

MICHIGAN FARMER

AND
LIVE STOCK
PUBLISHED WEEKLY.

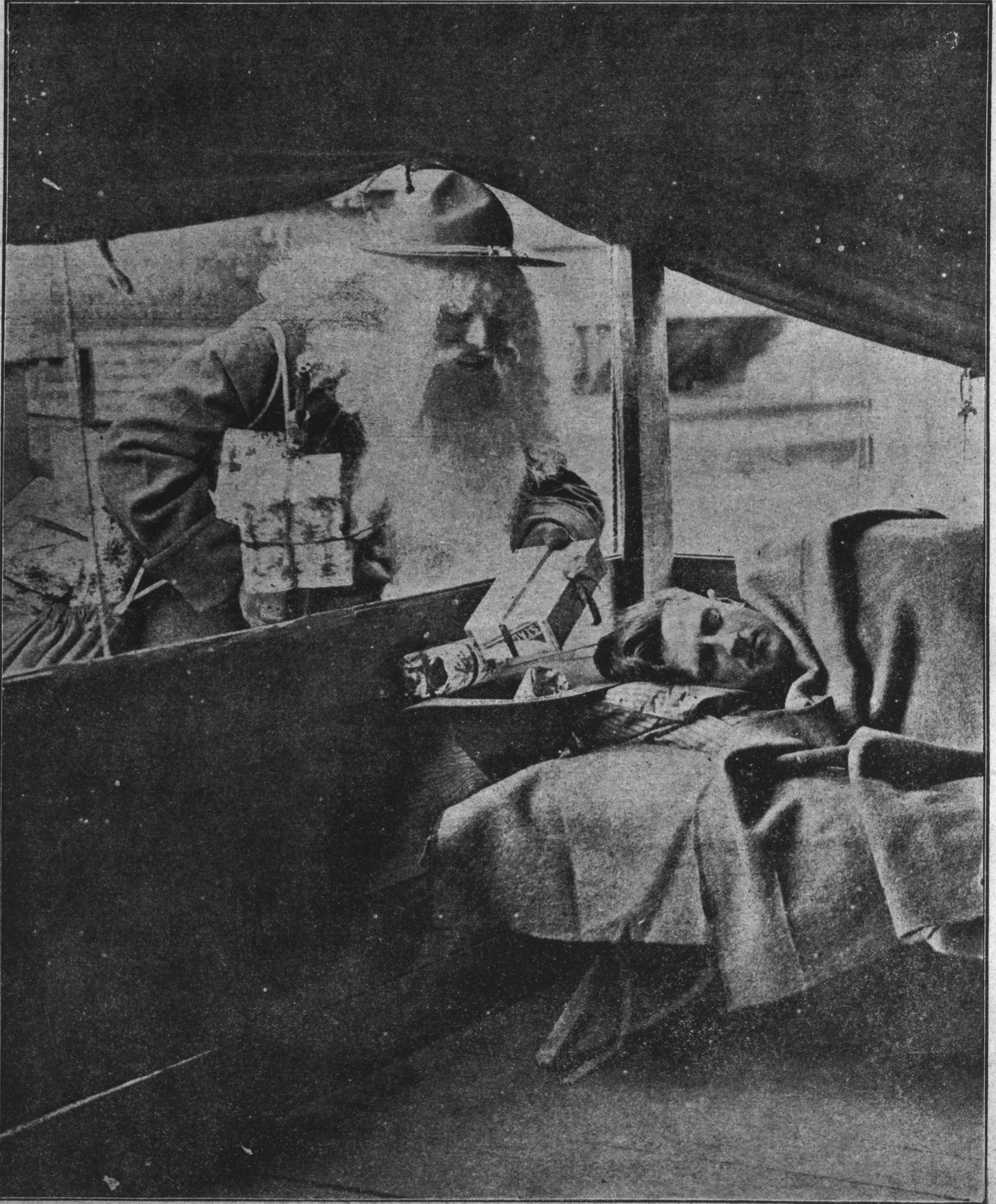
JOURNAL.
ESTABLISHED 1843.

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

VOL. CXLIX, No. 25,
Whole Number 3972

DETROIT, MICH., SATURDAY, DECEMBER 22, 1917

\$1.00 A YEAR
\$3.00 FOR 5 YEARS



Makers of the Michigan Farmer

Household Helps

Every housewife has developed a number of methods which make the work in the home easier. These little things, which can only be gained through experience, often make the difference between pleasurable work and drudgery.

We want to gather these practical hints and valuable experiences and make them available to other housewives through the columns of our household department.

For the fifty best letters giving the best household hints we will pay \$1.00 each.

Please let these letters contain suggestions on household methods which make the work involved in the care of the home more easy and pleasant, rather than favorite cooking recipes. Cooking methods will be given attention at another time.

The only requirements for taking part in this contest is that your family's subscription be paid up until February 1, or longer, and please write on one side of the paper only.

Send all letters before January 15, as the contest closes then.

Address them to

THE CONTEST EDITOR,
MICHIGAN FARMER.
Detroit, Mich.

The Grizzly King

Thor, a monster grizzly of an unexplored region of the Canadian Rockies, while digging for a gopher, suddenly recognizes a strange smell. Rising to his haunches he remains erect till the wind shifts and he loses the strange odor. Jim Langdon, an author seeking adventure, and his mountain man, Bruce Otto, have just arrived in the valley with their horses. While resting they search the hills with their glasses. Soon Thor is discovered, whereupon they plan to bag what they believe to be the greatest grizzly of the west. From here the story continues on page 60 of this issue.



On this page last week we told you of some of the things we are going to do the coming year. Now we want to tell you who is going to do it.

MR. FARMER OF MICHIGAN is our greatest and best contributor. In every issue he furnishes us articles and short items which have proven of value on his farm. He is the greatest factor in the State for rural improvement, and is a most valued contributor to our columns because of his experience on 206,960 farms in Michigan.

MRS. FARMER (Farmer's wife), the maker of Michigan's rural homes, will regularly give the results of her wide and valued experience in our Household Department. These experiences will be on household management in its broadest sense, the rearing and education of children, economy of money and labor in housework, and everything else connected with woman's activities.

RURAL YOUNG FOLKS, the successors to Mr. and Mrs. Farmer, are at present active and enterprising. Unhampered by the past, these young people are doing things worthy of attention by all interested in rural affairs. How these youthful activities accomplish things will be told in our new Boys' and Girls' Department.

I. R. WATERBURY, Editor and Manager of the Michigan Farmer, has devoted a lifetime to rural interests. At one time a member of the State Legislature and President of Michigan State Farmer's Club. Has always been a farmer. At present he is a member of the State Board of Agriculture. His editorials on rural subjects and his comments on our crop and live stock problems have been a prominent feature of the MICHIGAN FARMER.

BURT WERMUTH, associate editor, also comes from the soil. He is a graduate of good old M. A. C., and has made a deep study of the farmer's marketing problems. The magazine, farm commerce and markets departments, and numerous service-to-subscribers features have been the result of his work.

ALTA LAWSON LITTELL, more commonly known to our readers as Deborah. Her articles are thought starters. She will continue to co-operate with Mrs. Farmer to make the Michigan Farmer's Household Department the best available to Michigan readers.

F. A. WILKEN, associate editor, for nine years superintendent of the South Haven Experiment Station, active in State Horticultural work for the past fifteen years. Fruit growing and poultry departments in the Michigan Farmer are under his charge.

COMFORT A. TYLER, a farmer and a very successful business man and banker. His articles on "How the World's Business is Transacted" will explain to our mature as well as youthful readers the mystery of money and the buzz of business.

E. C. LINDEMANN needs no introduction to the youth of Michigan as leader of Boys' and Girls' Clubs. He was formerly Editor of the Gleaner and will give his full co-operation in making our new Boys' and Girls' Department the best there is. His notes and articles will be features of this department.

COLON C. LILLIE, Michigan's farm dairy expert. His discussion of dairy problems and his Farmstead Notes have been features of the Michigan Farmer for years. A live wire in business and farming.

R. G. KIRBY, farmer and poultryman, M. A. C. man and formerly Editor of the Gleaner. A practical man who can tell in plain and interesting manner the many lessons of experience that we all want to know.

I. J. MATHEWS, of broad experience along farm lines. Farmer, former Instructor in Agriculture and at present County Agent in Indiana. He knows farming and how to write about it.

DR. W. C. FAIR, veterinary doctor of national reputation. One of the best men in the country to advise you on diseases of animals.

JAMES N. McBRIDE, popular State Market Director. A student, successful farmer and business man who has given serious attention to the problems of the farmer. His numerous articles merit serious consideration by our readers.

W. F. TAYLOR, one of Michigan's most popular Institute workers who interestingly discusses Grange problems in our columns. He has also contributed valuable articles on dairying and other subjects.

W. MILTON KELLEY, one of America's best agricultural writers who got his start with the Michigan Farmer. A practical farmer and dairy expert. He will continue as a frequent contributor on a wide range of rural subjects.

C. B. COOK, one of our most successful general farmers. Prominent as an Institute Lecturer and noted for his work for the County Agent cause. A great friend of the Michigan Farmer and a valued contributor to it.

PROF. J. H. COX, M. A. C.'s authority on farm crops. He frequently uses the Michigan Farmer to discuss crop questions with you.

PROF. G. H. COONS, the plant disease expert of the Agricultural College, who has the happy faculty of making scientific facts plain to the average reader. He uses the Michigan Farmer columns for special articles on developments in plant disease work which the farmer should know.

FIVE HUNDRED REGULAR CORRESPONDENTS, in Michigan and other states, who keep us informed of important rural activities and crop and market conditions. Through them we can keep you reliably informed of actual conditions in other farming sections than your own.

THE CIRCULATION MANAGER.

Your Greatest Problem

We want to know what, in your opinion, is the greatest problem the Michigan farmer has to contend with—what you think stands most in the way of more rapid progress in farming in Michigan.

In order to get the consensus of opinion of our readers in this matter we will give

\$1.00 each for the fifty best letters on the farmer's greatest problem.

After these have been selected we will publish them, with an open discussion of these problems by farmers and others most capable of suggesting means for their solution.

The only requirement for entering this problem contest is that your subscription be paid up until February 1, or longer.

Send all letters before January 15, as the contest closes then.

Address all letters to
THE CONTEST EDITOR,
MICHIGAN FARMER.
Detroit, Mich.

Inside the Lines

Jane Gerson, a virile, vividly alive American girl, is enroute to Paris in July, 1914, as a buyer for a New York department store. At Calais she accidentally meets Captain Woodhouse, who tells her he is in the British signal service and on his way to Egypt. Woodhouse, fearing international trouble, warns Jane of probable embarrassment should she remain too long in France. They part in Paris but instead of proceeding to Egypt, Woodhouse entrains for Berlin. "Louisa," an agent of the Wilhelmstrasse, a German spy organization, agrees to accept the services of "Billy Capper," a former spy, now reduced to want through drink. The story continues on page 597 of this issue.



System In the Growing of Potatoes

By H. L. SPOONER

THE average yield of 185 bushels an acre from his eleven acres of potatoes in a poor potato year like this, the achievement of Herman Johnson, owner of Clover Leaf Farm in Delta county, Michigan, shows conclusively the superiority of system over haphazard methods of farming.

The intelligent rotation of crops, the scientific selection and treatment of seed, the intense methods of cultivation, efficiency in harvesting, and the economic storage and marketing of the crop distinguish this farm from others in that region and impress the visitor at every point with the economy and efficiency of operation.

Mr. Johnson's farm consists of 215 acres of which 100 acres are entirely cleared of trees and stumps and under a high state of cultivation. There are several types of soil, but the clay and sand loams predominate. A systematic four-year crop rotation is practiced, consisting of two years of clover, one year of potatoes, and one year of grain.

The soil used for potatoes this year was of the sandy loam type, with excellent natural drainage. A heavy clover sod was plowed in the spring to a depth of eight or nine inches with a sulky plow. After being thoroughly harrowed it was planted the first week



An Excellent Stand of Potatoes on Mr. Johnson's Delta County Farm.

of June with a two-horse planter. One hundred and ten bushels of medium-sized seed of the Sir Walter Raleigh variety were used which had been hill selected and treated with formalin.

The crop was cultivated four times with a riding cultivator. In order to make the cultivation absolutely clean, two hoeings were given. The crop was kept free from disease by three sprayings of Bordeaux mixture, using a horse sprayer. The harvesting began

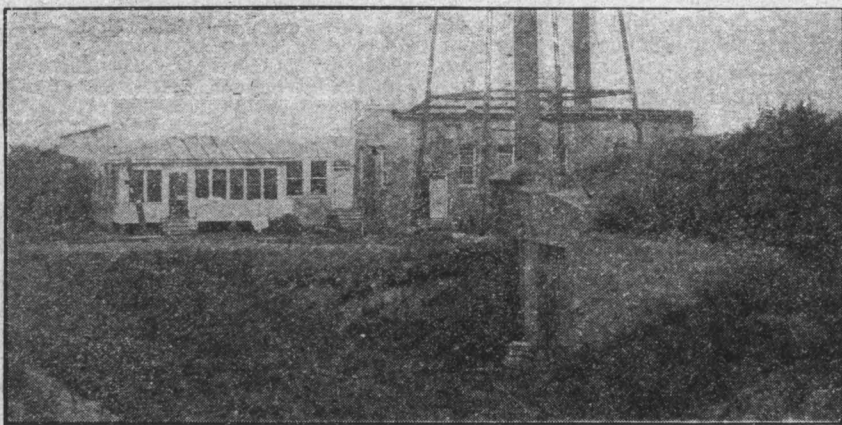
October 13 and was completed October 22. A digger was used which left the ground in fine condition for the grain crop to follow.

The potatoes were drawn directly from the field to the modern storage cellar which is built in a side hill. It is 25x50 feet and nine feet high and has a capacity of 4,000 to 5,000 bushels. The walls are of stone which were picked up on the farm, while the floor and roof are of cement. The roof is

covered with several inches of earth and has four openings, from which chutes lead to the bins. The loaded wagon is driven over the roof and the potatoes emptied into the openings. A spur from the railroad to the front of the cellar affords the maximum of economy in loading for market. On account of the careful methods used in growing, the potatoes are of such high quality that the entire crop is sold for seed.

The fertility of the farm is maintained not only by the crop rotation mentioned, but by a fine herd of Holstein cattle, which, together with the horses used on the farm, consume all the grain grown.

When Mr. Johnson went to Delta county a few years ago, he was a railroad employe. But the excellence of the soil appealed to him as having great agricultural possibilities and he bought a tract of land covered with a heavy growth of beech and maple timber. He passed through the usual vicissitudes of a pioneer farmer who is compelled to clear his land and make a living at the same time. But hard work intelligently applied has enabled him in a few years to own a comfortable home and a farm that is known as one of the best producers of the northwest.



In the Foreground is the Entrance to Potato Cellar, to which a Sidetrack has Since Been Extended to Permit Easy Loading.



The Soil is Maintained in a High State of Fertility through the Feeding of all Grain Crops Upon the Farm.

Fertilizers are Cheaper Now Than Ever

FERTILIZERS, it has been found by a number of inquisitive chemists attached to the experiment station staff of the Michigan Agricultural College, are today in an unusual economic position. They are at once more costly, and still more profitable to use than they have ever been. Without some very tangible evidence to back this statement, it may appear at first glance to be just a little off color. for it is directly contrary to the opinion prevailing among those who have not stopped to analyze.

In 1914, the college chemists show, one bushel of corn could buy only eighty-three pounds of fourteen per cent acid phosphate, or sixty-five pounds of 1-8-2 fertilizer. Now, in November, 1917, one bushel of corn will purchase 157 pounds of fourteen per cent acid phosphate, or 105 pounds of 1-8-2 fertilizer. If it was profitable to apply fertilizers in 1914, it is now just twice as profitable to use them.

What has been found to be true of corn, is even more so where beans is the crop. One bushel of beans would in 1914 have sold for enough to buy 245 pounds of fourteen per cent acid phosphate, or 192 pounds of 1-8-2 fertilizer. Now the same bushel of beans will purchase 776 pounds of acid phosphate, or 518 pounds of 1-8-2 fertilizer.

Figures might be produced also to prove that the same reaction prevails between fertilizers and practically all farm crops.

As a word of caution, this showing should not induce farmers to rush

headlong into the use of fertilizers without taking stock of their own requirements and determining the kinds of fertilizer that will most nearly fill their needs.

