around \$1.40. Beans are worth \$10.75@11 per 100 lbs. Hay is worth \$23@25. In the poultry line quotations to farmers are as follows: Hens 18@21c; ducks 22@24c; geese 18c. No. 2 red wheat is worth \$2.09.

LIVE STOCK

BUFFALO.

January 7, 1918.

Receipts here today as follows: Cattle 3100; hogs 12,000; sheep 5000; calves 1200.

With 3100 cattle here today, a few more than last Monday, the general trade was 15@25c higher than last week on most all grades of good quality fleshy steers. Also best heavy fat cows and heifers sold 25c higher than last week. A very good demand for medium cows, canners and cutters at about steady prices. Bulls also sold about 25c higher than last week.

We had a fair supply of hogs today, about 75 double decks, or 12,000 head. Opening trade was rather slow at about Saturday's prices, but as the day advanced got stronger and late sales were generally 5@10c higher than the opening. A few selected hogs sold up to \$17.25; with the bulk around \$17.10@17.15. Pigs and lights \$16.75@17; roughs generally \$16; stags \$13.50@14.50. Trade appears to be in a healthy condition and we believe prices will be least steady for the next few days.

With a light run of lambs today our market opened up active and prices 25c higher than the close of last week.

About all sold and we look for lower prices balance of the week unless runs continue light.

We quote: Lambs \$18.25@18.50; cull to common \$12@17.50; yearlings \$12@16; wethers \$12.50@13; ewes \$12@12.50; bucks \$9.50@10.50; best calves \$17.25@17.50; common and light \$13@15; heavy \$8@15; grassers \$7@8.50.

CHICAGO.

January 7, 1918.

Cattle. Hogs. Sheep.
Receipts today...15,000 26,000 9,000
Same day 1917...26,586 61,040 15,298
Last week.....60,010 173,413 66,089
Same wk 1917...60,024 207,696 60,349

The railroads were snow-bound today, the big storm checking the in and out movement of all kinds of live stock with cars scarce on eastern lines. The trade opened late in cattle, with prices called 15c higher on an average. Hogs advanced 25@30c on good speculative buying, with sales at \$15.75@16.80 for common light to prime heavy butchers. Hogs marketed last week averaged 216 lbs. The sheep and lamb market was firm, the best lambs selling at \$17.25.

Cattle prices have been undergoing a remarkable narrowing recently, with much lower prices for the choicer grades, in spite of their scarcity, while the common and middling kinds have sold at 25@50c higher average values.

The packers, smaller butchers and eastern shippers all want cattle which have been fed just long enough to make a fairly cheap grade of beef, and the daily experience is for buying to center mainly in steers selling not too high and in fat butcher stock. There is little competition for really fat beef cattle, and the bulk of the steers offered last week brought \$10@12.50, with a fair representation on some days of a choice class of fat steers selling at \$12.60@13.40 and one sale of prime little yearlings at \$13.35. The stocker and feeder trade has been on a rather small scale, with most of the sales at \$7.25@10.75.

Hogs have been in good general local and eastern shipping demand of late, with wider fluctuations in prices at times than usual, this being due to alternately moderate and liberal receipts, advances in prices having stimulated country shipments of hogs. Sales on Saturday were at \$15.40@16.55 and feeding pigs taken at \$14.50@15.50. Pigs sold at \$11.75@15.25. A week earlier hogs brought \$15.50@16.80.

Western fed lambs comprise most of the daily offerings in the sheep division of the stock yards. Receipts last week were much larger, but not excessive, and prices advanced 25@10c, lambs closing at \$13.25@17.25, feeding lambs at \$15@16.50, yearlings at \$12@15, wethers at \$11.75@13.25, ewes at \$5.50@12.25, breeding ewes at \$11@14, bucks at \$7.50@10 and goats at \$5@8.25.

Horses were in meager supply last week, but there were enough, as activity was confined to army horses, which were wanted at \$160@185 for the United States army, while the British government made purchases at \$180@220. Southern buyers bought a few horses at \$75@125. Quotations for horses covered a range of from \$60 285.

THE BLISSFIELD CUSTOM MADE FUR COATS, ROBES AND LADIES' FURS

Have a Reputation behind every Garment made for Service and Satisfaction. Hides are cheap at the present time and now is your chance to have a Fine Fur Coat or Robe made from your own Hide.

We make beautiful Ladies' Furs from Muskrat, Raccoon, Skunk, etc. Our new Custom Style Book and Calendar is ready to mail, giving prices and styles for the Season 1918. It is free for the asking.