It would, of course, be foolhardy to attempt to lay down any hard and fast rules that will apply for every farm. It can be said, however, that the best results from fertilizers will be obtained from soils well drained, in good physical condition, and not acid. Where lack of drainage and the acidity of the

soil are the factors which keep down yields on a given farm, it would be hopeless to attempt to overcome them with fertilizers.

Where fertilizers are what are needed, the kind to use will depend upon two factors at least—one of them the soil, and the other the crop.

In a general way it may be said that the soils of Michigan are deficient in phosphoric acid and will respond to treatment with phosphoric acid fertilizers. Many soils are also lacking in

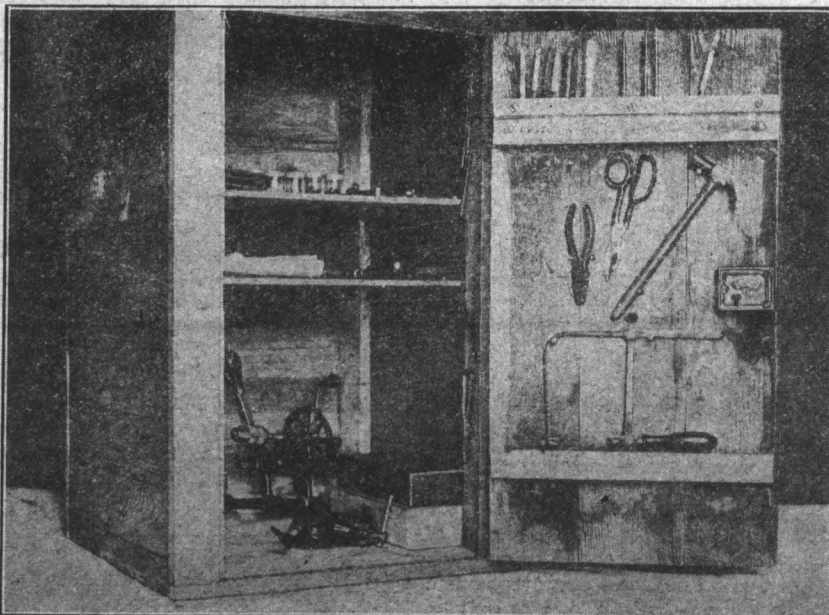
nitrogen. This nitrogen deficiency is explained by the fact that many soils are not well supplied with organic matter, which is the chief source of the soil nitrogen. On such soils, and especially where there are early spring crops, a fertilizer carrying some nitrogen should be used.

Where a soil is rich in organic matter or humus, or where there is plenty of barnyard manure that can be put on the amount of nitrogen in the fertilizer may be reduced or entirely eliminated where it is to be used on grain crops. If there is too much nitrogen in the soil it is liable to result in making the grain crops lodge badly.

On potatoes, sugar beets and all truck crops some nitrogen in the fertilizer is desirable on all soils.

The need for potash is not so urgent as is that for either phosphoric acid or nitrogen. In Michigan practically all soils are abundantly supplied with this element, though it may not be in such a condition as to make it easily usable by the plant. It should be realized also that with potash costing the farmer about ten times more than it did in 1914, it is advisable to limit the amount used as much as possible and to get along without it whenever this can be done.

Muck soils are usually, though not universally markedly deficient in this plant food and potash fertilizer should be used in spite of the high cost.—Office of Publication, Michigan Agricultural College.



This Winter Farmers Should Not Overlook the Repairing of Machinery.

The Michigan Farmer

Established 1843.

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The Lawrence Publishing Co.

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39 to 45 Congress St. West, Detroit, Michigan

TELEPHONE MAIN 4535.

NEW YORK OFFICE—381 Fourth Ave.

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TERMS OF SUBSCRIPTION:

One Year, 52 issues.....\$1.00

Two Years, 104 issues.....\$1.50

Three Years, 156 issues.....\$2.00

Five Years, 260 issues.....\$3.00

All sent postpaid.

Canadian subscription 50c a year extra for postage.

RATES OF ADVERTISING

45 cents per line agate type measurement, or \$6.30 per inch (14 agate lines per inch) per insertion. No adv't 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, DECEMBER 22, 1917



CURRENT COMMENT.

A new form of investment loan is being offered to the people of the United States with the double object in view of providing a greater incentive for thrift and an absolutely safe investment for small savings at a liberal rate of interest, and at the same time providing a large aggregate amount of needed funds for carrying on the war. War-savings stamps, which the new form of security has been named, are in reality "baby bonds" which, like the Liberty Bonds, have behind them the entire resources of the government and the people of the United States. Unlike Liberty Bonds, they increase in value from the date of purchase to maturity in lieu of the payment of interest prior to that time.

War-savings stamps are issued in two denominations, the twenty-five-cent stamp and the \$5.00 stamp. The \$5.00 stamps which may be purchased outright at any time until January 31, 1918, for \$4.12, will automatically increase in value one cent per month for every month until January 1, 1923, when they will be redeemed by the government at par or for \$5.00 at any post office or at the treasury in Washington for each stamp properly affixed to a war-savings certificate.

When these stamps are purchased, (and they may be secured from any post office, bank or trust company), an engraved form known as a war-savings certificate is provided which bears the name of the purchaser and can be cashed only by the purchaser or person whose name is on the certificate, except in case of death or disability. This certificate contains spaces for twenty stamps, and if these are all filled at the price of war-savings stamps up to January 31, 1918, the cost to the purchaser would be \$82.40. These stamps attached to the certificate would on January 1, 1923, be redeemable at \$100, a gain of \$17.60, which is based on an interest rate of four per cent compounded quarterly for the period from January 2, 1918. No person can purchase more than \$100 worth of war-savings stamps at one time or hold war-savings certificates exceeding \$1,000 in maturity value.

Provision is made for the redemption of any matured war-savings certificates at any time, upon the giving of ten days' written notice to any money order post office, at an amount represented by the price paid for stamps on said certificate plus one cent per month on each stamp for each calendar month intervening between the date of purchase and the date of redemption.

The twenty-five cent stamps are issued for the convenience of people who desire to invest small savings. These stamps do not increase in value, but each purchaser is provided with a thrift card containing space for sixteen stamps. When all the spaces on this card have been filled with the twenty-five cent stamps, it may be exchanged for a \$5.00 stamp at post offices, banks or other authorized agencies by the payment of twelve cents in cash prior to February 1, 1918, and one cent additional for each month thereafter.

The reasons for the investment of small savings in this manner are too apparent to require explanation. The main reason is because our country is at war and needs every penny which every citizen, man, woman and child can save or lend in order to equip and feed the soldiers and sailors required to win this war for the vindication of American honor and the cause of world democracy. Millions of people who are not in a position to buy Liberty Bonds or even the smaller denominations can invest in war-savings stamps, and will be glad to save small sums for this purpose. Boys and girls as well as the older members of their families will find this an attractive investment for the small sums which they can earn and save. Besides identifying them with the cause of the government, it provides an absolutely safe investment for their savings at a liberal rate of interest, which will prove profitable and helpful to them as well as to the government in the present crisis. General investment in war-savings stamps should be encouraged in the country as well as in the cities. Further information concerning war-savings stamps can be secured at post offices or banks, or by addressing the National War-Savings Committee, at Washington, D. C.

In one respect, Christmas for 1917 will be different from any Christmas since 1864. That was the last

year that the country was at war during this particular holiday. In keeping with this change which has come into our national life and interrupted our international relations, the picture on our first cover page illustrates the holiday spirit of the American people this year. To a very large degree this Christmas will be dedicated to the boys in khaki. It will not be marked with the large volume of useless and foolish holiday buying that has characterized recent holiday seasons, but instead attention is being turned to the boys who have gone and to those who are going to the front, that they in their new environment may have something of the spirit of the day brought to them through the thoughtfulness of relatives, friends and interested strangers. Everybody is anxious that the soldiers shall have a real "Merry Christmas" and the boys in France, on the high seas or wherever they may be, will be remembered in some way, though they have no one with a personal interest in them. Then, too, our Michigan boys in training at Camp Custer have at last been given a four-day leave that they might go home before orders come for their transfer to other points, and by reason of these home-comings thousands of Michigan homes, and every community of the state, will be made happy by their presence.

With all respect and feeling for the concern of parents and friends of those who have been called to go forth to battle the enemy of our democratic institutions, we believe that it will be best for those who go as well as those

who stay, to make the very best of this holiday season. For nine months the clouds of war have been hovering over us and they have made us serious, and concerned about the future; hence it would seem that a relaxation from this tenseness for a few days would make us more fit to cope with our great tasks to come. We therefore, wish every member of every Michigan Farmer family a very Merry Christmas for the year 1918.

The majority of our readers of this journal have no doubt observed the introduction in last week's issue of a new department devoted to the interests of our boys and girls. For many years farmers individually and collectively have lamented the loss to the city of a very large percentage of the young people of the farm. That their anxiety in this matter has been justified in more than a personal way is shown by our defective economic conditions which exist in the present crisis. Through the draining of our rural communities of a generation of its best blood, we suddenly find that the relations between the productive and consuming elements of the country have been thrown out of balance. Because of this we are obliged to make use of every expedient to overcome in part at least, the inability of the nation to produce a sufficient quantity of farm staples.

Many influences have worked to entice the young folks from the farm. Probably the most potent of these has been that subtle education of the country boy and girl. We have been loath to recount the advantages of life in the country and of the opportunities afforded those who till the soil in a generation like the present. In a general way these matters have been brought to the attention of our boys and girls, but they have lacked that specific form which makes definite impressions upon the youthful mind.

It is the purpose of this new department to furnish scores of concrete cases where farm boys and girls have done things worth while. By making mention of specific experiences, it is believed that this department will have a definite influence in keeping our boys and girls upon the farm. Not only this, but being awakened to the possibilities of farm life, these young folks will make more efficient farmers and home-makers than they would be if allowed to follow traditional farm methods.

Incidentally, another purpose will be served by such work among our juvenile farmers at the present time. Before the close of 1918 it is estimated that ten million men will be engaged in work connected with the war, either as men in uniform or as workers in munitions and other factories producing products of a military character. With this tremendous drain upon our labor power, we will need to call upon every available source of help. With our boys and girls properly instructed and directed, their "bit" in the great conflict from now on will be a factor worthy of general consideration.

As time goes on, many new features no doubt will be added to this work. However, the present plans which contemplate giving publicity to the things our bright boys and girls are doing, to interesting articles on how the world's business is done, to the activities of the 25,000 members of our boys' and girls' clubs over the state, and to various articles and stories of an entertaining character which have a peculiar interest to the young folks, will furnish a sufficient reason for every parent who is a reader to see that his children are interested in this department, which is a distinct departure in agricultural journalism.

The United States army is opening free vocational schools for the training of a large number of men for special army work and for government construction work.

HAPPENINGS OF THE WEEK.

The European War.—A twenty-eight day truce has been signed by the Bolshevik government of Russia and the Central powers. The armistice began at noon December 17 and remains in force until January 14, 1918. It extends to all the land, air and naval forces of the common fronts. The agreement as signed binds both sides not to transfer forces on the front from the Baltic to the Black Sea during the period covered by the armistice, except such transfers as were already begun up to the moment of signing the agreement. Arrangements have also been made to begin peace negotiations immediately.—The Germans are now concentrating forces on the western front. It is estimated by the Allies that there are 154 divisions of troops commanded by the central powers in Belgium and northern France. These divisions contain about two million fighting men, which is considerably less than that of the Franco-British armies. Artillery engagements have been more or less constant throughout the entire western line, which leads to the general belief that the central powers will attempt to force a decisive battle on this front during the winter, before America's strength can become effective. Heavy pressure has been brought to bear upon the Cambrai sector, and a part of the territory taken in General Byng's advance has been lost. French troops have been successful in repulsing two attacks on the Aisne front. Artillery fire increased Sunday in the Verdun sector.—The Italians are growing more and more confident in their ability to withstand the heavy attacks of the Austro-German invaders. At the southern end of the Piave dikes have been opened, making one vast swampy area of the territory to the north of Venice. Italian batteries have been placed on all solid land points in this region.—British forces captured Jerusalem last week. The Holy City had been completely surrounded before an attempt was made to take it. The defenders realizing resistance to be useless, capitulated without making it necessary to damage property.

The allied nations have formed a central naval council to coordinate naval operations of all nations at war with the central powers.

Disasters in two German war plants are reported from Switzerland. One occurred in the Zeppelin works at Friedrichshafen, and the other near Kiel. Many persons were killed.

Perhaps one of the bitterest political contests that Canada has experienced closes Monday with a general election. The Unionists under the leadership of Sir Robert Borden who heads the present government, are opposed by Sir Wilfred Laurier, leader of the Liberals, who find their strength largely in the Quebec districts.

The recent revolt in Portugal was successful with the old government under Premier Costa thrown out and Dr. Sidino Paes named as president of the provisional government.

National.

Nation-wide prohibition will be voted on by the House of Representatives early this week. The resolution provides that three-fourths of the states of the Union must approve the amendment before it becomes effective and that this approval must be made within seven years from the time the resolution is passed.

Three lake freighters loaded with 24,000 tons of coal which was destined for upper lake points, and held up in the Detroit river by ice, have been ordered seized by the National Fuel Administration, and their cargoes diverted to industrial and domestic use in Detroit and Michigan. This supply will aid considerably in the fuel shortage which is now causing the people of the state so much concern.

A race riot battle between the police and negroes at Bridgeport, Conn., resulted in six persons being wounded and 106 placed under arrest.

The federal government is about to take a hand in the wool situation in this country. Prices for wool have advanced about 200 per cent over the pre-war quotations. This advance has led many clothing concerns to buy beyond their current needs in order to avoid paying excessive future prices. The result has been that values climbed to higher levels than would have obtained had demand been controlled by normal consumption. It is the apparent purpose of the government to license the purchase of imported wools. Some cooperation between the allied governments is likely to be brought about in an effort to realize the greatest value from wool supplies.

A United States army train of thirty trucks loaded with war materials is enroute to the Atlantic Coast from Detroit. Heavy snows impeded the trucks at some points, but progress at last reports, has been very satisfactory.

FARM MACHINERY SHOULD BE CONSERVED.

How to Conserve Agriculture's Artillery.

1. Orders for new equipment and repair parts should be placed as soon as possible.
2. To produce maximum results with a minimum of labor, new and modern machinery in large sizes should be used wherever possible.
3. Serviceable equipment, not needed, should be sold or made available to others.
4. Useless machinery should be returned to the channels of trade as junk.
5. Thorough lubrication and proper care when in use will materially lengthen the period of service of farm equipment.
6. More care should be given to protecting farm implements from the weather.

During the winter months farmers should give careful attention to the work of repairing all machines which will be used next season. Also, orders for repair parts and new machines should be placed as soon as possible. This will acquaint manufacturers and their agents with the demand in different sections and enable them to make the best possible distribution. At the same time, it will eliminate expensive delays in transportation at the busy season.

Economical Replacements.

The use of the largest and most improved farm machinery, always desirable, is of special importance. Where large acreages are farmed the largest machinery is the most economical. Many of the latest machines embody improvements which will often justify their purchase where obtainable from the standpoint of economy even though the old outfit is still serviceable.

When new machines are bought on large farms to replace others still capable of service, it is suggested that the owners afford an opportunity to other farmers who operate on a smaller scale to purchase this replaced machinery at a reasonable price. This plan should benefit both parties.

Dispose of Worn-out Implements.

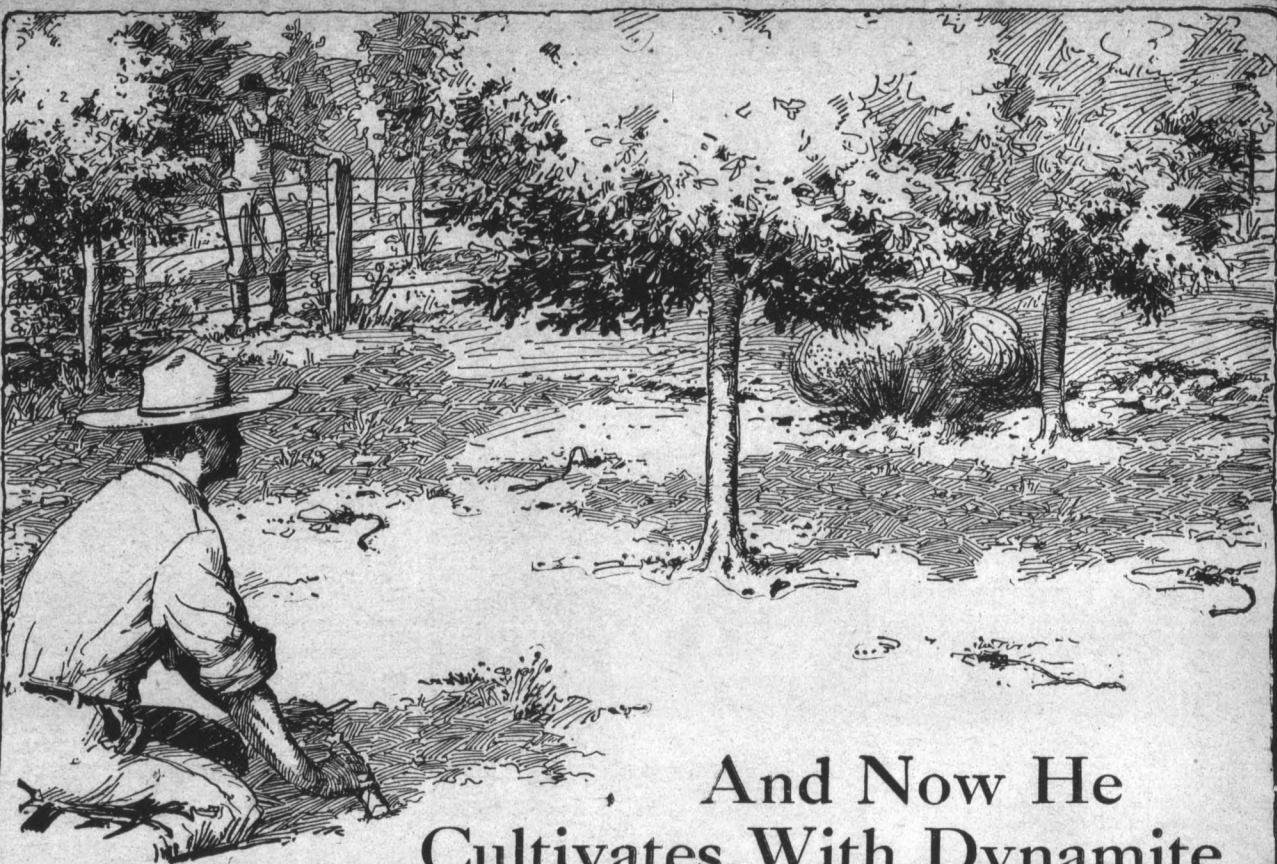
All worn-out machinery should be sold for junk at the first opportunity, the specialists advise, first removing all bolts or other parts which might be useful in repairing other equipment. It is usually false economy to attempt to use a worn-out machine, as the time wasted with breakages and other delays and the extra power required for its operation usually more than offset the saving effected by continuing it in use.

Importance of Oiling.

More damage can be done to a machine in half an hour through lack of oil or grease on some bearings than by a whole season's exposure to the weather, the specialists declare. For this sort of neglect there can be no excuse, it is said. Operating a machine without lubrication, especially when the bearings are slightly rusty, will quickly result in the wearing away of the metal, often to a considerable depth, in a very few minutes. Expensive breakages, as well as serious delays, also may be caused by operating machines on which nuts have worked loose or have come off entirely, allowing bolts to loosen or drop out.

All practicable steps should be taken to preserve machinery now on hand. Needless exposure to the weather should be avoided, and in cases where it is not practicable to house machinery when idle, all bearings should receive a thorough application of heavy oil or grease to keep out moisture and prevent rust. It is believed that on many farms machinery could be more adequately sheltered in the buildings available by exercising care in placing them so as to economize space.

Men are what their mothers made them.



And Now He Cultivates With Dynamite

The man who was wise enough to plant his orchard with the aid of Hercules Dynamite is also wise enough to keep it in proper shape by cultivation of the soil around the roots of the trees. He enlists the help of Hercules Dynamite in this work too.

In the Fall of the year he blasts holes between the rows of trees, at the ends of the roots, shaking and loosening the soil, and giving the roots new food and softer earth through which to grow.

HERCULES DYNAMITE

you see, not only helps to start an orchard right but also helps to keep it right.

The man who plants an orchard with Hercules and then cultivates with Hercules will obtain full crops of splendid, healthy fruit—fruit that can be sold at the highest prices. And because his trees are in good condition he will obtain such crops year after year.

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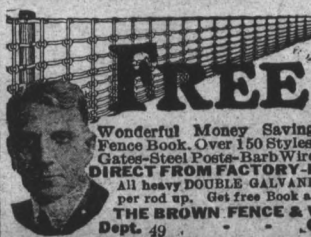
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No Engine too small for it. Will last a lifetime. Special attachment for grinding discs furnished free. Write for circular.

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Fruit Growers' Problems Discussed

THE annual meeting of the Michigan State Horticultural Society held at Grand Rapids, opened shortly after 10:00 a. m., December 4, with the usual experience meeting. The testimony given by the growers ran pretty much one way. In brief, it was to this effect: The past season was strange, almost without precedent, with only two or three days of real summer. The fruit crop was short but prices were good. Aphis trouble was bad. The freeze caught much fruit unharvested but apples left on the trees until the frost came out were practically uninjured. Growers who were too impatient suffered losses. George Friday, of Coloma, said the Keiffer pear market started at \$1.25 to \$1.40 and then dropped to forty cents a hundred, or what they were worth for vinegar, and the reason was no sugar. He said that sugar was bound to be scarce this coming season also, and provided we get a peach crop he advised that this society, in cooperation with other states, should start an advertising campaign, telling people how they may put up their fruit without sugar and save it. He believes that this situation is serious.

Prices Were Good.

Luther Hall, of Ionia, said that he had 3,000 bushels of apples on the trees when there was six inches of snow on the ground. He let the fruit alone until the frost came out and suffered no loss. He has not been raising hogs in the orchard this season since he could not get the hogs. "Fruit pays pretty well," he says, "when one can get down on his knees and pick up apples at \$1 a bushel cash, and have people come for them in their autos."

George Hawley, of Oceana county, reported a fair crop of plums. Red currants brought high prices notwithstanding the price of sugar. He says that thousands of orchards are going out and estimates a fifty per cent decrease in peach acreage over a year ago. The stragglers are going out, leaving a better field for the real growers.

Charles W. Wilde, of Grand Rapids, reported very good crops of apples, plums and pears, though the aphis got the best of him and he lost many hundred bushels of strawberry apples that were worth \$2.50 this season.

Paid Good Wages.

"We all had our troubles, but let's forget them," said James Nichol, of South Haven. "We got good prices and we did not forget to turn over a fair proportion of this to our help." President Bingham, of Oakland county, reported that auto loads of people came out from Detroit and helped themselves to fruit right and left, his loss in one orchard being estimated at \$300. He finally had to hire officers to guard the orchards Saturdays and Sundays.

Ralph Ballard, of Niles, reported considerable scab in his orchard, mostly on the Duchess, and it is getting to be quite a problem. Mr. E. O. Ladd, of Grand Traverse county, reported half a crop of cherries and the crop was a month late in ripening. The quality was good and prices excellent. Buyers came in autos for the fruit. Apples sold tree run and the buyers furnished packages. Apples were one-third of a crop. Roy Munson reported a very good cherry crop, also gooseberries, and big crop of grapes at good prices.

Tuesday Afternoon.

At the opening of the afternoon session the chairman digressed to ask if anybody had made money out of their bean crop this year and not a hand went up. M. B. McPherson, of Lowell, read an able paper on "Kent County Horticulture," referring especially to the rise and decline of the peach industry, until at present production does not equal the home consumption.

Prof. Halligan, of the M. A. C., gave

results in dust spray experiments, showing the diluted dust to be of little value. Experiments with the concentrated dust will be continued. It is felt that the dust treatment is still in the development period and while the liquid sprays seem better this is not known as yet conclusively. The cost of dusting is largely the cost of the material, not labor. It is found that you must dust the fruit from both sides and the best time is early morning or late evening when atmosphere is quiet. It gives good results to dust the trees when wet (not too wet) and the dust should "set" before a rain comes. Dust does not stick as long on the foliage as does the liquid spray and this may be an advantage. It can be applied later in the season. The college has conducted experiments in Stark apple orchards at Morrice and in Spy orchards at Grand Ledge. Also in the Bregger Elberta peach orchard in Van Buren county. It is hoped that the dust will prove efficient in control of scab. Results from dust this season were better than with spray, while in 1915-16 the reverse was true. Prof. Halligan warned against drawing quick conclusions. Spraying is insurance and the dust may prove a very desirable substitute for liquid under certain conditions.

Dust Spraying.

Oscar Braman, of Kent county, and Luther Hall, of Ionia, used dust with good success this season. Mr. Hall dusted an old orchard, trees eighty years old, that has never before produced over sixty per cent of clean apples, and he got ninety-five per cent clean fruit. The trees were dusted three times. The foliage was better. He will go into dust quite extensively another year.

George L. Port, of Coloma, secretary of the Michigan Fruit Packers' Federation, spoke on the value of associated effort. He said that cooperation is the spirit of the times and success depends on how much of himself and his best thought each one can put into it. The Federation, formed last February, is a central agency to keep growers informed of the markets throughout the country and to bring efficiency in the way of standard packs and packages and to afford a great saving in the purchase of supplies. Canada has had a central agency for its four leading fruit associations for years and has been getting good results for growers. Secretary Port spoke of the advantages of advertising and said the time is ripe to place fruit growing in Michigan in front rank among the state's leading industries.

Potato Crop Good.

"Potato Development in Michigan," an illustrated talk by C. W. Waid, of East Lansing, followed, with reference made to the definite program that is being followed in the state, with demonstrations in the different counties, inspection of fields, and then potato days during fall and winter, with a tuber show, picnic dinner and lectures. The government estimate of 35,000,000 bushels of potatoes for Michigan this year runs well into money and closely relates to the food problem in the world war. Consumption should be increased. Mr. Waid supports the government in its potato grading program and says that while some of the growers feel that it is a hardship it will prove a blessing to them in the end. (To be continued).

At the Missouri Experiment Station it recently has been shown that little or no root action takes place with fall-planted trees until the surface of the ground has begun to freeze, and the trees planted early in the fall may lose considerable vitality before they begin root action.

A Dairy Cow Ration

Will the following make a balanced ration? If so how much of same and how many times daily should I feed to Jersey cows producing between 30 and 35 lbs. daily? Cottonseed meal 35 to 38 per cent protein; ground oats, silage and clover hay.

Washtenaw Co.

C. R. L.

It isn't difficult at all to make a balanced ration out of these food stuffs. They are all good but you won't need a very heavy ration of cottonseed meal to furnish a sufficient amount of protein with the other foods which you have. For instance, a ration of clover hay and ground oats is just about as near a balanced ration as you can get. You needn't try to make any better one. It will be digested and assimilated and all of the food nutrients consumed as closely as any ration a man can make. There are no better feeds for dairy cows than clover hay and ground oats.

The corn silage doesn't contain a sufficient amount of protein, consequently we should add some food like cottonseed meal or gluten feed or brewers' grains or something of that sort to balance the ration. You mention the cottonseed meal, which is a cheap source of protein and it is a good food for dairy cows, providing, of course, that you are careful in feeding and don't feed too much. I wouldn't feed over two pounds of it a day (a pound each night and morning) and I would feed the cottonseed meal separately. Don't try to mix it with your ground oats because it is almost impossible to get an even mixture and part of the time your cows may get more cottonseed meal than they ought to have.

Feed the cows all the clover hay and all the corn silage they will eat up twice a day. Give them one pound of cottonseed meal night and morning, scattering this on the ensilage, then every bit of it will be consumed. Then feed in addition enough ground oats so that each cow will have a pound of grain per day for each pound of butter-fat she produces in a week. In calculating the quantity of feed add the two pounds of cottonseed meal to the weight of the oats.

If you are not testing your cows and don't know how much butter-fat they produce in a week, then you can feed one pound of grain for every three pounds of milk produced in a day. If your cows haven't been receiving as heavy a ration of grain as this it would be best to begin with a small amount and gradually increase until this full ration is reached. Cows ought to do about their best with this amount of grain. Some cows will respond where you give them a large amount of grain. Where one wants to make records he can gradually increase the grain beyond this amount up to the cow's limit of production. Keep adding about one-half pound of grain a day and note carefully if the cow responds. If she responds and keeps gaining in her milk, keep increasing carefully until the time comes when she doesn't respond to an added amount of grain, then drop off the ration a pound or so a day and don't try to go beyond this. Some cows you can work too hard. They will respond so willingly to increased food that they are liable to go beyond their vitality and if you attempt to feed to the limit you should be very careful. This sort of job is one that is hardly advisable to trust to the hired men. If your feeding is done by hired help, don't attempt to go the limit.

COLON C. LILLIE.

ADVANTAGES OF HIGH-TESTING CREAM.

High-testing cream is of benefit to both the cream producer and the butter manufacturer. The creameries realize this and many of them are urging their patrons to deliver cream of

high butter-fat content. Cream testing about thirty-five per cent fat is desirable for butter making because it can be handled more cheaply and makes a better quality of butter than a thin cream. Because of these facts creameries are able to pay their patrons top prices for high-testing cream.

L. G. Rinkle, of the University of Missouri College of Agriculture, mentions several reasons, from the farmer's point of view, why cream should be high in test. One of these is because of the improvement in the quality of the cream as the test increases. A high-testing cream will retain its good flavor much longer than a thin or low-testing cream. The quality of the cream should be of the best, since it takes good cream to make good butter. Good butter commands a higher price than poor butter and thus produces higher returns to both the creamery and the farmer.

By separating milk into high-testing cream a larger quantity of skim-milk is obtained. The value of 100 pounds of skim-milk is sometimes considered equal to that of half a bushel of corn. With the high prices of feeds it is therefore desirable to feed all the skim-milk possible. High-testing cream makes possible more of this valuable feed.

The production of high-testing cream also saves money for the farmer who ships cream. When cream tests twenty per cent, it will cost two cents a pound of butter-fat to ship 50 pounds of it, if the express charges amount to twenty pounds. When the cream tests forty per cent it will cost but one cent a pound butter-fat to ship fifty pounds, for the total charges will not be affected. This is a saving of one-half on transportation charges and should be given careful consideration by the producer. With the production of 100 pounds of butter-fat a month, increasing the cream test as shown would mean a saving of \$1 a month.

MICHIGAN CROP REPORT.

Wheat.—The condition of wheat as compared with an average per cent, is 82 in the state and central counties, 80 in the southern counties, 84 in the northern counties and 87 in the upper peninsula. One year ago the per cent was 86 in the state, 84 in the southern counties, 89 in the central counties, 92 in the northern counties and 85 in the upper peninsula. The total number of bushels of wheat marketed by farmers in November at 73 flouring mills is 126,988 and at 78 elevators and grain dealers is 165,255 or a total of 292,243 bushels. Of this amount 235,776 bushels were marketed in the southern four tiers of counties, 41,403 in the central counties and 15,064 in the northern counties and upper peninsula. The estimated total number of bushels of wheat marketed in the four months, August-November, is 2,350,000. Seventy-eight mills, elevators and grain dealers report no wheat marketed in November.

Rye.—The condition of rye as compared with an average per cent, is 84 in the state and central counties, 81 in the southern counties, 87 in the northern counties and 97 in the upper peninsula.

Fall Pasture.—The condition of fall pasture as compared with an average per cent, is 83 in the state, southern and northern counties, 82 in the central counties and 89 in the upper peninsula.

Live Stock.—The condition of live stock throughout the state is 95 for horses and cattle, 97 for sheep and 92 for swine.

Grain and seed threshed in Michigan up to and including November 17, 1917, as per returns of threshermen, is as follows:

	Acres.	Bush.	Yield per Acre, Bush.
Wheat	746,934	13,464,563	18.03
Rye	319,062	4,469,241	14.01
Oats	1,210,448	43,753,613	36.15
Barley	126,170	3,254,507	25.79
B'kwheat	23,918	266,165	11.13
Peas	13,371	139,130	10.41
Tim. seed	1,700	8,733	5.14
Beans:			
White	104,953	762,714	7.27
Red kid	2,133	10,537	4.94



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The HINMAN Milker has been made the recognized standard of perfection and efficiency thru our 10 years of concentration on one type of machine—the Individual Pump—Valve Chamber Milker.