W. G. WHITE COMPANY, INC.
BLISSFIELD, MICHIGAN
Successors to
The Blissfield Robe & Tanning Co.

On the Farm There's Nothing Like

Bezo

for keeping boots and harness in first-class condition. Bezo is a new waterproof dressing that penetrates quickly, waterproofs thoroughly, softens and lengthens the life of all leathers—equally good for razor strops, driving gloves, harness, etc. If your dealer hasn't it send his name and 25c and we will forward full size box by return mail prepaid.

GATES MANUFACTURING COMPANY
1831 East 13th Street, Cleveland, Ohio

BIG PROFITS NOW

In sawing lumber with our up-to-date saw mills. Make your engine earn money all year. Start now when the price of lumber is highest ever known, and the demand enormous. Don't miss the chance to make big money. Write for our FREE catalog O and prices.

R. R. Howell & Co., Mfrs., Minneapolis, Minn.



Cured While Working Hard

"I think it my duty to tell you how I used Save-The-Horse," writes J. Moss (Baliff) of Northampton, Worcester, Ireland. "The horse is here for any man to look at. There isn't the slightest mark of spavin on either of his hocks. He has been working hard all the time. About four months back he was kicked again, swelling very badly. I used the rest of the remedy on him and he is now the same as ever."

SAVE-TH-HORSE

(Trade Mark, Registered)

has a record of curing when all hope is given up, extending over 22 years. Guaranteed by signed contract to cure Ringbone, Thoropin, SPAVIN or Shoulder, Knee, Ankle, Hoof or Tendon Disease, or your money refunded. Be prepared! Write today for FREE Save-The-Horse BOOK, telling how to discover and treat any lameness; copies of Guarantee and expert veterinary advice—ALL FREE. Always keep a bottle on hand.

TROY CHEMICAL CO.

20 State Street, Binghamton, N. Y.
Druggists everywhere sell Save-The-Horse with Signed Guarantee, or we send it direct by Parcel Post Prepaid.

Garage Fire At Adrian In Which Six Cars Were Damaged

Shows the necessity for carrying automobile insurance. The Citizens' Mutual Automobile Insurance Company was carrying the insurance and the adjustments are very satisfactory. A great many automobiles are burned in Michigan each year, some upon the road, others in the garage. With the danger by theft and damage cases against the owner of the car, every man should carry automobile insurance, as the cost is only \$1.00 for the policy and 25c per horsepower in the

Citizens' Mutual Auto Ins. Co., Howell, Mich.

9 CORDS IN 10 HOURS



BY ONE MAN. It's KING OF THE WOODS. Saves money and backache. Send for FREE catalog No. B 44 showing low prices and latest improvements. First order gets agency.

Folding Sawing Machine Co., 161 West Harrison St., Chicago, Ill.

CLOVER AT WHOLESALE

We save you money. Buy now before advance. Crop short. We expect higher prices. Don't miss this chance. We specialize on Guaranteed Quality, Tested Clover, Timothy, Alfalfa, Sweet Clover and Alsike; sold subject to your approval and government test. Write today for samples, special prices and big Profit-Sharing Seed Guide.

American Mutual Seed Co., Dept. 131 Chicago, Illinois

SEED FOR SALE

Corn—Early Yellow Dent per acre in cars \$4.00
Oats—Great Dane from newly propagated seed. Sow 1 bu. per acre, not less than 3 bu. to a customer, bags free per bu.
Peas Extra Early or Alaska per peck \$3.75
Notts Excelsior " " \$3.00
Grass or Prosperity " " \$3.50
Onion Sets yellow per bu. of 32 lbs. \$3.50
H. R. BRISBOIS, Birmingham, Mich.

Farms and Farm Lands For Sale

429 Acre Farm \$14,000
On Maryland's Eastern Shore

On improved road in prosperous farming neighborhood only 2 miles to town, 268 acres level, fertile, stone free land in cultivation good for 2 tons hay, 200 bushels potatoes, 60 bushels corn or 40 bushels wheat per acre. Timber estimated worth \$2,000. Two dwellings, 2 barns, 4 stables, granaries, poultry houses, etc., etc. Wonderful short mild nearly snow free winters, long delightful summers with plenty of rain and level cement auto roads. Plow and sow peas in February; dig second crop potatoes and seed wheat in November. Western farmers settling all around. Come and see. Details page 31, Strout's Catalogue of 321 Bargains in a dozen states. Copy mailed free. E. A. STROUT FARM AGENCY, Dept. 101, 150 Nassau Street, New York, N. Y.

Do You Want a Farm

where largest profits are made? The South's great variety of crops and wonderful productive climate make it the most profitable farm section of America. It is the place for the lowest cost meat production and dairy farming. It grows the largest variety of forage crops. Good lands, in good localities, as low as \$15 to \$25 an acre. Let us show you locations that will give the highest profits. M. V. RICHARDS, Commissioner, Room 78, Southern Railway System, Washington, D.C.

160 ACRES Beautiful level clay loam farm 1¼ miles from Central State Normal School, \$5500 worth buildings. COOPER & GOVER, Mt. Pleasant, Mich.

WANTED A good farm to rent for cash or on shares. Will probably buy later. Can furnish good references. Write H. O. PITTON, R. I. Stanton, Michigan

Wanted To hear from owner of farm or unimproved land for sale. O. K. HAWLEY, Baldwin, Wisconsin

THIS IS THE LAST EDITION.

The first edition is sent to those who have not expressed a desire for the latest markets. The late market edition will be sent on request at any time.

DETROIT LIVE STOCK MARKET.

Thursday's Market.
January 10, 1918.
Cattle.

Receipts 1903. Market is strong at Monday's opening, about 25c higher than last week.

Best heavy steers \$11@12; best handy weight butcher steers \$10@10.50; mixed steers and heifers \$9@9.75; handy light butchers \$8@8.75; light butchers \$7@8; best cows \$8.25@9; butcher cows \$7@8; cutters \$6.25@6.75; canners \$5.50@6; best heavy bulls \$8@9; bologna bulls \$7@7.50; stock bulls \$6.50@7; milkers and springers \$5@10.

Bishop, B. & H. sold Sullivan P. Co. 4 cows av 880 at \$7, 2 do av 1020 at \$6, 5 do av 1070 at \$8, 3 do av 1207 at \$7.50, 8 do av 944 at \$7.50, 2 do av 1065 at \$7.25, 7 do av 1023 at \$7.50, 5 steers av 1010 at \$7; to Hammond, S. & Co. 3 steers av 1133 at \$10.50, 10 do av 782 at \$9, 8 do av 836 at \$8.50, 12 do av 700 at \$8.50; to Bray 3 cows av 907 at \$7, 18 do av 900 at \$6, 2 do av 1290 at \$8, 11 do av 836 at \$6.50; to Mich. B. Co. 25 steers av 1014 at \$9.50, 11 do av 830 at \$8.60; to Parker, W. & Co. 19 butchers av 682 at \$8; to Bresnahan 8 cutters av 870 at \$6, 11 cows av 900 at \$6.50; to Fineman 21 butchers av 552 at \$6.85; to Hammond, S. & Co. 11 canners av 735 at \$5.85, 4 cows av 750 at \$6.85, 8 butchers av 637 at \$7.50; to Kamman B. Co. 14 steers av 843 at \$9.50, 5 do av 972 at \$9; to Sullivan P. Co. 1 bull wgh 1150 at \$8.50, 1 do wgh 1300 at \$8.50, 2 do av 890 at \$8.10, 14 butchers av 903 at \$7.25, 11 do av 990 at \$8.50, 8 steers av 784 at \$10.50, 4 cows av 900 at \$6.25; to Nagle P. Co. 2 steers av 1250 at \$9, 7 do av 1044 at \$11, 3 do av 1160 at \$11, 8 cows av 946 at \$7.75, 2 do av 1025 at \$6.25, 4 butchers av 760 at \$6; to Mich. B. Co. 2 bulls av 1315 at \$9; to Thompson 12 steers av 1050 at \$10.25.

McMullen, K. & J. sold Thompson 1 bull wgh 1380 at \$8.25, 1 do wgh 1040 at \$7.50, 1 do wgh 2020 at \$8.25, 12 steers av 1066 at \$10, 7 butchers av 911 at \$8.75, 13 do av 807 at \$8.95, 1 cow wgh 800 at \$8, 4 steers av 912 at \$9.50, 1 do wgh 1000 at \$9.75; to Bernfeldt 20 butchers av 687 at \$7.50; to Bresnahan & K. 9 cutters av 950 at \$6, 3 cows av 1100 at \$7.50, 8 cutters av 1055 at \$6, 15 do av 900 at \$6, 2 oxen av 1475 at \$7; to Golden 9 cows av 1070 at \$7.70; to Applebaum 3 do av 970 at \$6.50; to Goodgold 10 butchers av 762 at \$7.35, 14 do av 560 at \$6.35; to Mich. B. Co. 7 do av 764 at \$8, 1 bull wgh 1260 at \$7.85, 1 do wgh 820 at \$7; to Thompson 6 steers av 830 at \$9.50; to Bresnahan 10 do av 1022 at \$10.35; to Costello 3 cows av 920 at \$7, 1 do wgh 900 at \$6.25.