10 Years' Success

ACCOMPLISHMENTS ATTAINED

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The cow does not have to be adapted to the HINMAN. Odd cows—nervous cows—easy milkers—hard milkers—and cows with uneven udders are made comfortable by the HINMAN Individual Pump—Single unit—adaptable—to each-cow machine that always milks the same way day in and day out.

The HINMAN Principal Stands Approved. It's the only sure way to offset increasing costs in the dairy. It is no experiment for you when thousands use it successfully. Its simplicity and volume means low cost to you.

Study Specifications

Capacity:—1 man—3 milkers—18 to 25 cows per hour.
Weight:—17 lbs.
Power Required:—1-6 H.P. per single unit, gas or electric.
Pail Capacity:—40 lbs.
Protected Vacuum Valve Chamber:—patented; automatic—operates with no adjustments.

Demountable Claw:—seamless test cups, improved mouthpiece rubbers, special grade rubber tubing.
Individual Portable Pump:—eliminates tank and pipe system.
Armco Rust Resisting Pail:—with patented bail rest for test cups.
Individual Cow Record can be kept.

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Contains all the food value of high priced, home grown grains, because it is a mixture of ten different ingredients and a scientifically balanced ration. It makes your cows bigger milk producers and keeps them healthy and hearty.

Krause Dairy Feed is used by thousands of successful dairymen who have learned that it does not pay to depend entirely upon their own efforts to secure a properly balanced ration. They know that "The Krause Way" is accurate and gets definite results. Feed "Krause" this winter. Write at once for free sample, also handy pocket record book. Name your dealer.

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 252 Union Stock Yards, Chicago, Illinois

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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.

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Mention the Michigan Farmer when writing Advertisers

More Sheep for Michigan

A GROUP of nearly one hundred earnest men gathered at the Association of Commerce, Grand Rapids, December 7, to discuss plans for raising sheep and other live stock on the idle lands of the state. This meeting follows the one held in Menominee in October, and the later one held in Milwaukee. At Menominee it was thought best that Wisconsin and Michigan interests should work together, but some differences of opinion developed in Milwaukee and the two states decided to go it alone. The upper peninsula of Michigan is getting busy. Bankers have come forward with plans to organize a live stock loan association. Charles R. Hutcheson, of Escanaba, has been engaged by the Upper Peninsula Development Bureau to have charge of the sheep and cattle work throughout Cloverland. V. A. Freeman, of Lansing, a practical sheep man, who is doing live stock extension work for the M. A. C., has had the upper peninsula added to his territory, and has recently made a survey of conditions there. A 2,100-acre sheep ranch will be started soon on Brecher Lake, in Marinette county as a result of the Menominee conference. It will be under the management of E. E. Breeley, an Iowa ranchman, and 600 sheep will be placed on the range at first, including 560 ewes and forty head of pure-bred rams.

A. C. Carton, of Lansing, state land commissioner, called the Grand Rapids meeting to order and John I. Gibson, secretary of the Western Michigan Development Bureau, was named chairman. Secretary Bierce, of the Grand Rapids Chamber of Commerce, stated that Michigan is the greatest sheep state east of the Mississippi River. Commissioner Carton pointed to the urgency of an increased food supply. It was shown that Michigan has 12,000,000 acres of undeveloped lands. There are 600,000 acres in the state's public domain, 56,000 acres of college lands and 300,000 acres of government lands. Michigan has 274,000 acres devoted to forestry purposes. Much of this land—not all of it—is good and Mr. Carton heartily supports the grazing movement.

"We have three million acres suitable for sheep or cattle grazing in our territory," said Secretary Gibson, of the Western Michigan Development Bureau, "and nothing will do more to smash the Hun than this. We should start things at once. The dog population must be reduced if we keep sheep and ninety-five per cent of the curs in the state are worthless and should be shot. The sheep business is highly technical and should be carried on by experts. I think that we can get the experts. We should go in for big ranges, with 500 or more sheep on a run."

F. R. Marshall, of the Federal Bureau of Animal Industry, Washington, ably reviewed the situation, saying in part: "The live stock business is a safe investment during and after this war. Every idle acre in this country must be put to work. Michigan has a large area of cut-over lands suitable for stock purposes. The grains are needed during this war but live stock is more urgent. Live stock prices will not fluctuate as was the case in the past, due to competition of the western ranges with the mixed farming in the east. Free range lands in the west are gone. I am urging sheep because you get quicker returns than from cattle. It is a dual proposition now with sheep, a fifty-fifty between meat and wool, while in the old days the farmer depended on his wool alone. The figures show that it takes the wool of twenty sheep to supply one soldier's needs and therefore our wool crop for the next twelve months will barely supply our soldiers, leaving none for the civilian population.

"This situation does not result from

the war alone. The need existed before, with the live stock industry lagging behind the increase in population. You have thirty to thirty-five inches of rainfall in Michigan and can run one sheep to the acre at the outset. I hope that you can get some of the experienced western sheep men to come to Michigan and start demonstration ranches here and there to show your possibilities. I have one more thing to say and would like to say it diplomatically, but we are not all diplomats in Washington. It is this: The government in these trying times has a right to expect results from all productive lands. No good lands may loaf and it is up to the owners or to the people who have benefited or are likely to benefit from these now idle lands to get busy and set them to work."

V. A. Freeman, of East Lansing, who is doing college extension work with sheep and live stock, spoke briefly. He has just returned from the upper peninsula and reported that sheep were still on the ranges there, indicating that the winter feeding season, which is one of Michigan's conditions, is less than five months.

R. D. Graham of the State Board of Agriculture, expressed fullest concurrence in the movement. W. C. Byers, agricultural agent of the New York Central Lines, told of last year's experiment of New York capitalists in the purchase of 15,000 yearling ewes of Hampshire Merino cross that were bought in Oregon and shipped east, 9,000 of them going on a ranch of 4,800 acres in Cheboygan county. While there were some losses due to inexperience the company will continue its operations this coming year.

Charles Clarke, of Detroit, Industrial Commissioner of the Grand Trunk railway system, spoke briefly expressing his interest in this big proposition. W. P. Hartman, Industrial Commissioner of the Grand Rapids & Indiana Railway, L. R. Abbott, of the Boyne City, Gaylord & Alpena Railroad, Dr. J. I. Gibson, state veterinarian of Iowa, and others spoke.

A. M. Welch, of Ionia, a prominent sheep and cattle feeder, who has had experience in the west as well as here, said that he can run sheep cheaper here than in the west. He says it takes good land to produce good clover to grow good stock. It doesn't pay to handle anything but good stuff. He feeds western lambs entirely, prefers the Hampshires, and they will shear ten to eleven pounds. "Why should feeding lambs be held at a higher price than the fat lambs, as they are at present?" he demanded. "That is not right." He gave some instances of notable profits being made by the stock feeders of Michigan.

Dean Shaw, of the M. A. C., was the next speaker and stated that thirty-three per cent of the land area of Michigan is not in cultivated farms and it is a big problem. While this is an ideal time to go into stock raising it is a hard time for the Michigan man to get in if outside. Michigan is admirably adapted for sheep and this may be the solution of our soil problems on the lighter lands. They should be handled in large areas.

A committee on resolutions was appointed, with A. C. Carton as chairman, and the report as adopted called for early action. A committee will represent both peninsulas of Michigan at the meeting of the national wool growers to be held at Salt Lake City in January. An immediate survey of Michigan's cut-over lands was called for to find just how many acres are suitable for grazing purposes. The agricultural committee of the Michigan Bankers' Association, of which Leon J. Titus, of Traverse City, is chairman, is asked to devise ways and means of financing this great undertaking.

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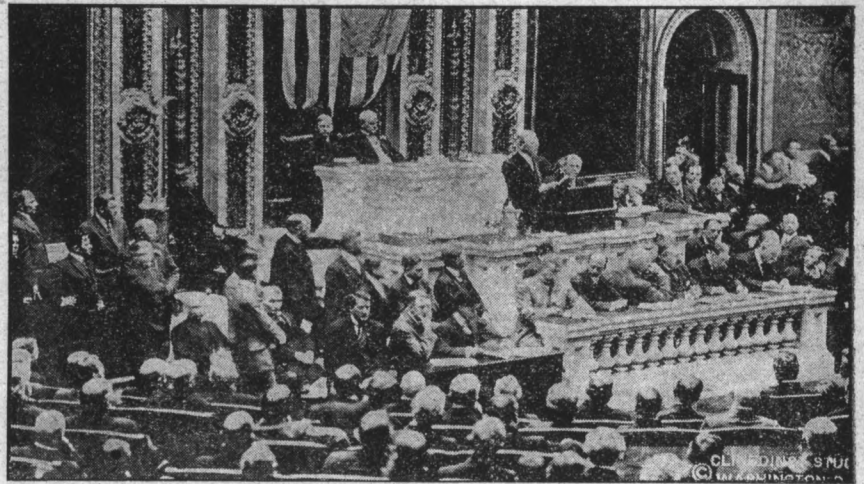
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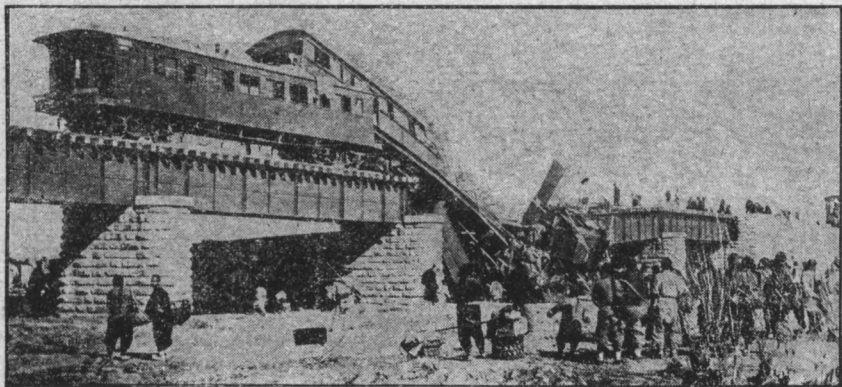
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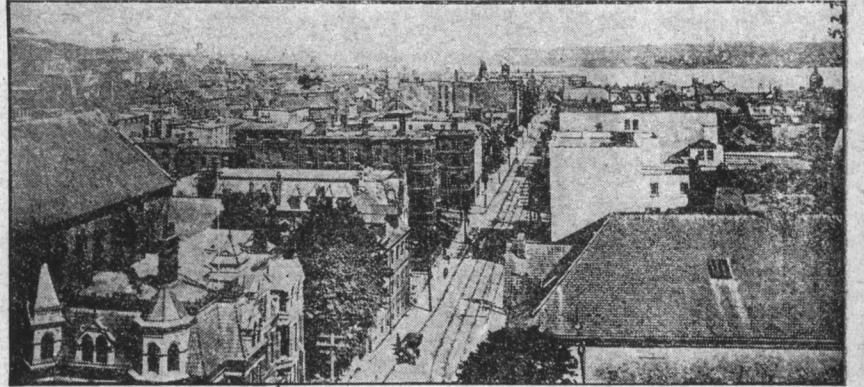
Winter Truck Gardening Made Possible by Use of Bell-jars.



President Wilson Delivering His Message Before the Sixty-fifth Congress.



Blowing up of Bridge Span on Siberian Railroad Results in Train Wreck.



Portion of Halifax Destroyed by Recent Munitions Ship Explosion.



View of Jerusalem which was recently captured by the British forces operating in Palestine. Photo was taken from the tower of David at the Jaffa Gate looking eastward from the center of the city. In the background is the Mount of Olives crowned by a modern Russian tower. In the center is the Dome of the Rock or the "Mosque of Omar," the site of Solomon's temple. Directly back of it is the Garden of Gethsemane. The new pointed tower at the left is the Church of St. John, the headquarters of the Knights of St. John during the Crusades, and recently the property of the German government. Winding up the Mount of Olives are three narrow roads that lead to Bethany. In the immediate foreground is the business center of Jerusalem with a German bank in front and the Central Hotel, which is well known to all tourists, just beyond.



Preston Gibson, Prominent American Author, is Decorated by the French Government with the Cross of War.



Beautiful Young British Peeress Gives Time to Care for Wounded Soldiers.

Observing Christmas in Military Camps

By EARL W. GAGE

MORE than a million young Americans will be away from the home fireside this Christmas for the first time in their lives. They will be missed at home when the family celebrates the birth of the Master, and they will be lonesome when recollections take them back to the twenty-odd holidays that they have spent with loved ones.

At the army posts arrangements are made early each year for the coming of the little fat fellow, robed in red and riding behind the legendary reindeer. Often the preparations start sixty days before the sound of the sleigh bells. It is the army post women who start things, who take it upon themselves to inoculate the garrison with the Christmas spirit long before the eventful day looms up over the frosty horizon. They transact all the business with Santa Claus on behalf of the children, and, of course, the soldiers. They consider it bad policy to wait for Santa's supply of toys and other good things to be exhausted or picked over by Santa's busy assistants. With military precision they get their requests for gifts in early. This very good system eliminates disappointment and much worry.

Each officer, each soldier, and each citizen employe connected with the army post is asked to contribute twenty-five cents—no more, no less—toward Santa for his trouble and benevolence. The colonel, with his lucrative salary,

contributes not a mite more than the humblest recruit in the ranks; also the recruit that begrudges a donation finds himself mighty unpopular with his comrades in short order. But that seldom occurs, almost never. Contrarily, liberality, measured by the two-bit's worth, bubbles like a hot spring when the call comes from the colonel's wife to marshal under Santa's flag.

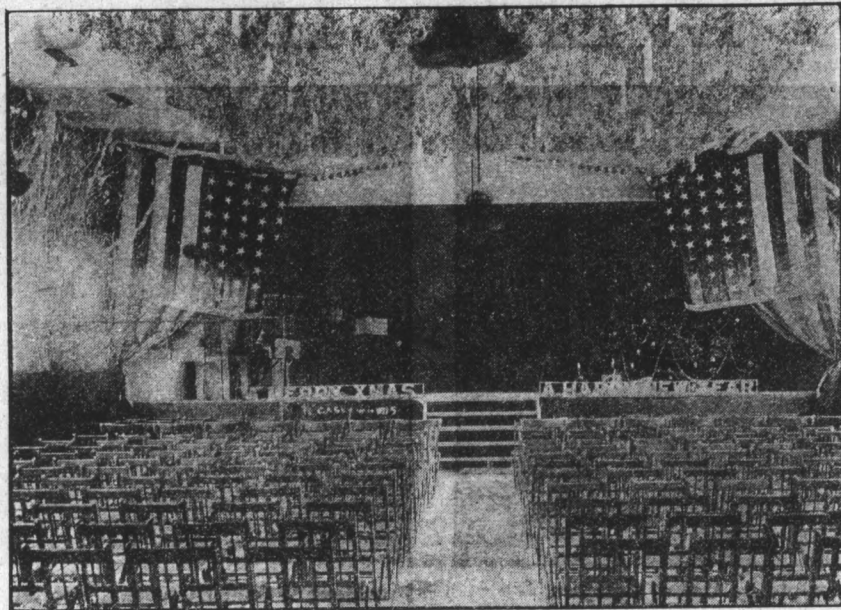
An experienced trustworthy business person, usually the post exchange steward, owing to his familiarity with markets, is delegated to visit Santa's headquarters at the nearest "branch office" to place orders for good things for the youngsters, and for every mother's son of Uncle Sam's sturdy armed guardians. Incidentally, the delegates leave a map with detailed instructions, so

that Santa can't possibly get lost when he reaches the army post.

The colonel, the major, the captain, and the lieutenant must follow Private Jones, Corporal Smith, and Sergeant Sawyer to the tree laden with generous gifts when Santa shouts for them to come. There's something there for each one. Strangers who happen in unexpectedly to see Santa are likewise not disappointed. Santa keeps a lot of gifts in reserve so that those who are present and who happen to be omitted from his list of guests may be remembered.

To see the high ranking officers and their families, and the big stalwart soldiers go filing up when their names are called pleases the army children immensely. It adds a touch of reality to old Santa's presence that can't be given in any other manner. The little autocrats of the front seats shout with mirth and clap their hands, if they are not too heavily laden, when the colonel and the corporal find a jumping jack and a darky doll in their Christmas pokes, along with candy and fruit and a card of greeting, and perhaps other things.

The Christmas dinner of the army post is one to be envied by many who visit the metropolitan hotels on this international holiday, for the tables of the dining hall are loaded to creaking with good things, such as Uncle Sam's fighting men desire.