Veal Calves.
Receipts 864. Market steady at Monday's prices; 25@50c lower than last week; quality common. Best \$15.50@16; others \$8@14.

Erwin, S. & J. sold Shipiro 5 av 95 at \$14, 5 av 140 at \$16; to Sullivan P. Co. 12 av 275 at \$7; to Parker, W. & Co. 8 av 135 at \$16; to Thompson 12 av 140 at \$16, 2 av 125 at \$12, 1 wgh 120 at \$10, 5 av 155 at \$16.

McMullen, K. & J. sold Shipiro 12 av 140 at \$15.75; to Hammond, S. & Co. 2 av 160 at \$10, 15 av 150 at \$15.50; to Parker, W. & Co. 4 av 150 at \$16, 2 av 205 at \$16; to Hammond, S. & Co. 3 av 130 at \$12, 9 av 140 at \$15.50.

Sheep and Lambs.

Receipts 3158. Market steady Tuesday's prices; 25@40c higher than last week. Best lambs \$17.50@17.60; fair lambs \$16.25@17; light to common lambs \$14@15.50; fair to good sheep \$10@11; culls and common \$6@8.50.

Bishop, B. & H. sold Nagle P. Co. 222 lambs av 80 at \$16.85, 125 do av 80 at \$16.85, 195 do av 75 at \$17.25; to Hammond, S. & Co. 44 do av 70 at \$17.25, 37 do av 68 at \$17.25, 23 sheep av 95 at \$11, 6 do av 96 at \$10.50; to Newton P. Co. 16 lambs av 80 at \$17.25; to Sullivan P. Co. 108 do av 80 at \$17.50; to Mich. B. Co. 174 do av 80 at \$17.40, 11 do av 75 at \$17.50; to Newton P. Co. 40 do av 90 at \$16.75, 17 do av 85 at \$17.25, 14 do av 88 at \$17, 38 do av 85 at \$17.35; to Sullivan P. Co. 28 do av 65 at \$16.75, 17 do av 75 at \$17.50, 17 do av 70 at \$17.60, 7 do av 75 at \$17, 139 do av 75 at \$17.35, 42 do av 75 at \$17, 16 sheep av 170 at \$10, 33 lambs av 6.5 at \$16.75; to Park-10, 33 lambs av 65 at \$16.75; to Park-Sandel, S. B. & G. sold Nagle P. Co. 102 lambs av 80 at \$17, 7 sheep av 100 at \$8, 2 do av 145 at \$11, 2 bucks av 160 at \$9.50; to Mich. B. Co. 41 lambs av 73 at \$17.25, 48 do av 50 at \$15.

Hogs.

Receipts 6770. Market steady. Mixed grades \$16.26@16.75; pigs \$15.75.

The Michigan Shorthorn Breeders' Association

will hold its

THIRD ANNUAL SHOW AND SALE

January 16-17-18, 1918

at the M. A. C., East Lansing, Michigan

Judging the cattle will be done Wednesday Jan. 16th. The annual meeting of the Ass'n will be held at 4 p. m. Jan. 17. Sale of cattle on Friday Jan. 18 at 1 p. m.

Thirty-five females six with calves by their side and thirty-five young bulls.

Plan to attend our meeting on Jan 17.
Banquet in evening.

Send for Catalogue

W. W. KNAPP, Sales Manager

Howell, Mich.

T. E. ROBSON

WM. MILNE

ANDY ADAMS

Auctioneers

MICH. AGRICULTURAL COLLEGE HAS FOR SALE

16 Registered Percheron Mares

From 3 to 12 years old, Blacks and Greys
Safe in Foal

1 Belgian Mare 1900 Lbs.

6 years old, in foal

1 2-Year-Old Percheron Stallion

For Particulars write

R. S. HUDSON, Farm Supt.,

Michigan Agricultural College, East Lansing, Mich.

THIS IS OUR LAST BID

For Your Attendance and Patronage at Our Sale at

Michigan Agricultural College, East Lansing, Mich.
JANUARY 18th, 1918 at 9:30 A. M. SHARP

This sale must begin promptly to be through for the Shorthorn Breeders' sale in the afternoon.

HERE IS OUR LIST OF CONSIGNORS

M. H. Daniels & Son, Okemos, Mich. G. F. Baldof & Son, Dimondale, Mich.
Clare Wilson, Okemos, Mich. B. B. Perry, Leslie, Mich.
Chas. A. Wilson, Okemos, Mich. C. I. Brunker, Grand Ledge, Mich.
Frank McKim, Lansing, Mich. H. E. Rising, Woodland, Mich.
F. S. Jenkins & Son, Lansing, Mich. A. B. Niles, Grand Ledge, Mich.
Michigan Agricultural College, East Lansing, Mich.

These consignors guarantee their cattle to you and give a sixty-day tuberculosis re-test privilege. They are selling their good cattle, not the ones they don't want.

Terms of sale are cash unless other arrangements are made with owners before sale. A large number of the consignors are able to give credit, however, so bring your bank reference with you.

Never before has such a sale been brought right home to the Central Michigan buyers and we believe it well worthy of their patronage.

Central Michigan Holstein Breeders Sale Committee,
Send for Catalog if Interested. Chas. A. Daniels, Secy., Okemos, Mich.

HOGS

LARGE Type P. C. Some good spring boars up to 270 lbs. Will also price gilts, open or bred. Fall pigs ready to ship. Wm. J. Clarke, R. 7, Mason, Mich.

Big Boned Poland China boars shipped C.O.D. call or write for photo, weights, pedigree and price. E. R. Leonard, R. 3, St. Louis, Mich.

LARGE STRAIN P. C. nothing for sale until after Dec. 1st. H. O. SWARTZ, Schoolcraft, Mich.

Big Type P. C. Big boned fellows from Iowa's greatest herds. Special prices on spring boars. E. J. MATHEWSON, Burr Oak, Mich.

POLAND CHINA GILTS Bred for March and April farrow. G. W. HOLTON, R. 11, Kalamazoo, Mich.

P. C. Bred sows, big type, big bone, big litters. R. W. MILLS, Saline, Mich.

Big Type P. C. bred for March & April farrow sired by Peter's Jumbo & Grand Superba and 2 or 3 yearlings sows at bargain prices. C. E. Garnant, Eaton Rapids, Mich.

Walnut Alley Big Type P. C. Gilts ready to ship, sired by Smooth Jumbo Jr. and bred to Arts Big Bob the Iowa Boar. Price and Pig guaranteed right. A. D. GREGORY, Ionia, Mich.

Registered Hampshires, spring boars and gilts. JOHN W. SNYDER, R. 4, St. Johns, Mich.

SHEEP

CHOICE BRED EWES

250 left, 1 to 4 years old, bred to good Shropshire rams. \$13 to \$16 each for 10 or more, if taken soon. ALMOND B. CHAPMAN, So. Rockwood, Mich.

Big Type Poland Chinas.

Bred Gilts and Sows for sale.

HILLCREST FARM,
Kalamazoo, Mich.

E W E S: Rambouillets and Hampshire for sale. A. A. WOOD & SON, Saline, Mich.

Western Ewes bred to Registered Mutton Rams. BARNARD SHEEP RANCH, R. 5, Clare, Mich.

Shropshire Ram Lambs and one three year old flock header for sale. ARMSTRONG BROS., R. 3, Fowlerville, Mich.

KOPE-KON FARMS.

Coldwater, Mich.

Hampshires & Shropshires.
It's a wise man who orders his ram for August delivery now.

Registered Oxford Ram and Ram lambs. Also Berkshire hogs. CHASE STOCK FARM, R. 1, Marlette, Mich.

HORSES

REGISTERED PERCHERON
Mares and Stallions priced to sell. Inspection invited. L. C. HUNT, EATON RAPIDS, MICH.

LOESER BROS.

Belgian and Percheron Stallions for sale that will pass the Michigan Stallion Inspection. Have a few mares of both breeds. Shorthorn Cattle, we offer a choice lot of bulls and females. Write us.

LIGONIER INDIANA.

PERCHERON DISPERSAL

The entire herd of the late A. A. Palmer will be closed out; 25 pure bred percheron mares \$200 to \$400 except two; also young stallions

PALMER BROS., Belding Mich.