All Ready for the Xmas Tree.

THERE, there, mother. Now, don't go taking all the joy out of life just because you're seeing something that would make the minister back in Kewanee roll his eyes in horror. This is Germany, mother!"

Out of the tail of his eye, Woodhouse could see the family group wherein Mrs. Grundy had sat down to make a fourth. A blocky little man with a red face and a pinky-bald head, whose clothes looked as if they had been whip-sawed out of a bolt, a comfortably stout matron wearing a bonnet which even to the untutored masculine eye betrayed its provincialism; a slim slip of a girl about nineteen with a face like a choir boy's—these were the American tourists whose voices had attracted Woodhouse's attention. He played an amused eavesdropper, all the more interested because they were Americans, and since a certain day on the Calais-Paris express, a week or so gone, he'd had reason to be interested in all Americans.

"I'm surprised at you, Henry, defending such an exhibition as this," the matron's high complaint went on, "when you were mighty shocked at the bare feet of those innocent Greek dancers the Ladies' Aid brought to give an exhibition on Mrs. Peck's lawn."

"Well, mother, that was different," the genial little chap answered. "Kewanee's a good little town, and should stay proper. Berlin, from what I can see, is a pretty big town—and don't care." He pulled a heavy watch from his waistcoat pocket and consulted it. "Land's sakes, mother; seven o'clock back home, and the bell's just ringing for Wednesday-night prayer meeting! Maybe since it's prayer-meeting night we might be passing our time better than looking at this—ah—exhibition."

There was a scraping of chairs, and then:

"Henry, I tell you he does look like Albert Downs—the living image!" This from the woman, soto voce.

"Sh! mother! What would Albert Downs be doing in Berlin?" The daughter was reproving.

"Well, Kitty, they say curiosity once killed a cat; but I'm going to have a better look. I'd swear—"

Woodhouse was slightly startled when he saw the woman from America

utilize the clumsy subterfuge of a dropped handkerchief to step into a position whence she could look at his face squarely. Also he was annoyed. He did not care to be stared at under any circumstances, particularly at this time. The alert and curious lady saw his flush of annoyance, flushed herself, and joined her husband and daughter. "Well, if I didn't know Albert Downs had a livery business which he couldn't well leave," floated back the hoarse whisper, "I'd say that was him sitting right there in that chair."

"Come, mother, bedtime and after—in Berlin," was the old gentleman's admonition. Woodhouse heard their retreating footsteps, and laughed in spite of his temporary chagrin at the American woman's curiosity. He was just reaching for his watch a second time when a quick step sounded on the gravel behind him. He turned. A woman of ripe beauty had her hand outstretched in welcome. She was the one Billy Capper had called Louisa. Captain Woodhouse rose and grasped her hand warmly.

"Ah! So good of you! I've been expecting—"

"Yes, I'm late. I could not come earlier." Salutation and answer were in German, fluently spoken on the part of each.

"You will not be followed?" Woodhouse asked, assisting her to sit. She laughed shortly.

"Hardly, when a bottle of champagne is my rival. The man will be well entertained—too well."

"I have been thinking," Woodhouse continued gravely, "that a place hardly as public as this would have been better for our meeting. Perhaps—"

"You fear the English agents? Pah! They have ears for keyholes only; they do not expect to use them in a place where there is light and plenty

of people. You know their clumsiness." Woodhouse nodded. His eyes traveled slowly over the bold beauty of the woman's face.

"The man Capper will do for the stalking horse—a willing nag," went on the woman in a half whisper across the table. "You know the ways of the Wilhelmstrasse. Capper is what we call 'the target.' The English suspect him. They will catch him; you get his number and do the work in safety. We have one man to draw their fire, another to accomplish the deed. We'll let the English bag him at Malta—a word placed in the right direction will fix that—and you'll go on to Alexandria to do the real work."

"Good, good!" Woodhouse agreed.

"The Wilhelmstrasse will give him a number, and send him on this mission on my recommendation; I had that assurance before ever I met the fellow tonight. They—the big people—know little Capper's reputation, and, as a matter of fact, I think they are convinced he's a little less dangerous working for the Wilhelmstrasse than against it. At Malta the arrest—the firing squad at dawn—and the English are convinced they've nipped something big in the bud, whereas they've only put out of the way a dangerous little weasel who's ready to bite any hand that feeds him."

Woodhouse's level glance never left the eyes of the woman called Louisa; it was alert, appraising.

"But if there should be some slip-up at Malta," he interjected. "If somehow this Capper should get through to Alexandria, wouldn't that make it somewhat embarrassing for me?"

"Not at all, my dear Woodhouse," she caught him up, with a little pat on his hand. "His instructions will be only to report to So-and-so at Alexandria; he will not have the slightest notion

Inside the Lines

By EARL DERR BIGGERS & ROBERT WELLES RITCHIE

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Second Installment of Our War Serial

Synopsis of First Chapters on Page Two

what work he is to do there. You can slip in unsuspected by the English, and the trick will be turned."

For a minute Woodhouse sat watching the cavortings of a dancer on the stage. Finally he put a question judiciously:

"The whole scheme, then, is—"

"This," she answered quickly. "Captain Woodhouse—the real Woodhouse, you know—is to be transferred from his present post at Wady Halfa, on the Nile, to Gibraltar—transfer is to be announced in the regular way within a week. As a member of the signal service he will have access to the signal tower on the Rock when he takes his new post, and that, as you know, will be very important."

"Very important!" Woodhouse echoed dryly.

"This Woodhouse arrives in Alexandria to await the steamer from Suez to Gib. He has no friends there—that much we know. Three men of the Wilhelmstrasse are waiting there, whose business it is to see that the real Woodhouse does not take the boat for Gib. They expect a man from Berlin to come to them, bearing a number from the Wilhelmstrasse—the man who is to impersonate Woodhouse and as such take his place in the garrison on the Rock. There are two others of the Wilhelmstrasse at Gibraltar already; they, too, are eagerly awaiting the arrival of 'Woodhouse' from Alexandria. Capper, with a number, will start from Berlin for Alexandria. Capper will never arrive in Alexandria. You will."

"With a number—the number expected?" the man asked.

"If you are clever en route—yes," she answered, with a smile. "Wine, remember, is Billy Capper's best friend—and worst enemy."

"Then I will hear from you as to the time and route of departure for Alexandria?"

"To the very hour, yes. And, now, dear friend—"

Interruption came suddenly from the stage. The manager, in shirt-sleeves and with hair wildly rumpled over his eyes, came prancing out from the wings. He held up a pudgy hand to check the orchestra. Hundreds about

(Continued on page 600).

The Grizzly King

By JAMES OLIVER CURWOOD

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CHAPTER III.*

OF all the living creatures in this sleeping valley, Thor was the busiest. He was a bear with individuality, you might say. Like some people, he went to bed very early, he began to get sleepy in October, and turned in for his long nap in November. He slept until April, and usually was a week or ten days behind other bears in waking. He was a sound sleeper, and when awake he was very wide awake. During April and May he permitted himself to doze considerably in the warmth of sunny rocks, but from the beginning of June until the middle of September he closed his eyes in real sleep just about four hours out of every twelve.

He was very busy as Langdon began his cautious climb up the gully. He had succeeded in getting his gopher, a fat, aldermanic old patriarch who had disappeared in one crunch and a gulp, and he was now absorbed in finishing off his day's feast with an occasional fat, white grub and a few sour ants captured from under stones which he turned over with his paw.

In his search after these delicacies Thor used his right paw in turning over the rocks. Ninety-nine out of every hundred bears—probably a hundred and ninety-nine out of every two hundred—are left-handed; Thor was right-handed. This gave him an advantage in fighting, in fishing, and in stalking meat, for a grizzly's right arm is longer than his left—so much longer that if he lost his sixth sense of orientation he would be constantly traveling in a circle.

In his quest Thor was headed for the gully. His huge head hung close to the ground. At short distances his vision was microscopic in its keenness; his olfactory nerves were so sensitive that he could catch one of the big rock-ants with his eyes shut.

He would choose the flat rocks mostly. His huge right paw, with its long claws, was as clever as a human hand. The stone lifted, a sniff or two, a lick of his hot, flat tongue, and he ambled on to the next.

He took this work with tremendous seriousness, much like an elephant hunting for peanuts hidden in a bale of hay. He saw no humor in the operation. As a matter of fact, nature had not intended there should be any humor about it. Thor's time was more or less valueless, and during the course of a summer he absorbed in his system a good many hundred thousand sour ants, sweet grubs, and juicy insects of various kinds, not to mention a host of gophers and still tinier rock-rabbits. These small things all added to the huge rolls of fat which it was necessary for him to store up for that "absorptive consumption" which kept him alive during his long winter sleep. This was why nature had made his little greenish-brown eyes twin microscopes, infallible at distances of a few feet, and almost worthless at a thousand yards.

As he was about to turn over a fresh stone Thor paused in his operations. For a full minute he stood nearly motionless. Then his head swung slowly, his nose close to the ground. Very faintly he had caught an exceedingly pleasing odor. It was so faint that he was afraid of losing it if he moved. So he stood until he was sure of himself, then he swung his huge shoulders around and descended two yards down the slope, swinging his head slowly from right to left, and sniffing. The scent grew stronger. Another two

*(Synopsis of first chapters appears on page two).

yards down the slope he found it very strong under a rock. It was a big rock and weighed probably two hundred pounds. Thor dragged it aside with his one right hand as if it were not more than a pebble.

Instantly there was a wild and protesting chatter, and a tiny striped rock-rabbit, very much like a chipmunk, darted away just as Thor's left hand came down with a smash that would have broken the neck of a caribou.

It was not the scent of the rock-rabbit, but the savour of what the rock-rabbit had stored under the stone that had attracted Thor. And this booty still remained—a half-pint of ground-nuts piled carefully in a little hollow lines with moss. They were not really nuts. They were more like diminutive potatoes, about the size of cherries, and very much like potatoes in appearance. They were starchy and sweet, and fattening. Thor enjoyed them immensely, rumbling in that curious satisfied way deep down in his chest as he feasted. And then he resumed his quest.

He did not hear Langdon as the hunter came nearer and nearer up the broken gully. He did not smell him, for the wind was fatally wrong. He had forgotten the noxious man-smell that had disturbed and irritated him an hour before. He was quite happy; he was good-humored; he was fat and sleek. An irritable, cross-grained, and quarrelsome bear is always thin. The true hunter knows him as soon as he sets eyes on him. He is like the rogue elephant.

Thor continued his food-seeking, edging still closer to the gully. He was within a hundred and fifty yards of it when a sound suddenly brought him alert. Langdon, in his effort to creep up the steep side of the gully for a shot, had accidentally loosened a rock. It went crashing down the ravine, starting other stones that followed in a noisy clatter. At the foot of the coulee, six hundred yards down, Bruce swore softly under his breath. He saw Thor sit up. At that distance he was going to shoot if the bear made for the break.

For thirty seconds Thor sat on his haunches. Then he started for the ravine, ambling slowly and deliberately. Langdon, panting and inwardly cursing at his ill luck, struggled to make the last ten feet to the edge of the slope. He heard Bruce yell, but he could not make out the warning. Hands and feet he dug fiercely into shale and rock as he fought to make those last three or four yards as quickly as possible.

He was almost to the top when he paused for a moment and turned his eyes upward. His heart went into his throat, and he started. For ten seconds he could not move. Directly over him was a monster head and a huge hulk of shoulder. Thor was looking down on him, his jaws agape, his finger-long fangs snarling, his eyes burning with a greenish-red fire.

In that moment Thor saw his first of man. His great lungs were filled with the hot smell of him, and suddenly he turned away from that smell as if from a plague. With his rifle half under him Langdon had no opportunity to shoot. Wildly he clambered up the remaining few feet. The shale and stones slipped and slid under him. It was a matter of sixty seconds before he pulled himself over the top.

Thor was a hundred yards away, speeding in a rolling, ball-like motion toward the break. From the foot of the coulee came the sharp crack of Otto's rifle. Langdon squatted quickly, raising his left knee for a rest, and at

a hundred and fifty yards began firing.

Sometimes it happens that an hour—a minute—changes the destiny of man; and the ten seconds which followed swiftly after that first shot from the foot of the coulee changed Thor. He had got his fill of the man-smell. He had seen man. And now he felt him.

It was as if one of the lightning flashes he had often seen splitting the dark skies had descended upon him and had entered his flesh like a red-hot knife; and with that first burning agony of pain came the strange, echoing roar of the rifles. He had turned up the slope when the bullet struck him in the forehead, mushrooming its deadly soft point against his tough hide, and tearing a hole through his flesh—but without touching the bone. He was two hundred yards from the ravine when it hit; he was nearer three hundred when the stinging fire seared him again, this time in his flank.

Another shot had staggered his huge bulk, twenty such shots would not have killed him. But the second stopped him, and he turned with a roar of rage that was like the bellowing of a mad bull—a snarling, thunderous cry of wrath that could have been heard a quarter of a mile down the valley.

Bruce heard it as he fired his sixth unavailing shot at seven hundred yards. Langdon was reloading. For fifteen seconds Thor offered himself openly, roaring his defiance, challenging the enemy he could no longer see; and then at Langdon's seventh shot, a whiplash of fire raked his back, and in strange dread of this lightning which he could not fight, Thor continued up over the break. He heard other rifle shots, which were like a new kind of thunder. But he was not hit again. Painfully he began the descent into the next valley.

Thor knew that he was hurt, but he could not comprehend that hurt. Once in the descent he paused for a few moments, and a little pool of blood dripped upon the ground under his foreleg. He sniffed at it suspiciously and wonderingly.

He swung eastward, and a little later he caught a fresh taint of the man-smell in the air. The wind was bringing it to him now, and in spite of the fact that he wanted to lie down and nurse his wound he ambled on a little faster, for he had learned one thing that he would never forget: the man-smell and his hurt had come together.

He reached the bottoms, and buried himself in the thick timber; and then, crossing this timber, he came to a creek. Perhaps a hundred times he had traveled up and down this creek. It was the main trail that led from one-half of this range to the other.

Instinctively he always took this trail when he was hurt or when he was sick, and also when he was ready to den up for the winter. There was one chief reason for this: he was born in the almost impenetrable fastnesses at the head of the creek, and his cubhood had been spent amid its brambles of wild curants and soap berries and its rich red ground carpets of kinikinic. It was home. In it he was alone. It was the one part of his domain that he held inviolate from all other bears. He tolerated other bears—blacks and grizzlies—on the wider and sunnier slopes of his range just so long as they moved on when he approached. They might seek food there, and nap in the sun-pools, and live in quiet and peace if they did not defy his suzerainty.

Thor did not drive other bears from his range, except when it was necessary to demonstrate again that he was High Mogul. This happened occasionally, and there was a fight. And always after a fight Thor came into this valley and went up the creek to cure his wounds.

He made his way more slowly than usual today. There was a terrible pain in his fore-shoulder. Now and then it hurt him so that his leg doubled up, and he stumbled. Several times he

waded shoulder-deep into pools and let the cold water run over his wounds. Gradually they stopped bleeding. But the pain grew worse.

Thor's best friend in such an emergency was a clay wallow. This was the second reason why he always took this trail when he was sick or hurt. It led to the clay wallow. And the clay wallow was his doctor.

The sun was setting before he reached the wallow. His jaws hung open a little. His great head drooped lower. He had lost a great deal of blood. He was tired, and his shoulder hurt him so badly that he wanted to tear with his teeth at the strange fire that was consuming it.

The clay wallow was twenty or thirty feet in diameter, and hollowed into a little shallow pool in the center. It was a soft, cool, golden-colored clay, and Thor waded into it to his armpits. Then he rolled over gently on his wounded side. The clay touched his hurt like a cooling salve. It sealed the cut, and Thor gave a great heaving gasp of relief. For a long time he lay in that soft bed of clay. The sun went down, darkness came, and the wonderful stars filled the sky. And still Thor lay there, nursing that first hurt of man.

CHAPTER IV.

AT the edge of the balsam and spruce Langdon and Otto smoked their pipes after supper, with the glowing embers of a fire at their feet. The night air in these higher altitudes of the mountains had grown chilly, and Bruce rose long enough to throw a fresh armful of dry spruce on the coals. Then he stretched out his long form again, with his head and shoulders bolstered comfortably against the butt of a tree, and for the fiftieth time he chuckled.

"Chuckle an' be blasted," growled Langdon. "I tell you I hit him twice, Bruce—twice anyway; and I was at a devilish disadvantage."

"Specially when 'e was lookin' down an' grinnin' in your face," retorted Bruce, who had enjoyed hugely his comrade's ill luck. "Jimmy, at that distance you should a'most killed 'im with a rock."

"My gun was under me," explained Langdon for the twentieth time.

"Which ain't just the proper place for a gun to be when yo'r hunting a grizzly," reminded Bruce.

"The gully was confoundedly steep. I had to dig in with both feet and my fingers. If it had been any steeper I would have used my teeth."

Langdon sat up, knocked the ash out of the bowl of his pipe, and reloaded it with fresh tobacco.

"Bruce, that's the biggest grizzly in the Rocky Mountains!"

"He'd 'a'made a fine rug in your den, Jimmy—if yo'r gun hadn't 'appened to 'ave been under you."

"And I'm going to have him in my den before I finish," declared Langdon. "I've made up my mind to get that grizzly if it takes all summer. I'd rather have him than any other ten bears in the Firepan Range. He was a nine-footer if an inch. His head was as big as a bushel basket, and the hair on his shoulders was four inches long. I don't know that I'm sorry I didn't kill him. He's hit, and he'll surely fight shy. There'll be a lot of fun in getting him."

"There will that," agreed Bruce, "specially if you meet 'im again during the next week or so, while he's still sore from the bullets. Better not have the gun under you then, Jimmy."

"What do you say to making this a permanent camp?"

"Couldn't do better. Plenty of fresh meat, good grazing, and fine water." After a moment he added: "He was hit pretty hard. He was bleedin' bad at the summit."

In the firelight Langdon began cleaning his rifle.

(Continued next week).

haul in weasel pelts in a few days.

The second method is to bait a trap and place some weasel attractor, or scent, near by; this will attract them for quite a distance. For my own part, I make bait pens and place scent in trees or stakes ten or twelve feet high near the pens.

As to traps, there are three kinds that can be used successfully. First, there is the well-known tree trap; this trap kills Mr. Weasel instantly and prevents the throwing of his scent; this permits the catching of a great many at one place without changing traps. The second is the regular spring rat trap, this style kills the game but occasionally one of them will be perfumed and need disinfecting; on the whole they are very good and, being small and light, are very convenient to use. The third is the regular game trap, sizes "O" to "1½." The great drawback is that these traps must be boiled or otherwise disinfected after each catch, as a weasel caught by a foot will almost invariably throw his scent, and that makes others shy.

Weasel pelts bring all the way from twenty-five cents to one dollar, the average being about fifty cents; now that the state is offering a bounty of fifty cents it makes weasels decidedly worth catching. The prospective trapper should find no difficulty in materially increasing his catch if he will heed the directions given herein, especially if he establishes bait pens before the snow gets too deep.

INSIDE THE LINES.

(Continued from page 598).
the tables rose in a gust of excitement, of questioning wonder.

"Herren!" The stage manager's bellows carried to the farthest arches of the Winter Garden. "News just published by the general staff: Russia has mobilized five divisions on the frontier of East Prussia and Galicia!"

Not a sound save the sharp catching of breath over all the acre of tables. Then the stage manager nodded to the orchestra leader, and in a fury the brass mouths began to bray. Men climbed on table tops, women stood on chairs, and all—all sang in tremendous chorus:

"Deutschland, Deutschland, ueber alles!"

CHAPTLE III.

Billy Capper at Play.

THE night of July twenty-sixth. The scene is the table-cluttered sidewalk before the Cafe Pytheas, where the Cours St. Louis flings its night tide of idlers into the broader stream of the Cannebiere, Marseilles' Broadway, the white street of the great Provencal port. Here at the crossing of these two streets summer nights are incidents to stick in the traveler's mind long after he sees the gray walls of the Chateau d'If fade below the steamer's rail. The flower girls in their little pulpits pressing dewy violets and fragrant clusters of rosebuds upon the strollers with persuasive eloquence; the mystical eyes of hooded Moors who see everything as they pass, yet seem to see so little; jostling Greeks, Levantines, burnoused Jews from Algiers and red-trousered Senegalese—all the color from the hot lands of the Mediterranean is there.

But on the night of July twenty-sixth the old spirit of indolence, of pleasure seeking, flirtation, intriguing, which was wont to make this heart of arc-light life in Marseilles pulse languorously, was gone. Instead, an electric tenseness was abroad, pervading, infectious. About each sidewalk table heads were clustered close in conference, and eloquent hands aided explosive argument. Around the news kiosk at the Cafe Pytheas corner a constant stream eddied. Men snatched papers from the pile, spread them before their faces, and blundered into their fellow pedestrians as they walked, buried in the inky columns. Now and again half-naked urchins came charging

down the Cannebiere, waving shinplaster extras above their heads—"L'Allemagne s'arme! La guerre vient!" Up from the Quai marched a dozen sailors from a torpedo boat, arms linked so that they almost spanned the Cannebiere. Their red-tasseled caps were pushed back at cocky angles on their black heads, and as they marched they shouted in time: "A Berlin! Hou—hou!"

The black shadow of war—the first hallucinations of the great madness—gripped Marseilles.

For Captain Woodhouse, just in from Berlin that evening, all this swirling excitement had but an incidental interest. He sat alone by one of the little iron tables before the Cafe Pytheas, sipping his boc, and from time to time his eyes carelessly followed the eddying of the swarm about the news kiosk. Always his attention would come back, however, to center on the thin shoulders of a man sitting fifteen or twenty feet away with a wine cooler by his side. He could not see the face of the wine drinker; he did not want to. All he cared to do was to keep those thin shoulders always in sight. Each time the solicitous waiter renewed the bottle in the wine cooler, Captain Woodhouse nodded grimly, as a doctor might when he recognized the symptoms of advancing fever in a patient.

So for two days, from Berlin across to Paris, and now on this third day here in the Mediterranean port, Woodhouse had kept ever in sight of those thin shoulders and that trembling hand beyond the constantly crooking elbow. Not a pleasant task; he had come to loathe and abominate the very wrinkles in the back of that shiny coat. But a very necessary duty it was for Captain Woodhouse to shadow Mr. Billy Capper until—the right moment should arrive. They had come down on the same express together from Paris. Woodhouse had observed Capper when he checked his baggage, a single shoddy hand-bag, for La Vendee the French line ship sailing with the dawn next morning for Alexandria and Port Said via Malta. Capper had squared his account at the Hotel Allee de Meilhan, for the most part a bill for absinth frappe, after dinner that night, and was now enjoying the night life of Marseilles in anticipation, evidently, of carrying direct to the steamer with him as his farewell from France all of the bottled laughter of her peasant girls he could accommodate.

The harsh memories of how he had been forced to drink the bitter lees of poverty during the lean months rode Billy Capper hard, and this night he wanted to fill all the starved chambers of his soul with the robust music of the grape. So he drank with a purpose and purposefully. That he drank alone was a matter of choice with Capper; he could have had a pair of dark eyes to glint over a goblet into his had he wished—indeed, opportunities almost amounted to embarrassment. But to all advances from the fair, Billy Capper returned merely an impolite leer. He knew from beforetime that he was his one best companion when the wine began to warm him. So he squared himself to his pleasure with an abandoned rakishness expressed in the set of his thin shoulders and the forward droop of his head.

Woodhouse, who watched, noted only one peculiarity in Capper's conduct: The drinker nursed his stick, a plain, crook-handled malacca, with a tenderness almost maternal. It never left his hands. Once when Capper dropped it and the waiter made to prop the stick against a near-by chair, the little spy leaped to his feet and snatched the cane away with a growl. Thereafter he propped his chin on the handle, only removing this guard when he had to tip his head back for another draft of champagne.

Eleven o'clock came. Capper rose from the table and looked owlishly about him. Woodhouse quickly turned

his back to the man, and was absorbed in the passing strollers. When he looked back again Capper was slowly and a little unsteadily making his way around the corner into the Cannebiere. Woodhouse followed, sauntering. Capper began a dilatory exploration of the various cafes along the white street; his general course was toward the city's slums about the Quai. Woodhouse, dawdling about tree boxes and dodging into shadows by black doorways, found his quarry easy to trail. And he knew that each of Capper's sojourns in an oasis put a period to the length of the pursuit. The time for him to act drew appreciably nearer with every tipping of that restless elbow.

Midnight found them down in the reek and welter of the dives and sailors' frolic grounds. Now the trailer found his task more difficult, inasmuch as not only his quarry but he himself was marked by the wolves. Dances in smoke-wreathed rooms slackened when Capper lurched in, found a seat and ordered a drink. Women with cheeks carmined like poppies wanted to make predatory love to him; dock rats drew aside and consulted in whispers. When Capper retreated from an evil dive on the very edge of the Quai, Woodhouse waiting by the doors, saw that he was not the only shadower. Close against the dead walls flanking the narrow pavement a slinking figure twisted and writhed after the drunkard, now spread-eagling all over the street.

Woodhouse quickened his pace on the opposite sidewalk. The street was one lined with warehouses, their closely shuttered windows the only eyes. Capper dropped his stick, laboriously halted, and started to go back for it. That instant the shadow against the walls detached itself and darted for the victim. Woodhouse leaped to the cobbles and gained Capper's side just as he dropped like a sack of rags under a blow from the dock rat's fist.

"Son of a pig! This is my meat; you clear out!" The humped black beetle of a man straddling the sprawling Capper whipped a knife from his girdle and faced Woodhouse. Quicker than light the captain's right arm shot out; a thud as of a maul on an empty wine butt, and the Apache turned a half somersault, striking the cobbles with the back of his head. Woodhouse stooped, lifted the limp Capper from the street stones, and staggered with him to the lighted avenue of the Cannebiere, a block away. He hailed a late-cruising fiacre, propped Capper in the seat, and took his place beside him.

"To La Vendee, Quai de la Fraternite!" Woodhouse ordered.

The driver, wise in the ways of the city, asked no questions, but clucked to his crow bait. Woodhouse turned to make a quick examination of the unconscious man by his side. He feared a stab wound; he found nothing but a nasty cut on the head, made by brass knuckles. With the wine helping, any sort of a blow would have put Capper out, he reflected.

Woodhouse turned his back on the bundle of clothes and reached for the malacca stick. Even in his coma its owner grasped it tenaciously at mid-length. Without trying to disengage the clasp, Woodhouse gripped the wood near the crook of the handle with his left hand while with his right he applied torsion above. The crook turned on hidden threads and came off in his hand. An exploring forefinger in the exposed hollow end of the cane encountered a rolled wisp of paper. Woodhouse pocketed this, substituted in its place a thin clean sheet torn from a card-case memorandum, then screwed the crook on the stick down on the secret receptacle. By the light of a match he assured himself the paper he had taken from the cane was what he wanted.

"Larceny from the person—guilty," he murmured, with a wry smile of distaste. "But assault—unpremeditated."

The conveyance trundled down a long spit of stone and stopped by the light of a black hull, spotted with round eyes of light. The driver, scenting a tip, helped Woodhouse lift Capper to the ground and prop him against a bulkhead. A bos'n, summoned from La Vendee by the cabby's shrill whistle, heard Woodhouse's explanation with sympathy.

"Occasionally, yes, m'sieu, the passengers from Marseilles have these regrets at parting," he gravely commented, accepting the ticket Woodhouse had rummaged from the unconscious man's wallet and a crinkled note from Woodhouse's. Up the gangplank, feet first, went the new agent of the Wilhelmstrasse. The one who called himself "captain in his majesty's signal service" returned to his hotel.

At dawn, La Vendee cleared the harbor for Alexandria via Malta, bearing a very sick Billy Capper to his destiny. Five hours later the Castle liner, Castle Claire, for the Cape via Alexandria and Suez direct, sailed out of the Old Port, among her passengers a Captain Woodhouse.

CHAPTER IV.

32 Queen's Terrace.

MANY a long starlit hour alone on the deck of the Castle Claire Captain Woodhouse found himself tortured by a persistent vision. Far back over the northern horizon lay Europe, trembling and breathless before the imminent disaster—a great field of grain, each stalk bearing for its head the helmeted head of a man. Out of the east came a glow, which spread from boundary to boundary, waxed stronger in the wind of hate. Finally the fire, devastating, insensate, began its sweep through the close-standing mazes of the grain. Somewhere in this fire-glow and swift leveling under the scythe of the flame was a girl, alone, appalled. Woodhouse could see her as plainly as though a cinema was unreeling swift pictures before him—the girl caught in this vast acreage of fire, in the standing grain with destruction drawing nearer in incredible strides. He saw her wide eyes, her streaming hair—saw her running through the grain, whose heads were the helmeted heads of men. Her hands groped blindly and she was calling—calling, with none to come in aid. Jane Gerson alone in the face of Europe's burning!

Strive as he would, Woodhouse could not screen this picture from his eyes. He tried to hope that ere this, discretion had conquered her resolution to "make good," and that she had fled from Paris, one of the great army of refugees who had already begun to pour out of the gates of France when he passed through the war-stunned capital a few days before. But, no; there was no mistaking the determination he had read in those brown eyes that day on the express from Calais. "I couldn't go scampering back to New York just because somebody starts a war over here." Brave, yes; but hers was the bravery of ignorance. This little person from the states, on her first venture into the complex life of the Continent, could not know what war there would mean; the terror and magnitude of it. And now where was she? In Paris, caught in its hysteria of patriotism and darkling fear of what the morrow would bring forth? Or had she started for England, and become wedged in the jam of terrified thousands battling for place on the Channel steamers? Was her fine self-reliance upholding her, or had the crisis sapped her courage and thrown her back on the common helplessness of women before disaster?

Captain Woodhouse, the self-sufficient and aloof, whose training had been all toward suppression of every instinct save that in the line of duty, was surprised at himself. That a little American inconnu—a "business person," he would have styled her under

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conditions less personal—should have come into his life in this definite way was, to say the least, highly irregular. The man tried to swing his reason as a club against his heart—and failed miserably. No, the fine brave spirit that looked out of those big brown eyes would not be argued out of court. Jane Gerson was a girl who was different, and that very difference was altogether alluring. Woodhouse caught himself going over the incidents of their meeting. Fondly he reviewed scraps of their conversation on the train, lingering on the pat slang she used so unconsciously.

Was it possible Jane Gerson ever had a thought for Captain Woodhouse? The man winced a little at this speculation. Had it been fair of him when he so glibly practiced a deception on her? If she knew what his present business was, would she understand? would she approve? Could this little American ever know, or believe, that some sorts of service were honorable?

Just before the Castle Claire raised the breakwater of Alexandria came a wireless, which was posted at the head of the saloon companionway:

"Germany declares war on Russia. German flying column reported moving through Luxemburg on Belgium."

The fire was set to the grain.

Upon landing, Captain Woodhouse's first business was to go to a hotel on the Grand Square, which is the favorite stopping place of officers coming down from the Nile country. He fought his way through the predatory hordes of yelling donkey boys and obsequious dragomans at the door, and entered the palm-shaded court, which served as office and lounge. Woodhouse paused for a second behind a screen of palm leaves and cast a quick eye around the court. None of the loungers there was known to him. He strode to the desk.

"Ah, sir, a room with bath, overlooking the gardens on the north side—very cool." The Greek clerk behind the desk smiled a welcome.

"Perhaps," Woodhouse answered shortly, and he turned the register around to read the names of the recent comers. On the first page he found nothing to interest him; but among the arrivals of the day before he saw this entry: "C. G. Woodhouse, Capt. Sig. Service; Wady Halfa." After it was entered the room number: "210."

Woodhouse read right over the name and turned another page a bit impatiently. This he scanned with seeming eagerness, while the clerk stood with pen poised.

(Continued next week).

TWO HAPPY CHILDREN.

BY CORA A. M. DOLSON.

We go out doors on every day, No matter how the winds may play.

To take a walk when it is cold, Is full of fun as fist can hold.

If fingers tingle just a bit, We say 'tis where Jack Frost has hit.

We play a snowball game, and then We're just as warm as pie again.

There's nothing like a snowball play To drive that cold Jack Frost away.

NOAH'S VOYAGE.

BY WALTER G. DOTY.

He marched the animals two by two Into the ark, except the gnu. He, with his mate, was left outside. "They'll be all right when the floods subside."

Said old man Noah. "Start the cruise. There'll aye be gossips and therefore gnus."

The elephants were the worst to load. One almost stepped on the left-hand toad.