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

For Sale Perhaps the best 3 year old Registered Percheron Stallion in Mich. He is dark grey sound, very sure and weighs 1,900 lbs. A great mover. Sire and Dam both Imp. He will make a top horse. He was a winner at the State Fair last fall. We also offer a Gray Reg. Mare with a coat by herself. She is 9 years old, sound, and had 4 fillies and one horse colt. A reg. breeder. Make draft on the Peoples Bank of Leslie, Mich.

WHITNEY BROS.

R. F. D. No. 1, Onondaga, Mich.

FOR SALE Percheron Stud coming two, cheap if sold at once. E. J. ALDRICH, Tekonsha, Mich.

SHETLAND PONIES

200 head to select from. Special prices on colts for August and September. Write Dept. E. The SHADYSIDE Farms, North Benton, Ohio.

Will take a Draft Stallion on share, 2000 lbs Black or Gray. C. D. MURRAY, New London, O.

Pocket Heater, keeps you warm eight hours. Heater, five tubes, fuel postpaid 50c. Guaranteed satisfactory or money refunded. Agents wanted. Michigan Thermos Sales, 600 Holden Bldg., Detroit.

FREE PLANT BOOK about our Strawberries and other small fruits. We guarantee our Hardy NORTHERN GROWN Plants to please. Our system of selling direct SAVES you MONEY. ST. JOSEPH NURSERY, 124 Main St., St. Joseph, Mich.

LIME Pulverized lime rock for "sour" soils. WE SELL YOU DIRECT. Shipment from our Muskegon, Mich. yard. Write for sample, literature, analysis and price.

LAKE SHORE STONE COMPANY,
P. O. Box 175, Milwaukee, Wis.

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

EGGS: We are paying good premiums for new-laid Eggs, either Whites or Browns. Write us for particulars. AMERICAN BUTTER & CHEESE COMPANY, Detroit, Mich.

Salesmen To sell paint, varnish and roofing to the consumer. Write today while the best territory is open. THE AMERICAN OIL & PAINT CO., 5511 Euclid Ave., Cleveland, Ohio.



STOP!

Did you ever stop and figure how much your losses amount to each year because of fallen and scattered grain in your fields, unused pasturage, roughage and other feed materials, that now go to waste?

Possibly you have never given this much thought, but NOW when it is so vital that every kernel on your farm should be saved and turned into food, meat and milk, it should have your earnest consideration. Government officials state that the losses—the small leaks, the waste of food and feed materials in fields that cannot be pastured on account of poor fences, amount to *millions of dollars annually*. No wonder Uncle Sam says: "**STOP these wastes.**"

Good fences will do it. It is a patriotic duty now-a-days as well as a profitable one to see that your fences will permit you to save every kernel—save every pound of produce which in the past has gone to waste because you could not turn your stock into fields after the crop had been harvested on account of poor fences. Why not *resolve today* to help Uncle Sam solve this food problem and at the same time *make more profits for yourself*. Investigate

SQUARE DEAL FENCE

—the best and cheapest fence you can buy. Send for our new fence catalog and see the SQUARE DEAL LOCK that will not slip. Read about the heavy stay wires—the wavy strand wires that always hold the fence tight and trim, summer or winter, because they expand and contract with heat and cold. See the fence that stays tight and trim for years—one that costs less for repairs—requires fewer fence posts—turns stock better and resists rust longer, in short, gives the most for your money in fence service and satisfaction.

Let us point out these details which will convince you that it is the economical fence to buy. We make our own open hearth steel—draw it into wire and build it into fence from start to finish in our factory. This is a factor which means much to the buyer. It means uniform, dependable material and workmanship—a fence built on honor and built to last. You will make no mistake in buying SQUARE DEAL FENCE.

See your dealer about SQUARE DEAL FENCE; if there is no store handling our fence in your town, write to us, mentioning the dealer from whom you buy and we will see that you are supplied. Send for catalog today and we will also send you a copy of Ropp's Calculator Free.



KEYSTONE STEEL & WIRE CO.

2557 Industrial Street
PEORIA, ILL.

Send me your catalog of Square Deal Fence and Farm Gates. Also send me free copy of ROPP'S CALCULATOR.

Keystone Steel & Wire Co.

2557 Industrial Street
PEORIA ILLINOIS

FREE

A copy of Ropp's Calculator will be sent free to land-owners sending for Square Deal Fence Catalog.

NAME.....

TOWN.....

STATE.....

R. F. D.....