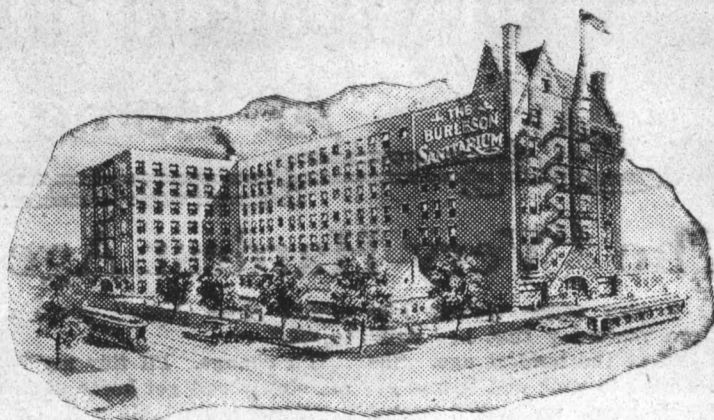
It took some searching scrutinies To see that the dogs had but two fleas. The leopards wouldn't stay in place. But changed their spots with nimble grace.

The tall giraffes stood hour by hour With heads 'way up in the conning tower.

By day he kept the hawks outside As being the passengers sharpest eyed;

By night, the owls, who best could see. "For fear of submarines," said he.

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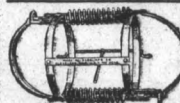
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Woman and Her Needs

At Home and Elsewhere



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IT was a very young mother who told me yesterday that her child was just at the hardest age. She is just learning to walk and is into everything. I have no doubt every mother of a real, live child of any given age, would claim loudly that her offspring was at the very hardest age, for at any age the child presents problems that turn one's hair gray; unless the child happens to be of the sort that dies young, or the mother is one whose way is always right.

I am positive that no age could be harder to manage than that at which one of my boys has now arrived, the age when he is too old to spank and too young not to need it occasionally. Just what to do with a boy who is almost as big as you are, and yet not old enough to have arrived entirely at self-government, I'll admit is beyond me at times. It wouldn't be quite so hard if this particular boy didn't have quite so much masculine contempt for a skirt. He has more than the usual share allotted to man. And while he is fond of his mother in a very tolerant, superior, patronizing sort of way, it is really more than he can do to render unqualified obedience to a mother who only weighs ninety-five pounds when lots of the "fellers" younger than he is don't have to mind a mother that weighs one hundred and fifty. Every once in a while he makes a dash for liberty.

The last time he was told to be home from school at four o'clock, there was a soccer game he wanted to see, and at 5:30 he pranced into the kitchen. Dinner preparations were under way, with sundry smells calculated to enrage the appetite of a hungry boy. He airily explained that he had stopped to see a game, and begged for a bite, all in one breath.

In the hour and a half of waiting I'd had time to go through all the stages of maternal wrath, and was very polite and calm.

"Do you know what law is?" I asked.

"Yes, mother, dear."

"Do you know what an outlaw is?"

"Yes, mother dearest," sweeter than honey because he was in wrong.

"Do you know what the I. W. W. is?"

"Yes, mother darling."

"Very well, you're an outlaw and a member of the I. W. W. You can go up to bed."

"Don't I get any supper?" he belated. All the cloying sweetness suddenly vanished.

"No, I don't feed the I. W. W. If you want to belong to Imperial Wilhelm's Warriors you can get your meals the best way you can."

"But I don't want to belong. I ain't. I'll be good. Can't I have even a sandwich?"

"Absolutely no quarter to anarchists. If you can't obey laws you don't deserve to eat. Go on to bed."

I had scarcely got into the kitchen the next morning when a still, small voice at my elbow said, "I don't belong to the I. W. W. this morning, mother. I'm a peaceful, law-abiding citizen."

"Perhaps, but you'll have to show me." Still very lofty and remote.

"But I am, mother. Don't be so cruel. Smile a little at a feller, can't you?"

"I'll have to see a change. Just a

night's sleep doesn't prove anything to me."

"I'll change. I'll tidy my room and eat slowly and get home at 3:45, and" —he spied the table with one vacant chair. "Don't I get any breakfast, either?" he wailed.

"Yes, if you get it for yourself."

"O, I can do that." And he did. For one week he got all his meals and sew-

ed on all his own buttons. By the end of that time I agreed to take him on trial again. That was six weeks ago and to date he has not had a bad lapse. A casual allusion to the I. W. W. at any indication of an upheaval has brought on a spell of meekness and sobriety.

Meantime, other problems have cropped out, and I suppose will keep cropping. That's why every age is the hardest age with most of us mothers.

DEBORAH.

Military Efficiency vs. School Sanitation

By MARY M. ALLEN

The recent conscription of young men for military service brought out many interesting facts. After the accepted ones were transferred to the cantonments, and the first heartache was over, we began to think of the rejected ones. While the exact proportion of rejected conscriptionists is not yet known, the number was large. Among the causes were defective eyesight, defective hearing, bad teeth, bronchial troubles, digestive disorders, and flat feet. We now know that raising an army of a million able-bodied men is not a matter of three months but of twenty-five years.

We remembered John used to be subject to colds, especially during the winter months, but we supposed he had outgrown the effects of them. We remembered a little, earnest-faced country teacher once called our attention to the fact that Willie had defective eyes, but as no one else ever mentioned it, we had forgotten it. We remembered Dick's teeth had gone before he was twenty, and a young whippersnapper of a dentist had muttered something about such neglect being criminal, when he told us they were almost beyond repair. We remembered certain school teachers had complained unceasingly about the school house being a regular breeding place for colds. We remembered a terrible hue and cry was raised by stingy taxpayers when certain foresighted, public-spirited men of our adjoining village had said the old high school building must go and a new one must be provided that had modern heating, lighting and ventilating systems. We had agreed with our friends when they said the old building was good enough, and the fact that somebody wanted a chance to make some money was the principal reason for the change. We have known for some time that John and Mary have come from school telling us to keep bedroom windows open all night, telling us the teacher insisted on the children going out to play except during stormy weather. After going over all these facts, we put two and two together and marvel that they made four.

Dr. Phillip Sumner Spence in an article on rural school sanitation says: "In spite of all the harmful effects of overcrowding, children in the schools of our cities are better off in health than those in the country." Statistics show fewer defectives in the city than in the country; show also that in Pennsylvania three-fourths of the country children need health supervision. Only a fraction of one per cent of city children had affection of the lungs, while 3.7 per cent of country children were affected.

Statistics collected by the Red Cross

Society in connection with the anti-tuberculosis campaign show a high death rate in rural districts and among rural teachers from consumption. Formerly the city boy and girl were regarded as puny, weak and white-blooded, but now they are more vigorous than their country cousin. The chief reason for this is the poorly ventilated, poorly lighted, unsanitary country school house. Built with no regard for hygienic laws, the average school house is rectangular in shape, three or four small windows on the side, a door in one end, a teacher's desk or table in the opposite end and a round stove in the center. The windows are loose, not hung on pulleys; frequently in damp weather it is impossible to raise them at all. No provision is made for lowering at the top. Twenty or thirty minutes after the morning session begins the children and the stove have exhausted the oxygen from the air. Colds are frequent, resulting in throat trouble, bronchial trouble, ear affections and general debility.

Another menace to the health of the child is the water pail. Children walking, as they do, some distance to school bring in much dirt. Dust from the blackboards is ever present. Classes passing to and fro all day raise this dust and it settles in a film on the top of the water pail. Children drink water in this condition every day of their school.

Farmers have built sanitary cow barns, have eliminated hog cholera by intelligent, sanitary and medical methods in the pigsty; they have standardized their barn equipment. Then why can't we eliminate the old round stove and the dirty water pail from our country schools, and give our children as good a chance to develop physically as we give our live stock?

We are told that the Canadian soldiers show greater endurance than any of the allies' troops. Might this not be partly due to the fact that twenty years ago the Dominion government compelled all schools, rural and city, to install lighting, ventilating and heating systems which carried the stamp of government approval?

CONSERVATION DAY SUGGESTIONS.

Meatless Day.—Breakfast, toast with cheese sauce; dinner, parsnip fritters; supper, economy soup.

Wheatless Day.—Breakfast, barley scones; dinner and supper, steamed brown bread.

Cheese Sauce.—Thicken one cup of milk with two tablespoons of our. Add one tablespoon of cottage cheese or one-fourth cup of grated American cheese, and stir until the cheese melts.

Salt and pepper to taste and pour at once on crisp toast. This rule will need to be multiplied for a large family.

Parsnip Fritters.—In the early morning make a fritter batter, as follows, and set away until noon: Sift one cup of flour, two tablespoons of sugar and one-half teaspoon of salt. Add two beaten egg yolks, grated rind of one lemon, and one-half cup of milk. Beat, and then fold in beaten egg whites. At noon dip pieces of cold, cooked parsnip in this batter and fry in deep fat. Other cold vegetables may be used, carrots, celery, vegetable oysters, or turnips. If you prefer, you may make the fritters by simply mashing the vegetables, seasoning to suit and adding enough flour to form into small cakes. Then fry in deep fat as doughnuts.

Economy Soup.—Run four small onions or one large one through the food chopper with the leaves from two stalks of celery first washing leaves carefully and inspecting for insects and spoiled portions. Add one level teaspoon of salt and one pint of boiling water. Simmer for three-quarters of an hour, keeping the same amount of liquid all the time. At the end of forty-five minutes scald one quart of skim-milk, to which has been added five cold boiled potatoes mashed, or put through ricer. When milk has scalded pour the onion and celery liquor through a puree strainer and combine the two mixtures.

Barley Scones.—Sift together one cup of whole wheat flour, one cup of barley flour, one-fourth teaspoon salt and two teaspoons of baking powder. Work into this two tablespoons of any sort of fat. Add one-third teaspoon of soda to three-fourths cup of sour milk, combine two mixtures to form a soft dough. Turn out on floured board and knead lightly. Roll half-inch thick and cut into diamond shapes and bake in a hot oven.

Steamed Brown Bread.—This bread, sliced and buttered while piping hot, has been a part of the Thanksgiving dinner in one family for years. It is equally good served cold for supper. One cup of sour milk, one cup of sweet milk, one cup of molasses, one cup of graham flour, two cups of corn meal, one teaspoon of soda, one-half teaspoon of salt. Steam for three hours. This amount may be cooked nicely in two one-pound coffee cans. Grease the inside thoroughly, put on covers, and set in a kettle of boiling water. Watch carefully to keep a sufficient amount of water in the kettle.

Sugarless Fruit Cake.

The government suggests the following for your Christmas fruit cake:

Dried Fruit Cake.—Two cups dried apples, peaches or any sort of dried fruit; two cups of New Orleans molasses, one-half cup of shortening, two eggs, one cup of milk, flour for a stiff batter, one teaspoon of soda, one cup of seeded raisins, one teaspoon of nutmeg, one teaspoon of ground cinnamon, one teaspoon of cloves, juice of one lemon. Soak fruit over night; then chop very fine and simmer with the molasses for two and a half hours. Let cool. Add beaten yolks of eggs to shortening and beat until light. Add the milk, then the fruit and molasses and beat for five minutes. Now add enough flour for a stiff batter and soda dissolved in a tablespoon of hot water,

Mix well, add raisins and spices and The batter must be stiff, but elastic beat vigorously. Add lemon juice, and enough to drop from spoon. Bake two finally egg whites beaten to stiff froth. hours in moderate oven.

For the Needleworker

Knitting for the Soldier Boys

NOTHING has changed established customs as quickly as the war. In the recent past it was thought that knitting was only a delightful pastime for grandmothers and other elderly ladies. But now, after a few brief months, the nation hums with the click of knitting needles and young ladies, of sweet sixteen or thereabouts, feel a pride in carrying around a knitting bag and in their spare time keep busy with sweater or some other fleecy protection against severe weather for some soldier boy.

This is a most laudable and, in fact,



Soldier's Comfort Bag.

necessary work. The boys in khaki are in need of these articles which protect from the cold or which add a mite of comfort to the strenuous trench life. It is a fact worthy of comment that this popular patriotic pastime is productive of so much comfort to those who are making sacrifices for the cause of universal democracy.

The directions given below are for articles especially designed for the comfort of those in army life, and were furnished us by the Women's League for Patriotic Service.

Comfort Bags.

Bags should be made of dark brown denim and may contain any or all of the following articles, (size of bag 10x13 inches, with draw string at top, inside pocket four inches square, three divisions):

Small comb, tooth brush, tooth paste, one trench mirror, six khaki handkerchiefs, one lead pencil, playing cards, one shaving stick, one pocket knife, two blades of good quality.

Washcloth.

White knitting cotton of medium weight, one pair of Red Cross knitting needles No. 1. Cast on seventy stitches, knit back and forth plain until the cloth is about ten inches square, and bind off. Sew a loop of tape to one corner.

Hot-water Bottle Cover.

White knitting cotton (of medium weight), one pair of Red Cross knitting needles No. 1. Cast on 56 stitches, knit 2, purl 2 and repeat until the work is four inches deep. Then knit back and forth plain for 9½ inches more, or until the entire work measures 13½ inches. Next decrease two stitches at beginning and two stitches at end of each needle until there are 16 stitches. Make another piece in the same manner and sew together. Attach a 20-inch piece of tape to seam at ribbing to tie around the neck of bottle.

Helmet.

Material, one hank of knitting worsted, gray, one pair amber needles No. 3 3½, four steel needles No. 11 for size smaller than amber needles.

With amber needles, cast on 54 stitches, knit plain 10 inches for front

and slip off on spare needle. Work another piece to correspond six inches long for back.

Slip the stitches of both pieces onto three steel needles, having 36 stitches on each needle. Knit 2, purl 2, for 5 inches. Bind off 30 stitches very loosely to make the opening for the face.

Knit 2, purl 2, forward and backward for 28 rows (4½ inches).

Cast on 30 stitches loosely and on three needles knit 2, purl 2 for 2½ inches. Knit one round plain, then narrow by knitting the last two stitches on each needle together, every row, until there are eight stitches left on each needle. Then knit two stitches together all around, leaving four stitches on each needle.

Then draw the loop of the yarn through all 12 stitches with a crochet hook and fasten firmly.

Knit rather snugly.

THE GIRLS' PLEDGE.

The Patriotic League is banding together the girls of all parts of the land in a common bond for work, special service and play. Upon the girls falls a big responsibility. It is the girls that the men remember when they go to the other side, and it cheers and inspires them to do their part well if they know that the girls, too, are being true to their trust.

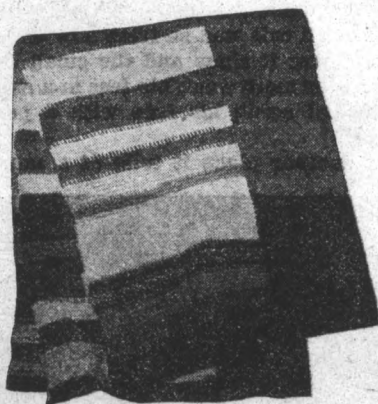
Thousands of girls have signed the pledge. Here it is:

"I pledge to express my patriotism—by doing better than ever before whatever work I have to do; by rendering whatever special service I can at this time to my community and country; by living up to the highest standards of character and honor, and helping others to do the same."

Girls who have signed it are carrying out the ideals in clubs and leagues. No girl should be exempt.

SPREADING COLDS.

Probably one of the most common methods of spreading so-called colds is through the carelessness of those who are sick with the infectious condition and who are careless in handling their handkerchiefs. They sneeze and cough when near others and fill the air with



Baby Blanket Made from Scraps of Yarn.

thousands of infective germs. If the usual symptoms of colds are aggravated in character, a physician should be sent for, as the line between the severe "cold in the chest" and pneumonia is delicately drawn. If a cold is permitted to hang on, it easily becomes a predisposing factor to more serious ailments, tuberculosis in particular.—The State Board of Agriculture.

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Our Boys and Girls

At Work and play



Young America Takes a Hand

THE other day R. H. Emberson, of the Extension Department Missouri State University, while telling the school children of a rural district how to organize clubs for gardening, pig raising, grain raising and the like, suddenly asked:

"Why is it necessary for us all to produce everything we can?"

A small chap from Duck Creek held up his hand, and when the instructor nodded, the lad said:

"So Uncle Sam can put Belgium back on the map!"

Perhaps in no other war in which this country has been engaged have the children shown keener interest in doing things. They meet in small groups either at school or at one of their homes and work things out. And this is the result of the children's deliberations in one of our progressive school districts. A delegation called on Miss Lizzie Eskridge, the teacher, and quite gravely informed her they had decided she should forego the annual Shrist-

and many were tied to the running boards. The other mail routes furnished large contributions, and the office was so badly swamped with cookies that the editor had to engage a store room to hold the run-over. The cookies were forwarded to the soldiers in camp by fast express.

A country girl who had been working in St. Louis as a stenographer came home on a visit, and decided to stay. They had made her a member of some young people's organizations and she said the work of helping the nation and its soldiers interested her more than her employment in the city.

You hear no more talk from the boys and girls going to the city for work. Truth is, that in the great majority of cases where young folks used to leave the farm for the metropolis it was because of the white lights, the theaters, the parks and amusement places. These things are not commanding the interest of the young now. Their ambition is to do something that will count. Children are even more eager than the grown-ups to get busy. They have sensed the important fact that this struggle in which the nation is engaged is one of resources and endurance, and they understand now that they can help.

You will find the children of the farm homes gathered around the hearth at night studying seed catalogues and agricultural journals. The study is being concentrated in various organizations for systematizing the work.

There are no slackers among the children; no hesitation over controverted points. Uncle Sam is at war, and Uncle Sam is always right. That belief is bred in the bone. To even question it is treason. The idea of giving the children something to do was a sagacious stroke. It makes them more contented. More—it clothes them with a responsibility, which they gravely accept. Their government has shown more appreciation of their ability than their parents have

in some cases, and they think more of the government because of it.

The increased production of food stuffs by reason of the young folk's enlistment in the game will be enormous. It was enlightening to see how they took to the "Calf Club" idea. For the boy or girl to have a calf to look after was a badge of confidence—a mark of honor. To be trusted with such an important piece of property made the boy at once feel manly, the girl womanly. A diamond ring or a glittering brooch was a cheap thing in comparison.

The difference in the system this year and what it has been heretofore is the difference between talk and action. Heretofore the children had to sit and

listen to lectures that bored them. Now they are being taught how to do something. They like that. To see things grow which they have planted, to watch a pig or a calf thrive under their own management, to develop the output of the poultry yard by their own study and experimentation—these are man's size jobs that will help things to go right overseas.

Every little tyke who can talk understands that. The Duck Creek scholar was only representative of millions of his kind. The German system of spies and intrigue is a weak and contemptible thing in the scales with the open-faced candor and loyalty of young America.

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

What Money Is For

WHEN the Apostle Paul in his letter to Timothy said that "the love of money is the root of all evil," he did not know, neither is he responsible for the fact that mere folks in the generations to come were going to abbreviate his saying and thus in a measure entirely change the deductions that might be drawn therefrom, by dropping quite an important part of the sentence, but they did so, and today you will hear very frequently the expression that "money is the root of all evil," and it has been told and retold, said, and said again, until there are people who really think there is some kind of a stigma attached to the possession of money.

Now I want our boys and girls to get away from this thought as quickly as possible. Money has been, and is, used for both good and bad purposes. When I say money I, of course, mean wealth. This is equally true of most other things of value. For instance, on the casualty page of the daily paper I read that a boy down in one of the southern states while playing, suddenly pushed his little sister into the Mississippi river and she was drowned. By this token I suppose water "is the root of all evil, and so from now on we must leave it alone and the small boy must ever more wash his feet in a sand bank and scrub his face with a pork rind.

In another place it tells of a muni-

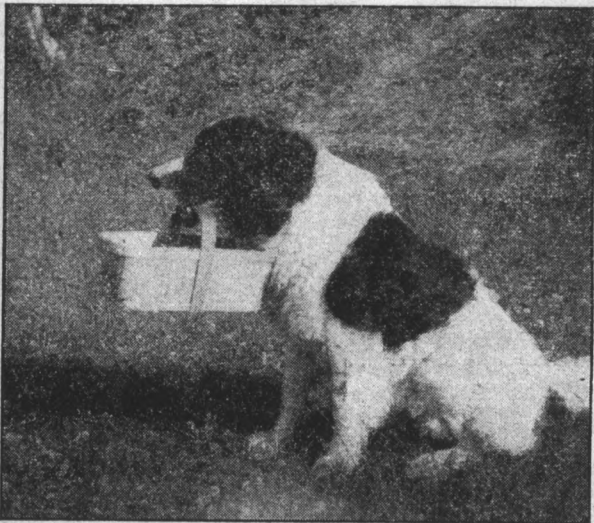
tion factory that was burned by German firebugs, so I suppose we must discharge Mr. Garfield, eliminate coal from our calculations and for ever after have nothing to do with fire, because fire is "the root of all evil."

In another place it tells of a Lady (?) who became angry at her husband and dashed a pail of boiling molasses over him with fatal results. Molasses, then, must be the "root of all evil" and from now on our boys and girls must spread pumpkin butter on their pancakes in lieu of this "root of all evil."

Such fanciful theories as these are of course, ridiculous, but not more so than money is evil simply because evil uses have been made of it. Money is simply a medium of exchange. Money in the abstract has no value except that for which it stands. Except as it serves a purpose in becoming a standard from which to base all trade calculations. There was a time in this very state in which we live that money had no standard unit of value.

Before Michigan was a state and when there were no banking laws, so-called banks sprang up everywhere over night, issued "currency" galore and flew the next night. This "wildcat" money was as fickle as the breeze that drifts over hill and dale. A man might think he had something of value one day and find out by the next that he had nothing but worthless, highly colored paper. Thanks to our present careful and efficient banking system this is no longer the condition.

Today we may take in exchange for that which we have to spare, almost any kind or color of money that may be offered and it will be worth in exchange for any other commodity just what its face would indicate, and so with the present highly satisfactory monetary condition I do not want any of our boys and girls to start out in life with any such false impressions as some of those old time-honored, moth eaten, rust ravaged "parts of truths" sometimes convey. In fact, we are, I sometimes think, all too prone to think things are so simply because someone has said so, and someone else has repeated it, then someone changes it a bit and soon you have an "adage" that does not even



Attentive, Ready and Willing.

mas treat she had been giving them, and apply the money this way: One dollar for the Y. M. C. A. for the soldiers, \$1 for the Red Cross and the balance for a set of tools and other articles which go to do productive work.

"But don't you children want any Christmas celebration?" asked the surprised teacher.

"To be sure we do," replied the girl chairman, "but we have worked that, too. We're going to have popcorn balls, sorghum candy and lots of hickory nuts and walnuts we gathered in the woods. We'll have a famous feast, and it won't cost anybody a cent."

Here's the way the youngsters chipped in on a Y. M. C. A. fund: "The finest feature of the epidemic of giving all over the country was the interest taken by the children. Everywhere big boys and little boys, big girls and little girls, poured into the fund all or part of their little savings, thus putting to shame a few men in good circumstances who gave grudgingly or not at all."

A local publication had a "Cookie Day" for the soldiers in the camp and this brought out the patriotism of the district school children. The boxes were sent in by the mail autos. The one arriving from South Fork township, twenty miles out of town carried eighty boxes of cookies, which filled every inch of space in the car,



Boys' and Girls' Exhibits at U. P. Show were of the Highest Quality.

express the sentiment that we began with. Always have a reason for thinking the things you think, and know what that reason is.

The possession of wealth is not a disgrace, neither is its lack a virtue. The most wonderful things in all the world are accomplished with wealth. Some bad things are also done with it, but the good very far exceeds the bad. This is, of course, true in all the many activities of life. If it were not, our country would be in anarchy at once. There are more good people in the world than bad ones, more true than untrue, more just than unjust, more honest than dishonest, more loyal than disloyal, and I want this fact to become real to you in the early days of our

Michigan Farmer visits. I want it to become fundamental in your beliefs. We sometimes get a jolt that almost makes us waver for the moment, but stick to this faith always and all the time and then we shall be on the same basis in our future visits. You may think we are a long time in getting started, but we wish to start right and fully understand each other if we are to get mutual benefits from these articles. Money, then, is first a necessity, it is useful, it is legitimate when legitimately obtained and legitimately used, and its frugal saving and investment in such manner as shall make it valuable to the saver and the community at large is to be considered highly commendable.



Boys' and Girls' Club Notes

Conducted by E. C. Lindemann



ALL members of Boys' and Girls' Corn and Bean Clubs will be eligible to make exhibits in the Junior Class of the Michigan Crop Improvement Association Exhibit.

Each exhibit must be made according to the standard specified below.

Each exhibit must be made by a regular club member.

Each exhibitor must send his or her report and story of the project on or before January 10, 1918.

The name and address of the exhibitor should be on the inside as well as the outside of the package.

Send exhibits by parcel post.

Each exhibitor will receive the national 4-H emblem.

Each prize winner will receive a Junior Membership in the Michigan Crop Improvement Association, which includes all privileges excepting right to vote.

Address all exhibits to C. A. Spaulding, East Lansing, Michigan.

The following premiums will be offered to exhibitors who are members of corn-growing clubs.

State champion (four-point basis).—Large loving cup offered by the Michigan Bankers' Association. Also large pennant offered by the Michigan Crop Improvement Association. Second place, pennant; third place, pennant.

Exhibitor having highest yield: Ten pounds of pedigreed seed, (Pickett's Golden Glow or Duncan variety); exhibitor showing the highest profit, one bushel of Wolverine oats; exhibitor, having best quality, one peck of Rosen rye; exhibitor having best report, one-half bushel of Michtooro barley; exhibitor having best story on project, one peck of Red Rock wheat.

Standard Corn Exhibit.

The standard exhibit for corn will be ten ears selected from the club members' plat. Exhibitors may have the privilege of sending two extra ears to take the place of any which may be injured in transit.

The following premiums will be offered to exhibitors who are members of bean-growing clubs:

State champion (four-point basis): Large pennant offered by the Michigan Corn Improvement Association. Second place, pennant; third place, pennant. Exhibitor having highest yield, ten pounds of pedigreed Golden Glow or Duncan variety; exhibitor showing highest profit, one bushel of Wolverine oats; exhibitor having best quality, one peck of Rosen rye; exhibitor having best report, half-bushel of Michtooro barley; exhibitor having best story, one peck Red Rock wheat.

Standard Exhibit for Beans.

The standard exhibit for beans will be five pounds of beans taken from the club members' plat. The beans must not be hand-picked, but must be just as they came from the thresher.

The Four-point Basis.

No exhibits will be eligible to this

class unless the exhibitor has sent in a report of his or her project and a story telling how the crop was raised.

The state championships are decided upon the four-point basis which includes quality, yield per acre, profit per acre and report and story.

Meetings.

The annual exhibit of the Michigan Crop Improvement Association will take place at the Michigan Agricultural College on January 15-16, 1918. All exhibitors in the junior class will be permitted to attend these meetings.

Special for Boys: All members of corn or bean clubs will be permitted to come to the college for the Boys' Special Day, which is January 16. The morning will be devoted to a sight-seeing trip about the college grounds, barns, etc. In the afternoon the boys will be invited to attend the regular meeting of the association. At 4:00 p. m. there will be a special session for boys. At this time the premiums will be awarded.

To County Agents and Club Leaders: This meeting offers a splendid opportunity for bringing your club members in contact with the Agricultural College. It also offers the opportunity of coming in contact with the farm crop experts of the college and the state. It is urged that groups of local and county champions and other interested club members be brought to the college for these meetings.

For further information write to C. A. Spaulding, Assistant State Club Leader, East Lansing, Michigan.

The girls who are making Red Cross material for the Shurley Hospital Unit have completed the following articles:

Christmas stockings, filled.....	75
Christmas stockings, unfilled.....	93
Comfort bags, filled.....	59
Comfort bags, unfilled.....	20
Hospital bags.....	150
Joke books.....	25
Housewives.....	100
Trench candles.....	3,000

About one thousand girls are now doing Red Cross as part of their club work. Has your club started?

Now is the time to begin thinking about testing your seed corn.

The Short Courses in Agriculture at the Michigan Agricultural College open on January 8. Many club boys are planning to attend. Can you arrange your time to come? This is a splendid way to train yourself to be an efficient "Soldier of the Soil."

Clubs that have had their annual exhibit should begin the work of the new year. Clubs should be reorganized, projects selected, programs planned.

Girls are now being taught to make candies with the use of sugar substitutes. Honey, molasses, corn syrup are used as substitutes. Have you ever tasted candy made out of potatoes? They're learning how to make vegetable candies also. This is one of the Christmas suggestions which goes to members of girls' clubs.

Bumper the White Rabbit

By GEORGE ETHELBERT WALSH

Copyright, 1917, by Geo. E. Walsh

Bumper Runs Into a Nest of Rats

THE way back to the garden seemed a long one, and Bumper soon began to entertain doubts about the kindness of Mr. Sewer Rat. It was an old abandoned sewer, with plenty of room in it for a whole colony of rabbits, but it was terribly dirty and damp. The musty odor was so different from the pleasant fragrance of the garden he had recently left.

"I must have traveled miles and miles," he thought after a while, stopping to clean off some of the dirt that clung to his white fur. "Either that Rat didn't know what he was talking about, or he told a whopping fib. They always were sneaky animals, the Sewer Rats, and I shouldn't have listened to him."

He stopped to consider whether he shouldn't turn around and retrace his steps; but he was disturbed by the fear that he could never recognize the mouth of the drain-pipe he had come through. He had passed a number of these black holes on his way, all looking alike.

"I should have counted them, and then I'd know which one was mine," he reflected.

But there was no good crying over spilt milk. He was in the abandoned sewer, and he had to find his way out somehow. Meanwhile, he was getting desperately hungry. Oh, for a mouthful of the succulent grass that grew in the garden, or a cabbage leaf or a piece of celery—anything, in fact, that would satisfy that gnawing at the stomach.

"Ah, well!" he sighed. "I must keep going until I find something to eat. There must be other gardens, and this sewer must lead somewhere."

In a little while he became so thirsty that a drink of water seemed even more desirable than a bite of food. He tried to lick some of the moisture from the sides of the sewer, but that was only aggravating. It seemed to increase rather than diminish his thirst.

One hopeful feature of his adventure was that the big sewer seemed to grow lighter as he proceeded, and he was sure he was coming near the end. But before this hope was realized he stumbled upon something that gave him a shock.

Just ahead of him something long and black hung from the roof of the sewer, reaching down almost to the bottom. Bumper stopped to gaze critically at it, his little heart beating with apprehension. Was this the shadow of some strange animal, or was it simply an innocent log of wood that had got wedged in the sewer?

As it didn't move, and was perfectly noiseless, Bumper concluded that it was harmless, and so he approached it and after sniffing at it began nibbling the lower part. Suddenly there was a loud squeak, and the big shadow seemed to part in the middle and fly in every direction. It took wings so strangely that Bumper was more astounded than frightened.

The sewer was filled with black shadows that flitted all around him. Then followed a perfect babel of noisy squeaks. Some came so close to his ears that he dodged and ducked in fear. One pair of sharp beaks caught him on the tip of his nose and made him squeal, and another nipped the back of his head. He was too surprised and frightened by this time to run, and he tried to defend himself with his two front paws.

"It's the Sewer Rat! Bite him! Tweak his nose! Snap his tail! Tear out his eyes!"

The air was filled with these faint

cries before Bumper began to realize just what he was up against. He had run into a big bunch of bats sleeping in the abandoned sewer, and his nibbling at them had alarmed and angered them. It was apparent from their remarks that they mistook him for Mr. Sewer Rat, who perhaps had annoyed them many times before, and had even threatened to devour some of them.

"I'm not the Sewer Rat!" cried Bumper. "Please don't snap out my eyes. I didn't mean to disturb you! Wait! Wait, until I can explain!"

"Who are you? And what are you, them?" cried the biggest and fiercest of the bats, coming so close that his eyes looked like pin-points of light.

"I'm Bumper, the white rabbit!"

There was a pause, and the flitting wings seemed to stop beating the air.

"Bumper, the white rabbit! Who ever heard of a white rabbit! All rabbits are brown or gray."

It was the big bat speaking for the others, but they all joined him in gnashing their teeth and in whipping the air with their soft, almost noiseless wings.

"But I assure you I am a white rabbit," replied Bumper. "Come and look at me."

This challenge seemed fair, and some of the smaller bats approached nearer, but the leader warned them back. "Keep away! It's the Sewer Rat in disguise. It's a trick of his to catch you."

"Is the Sewer Rat white?" interrupted Bumper.

"No, not unless he's been whitewashed or been sleeping in a barrel of flour."

Bumper had to smile at this, for he recalled once how a big rat had been caught in a bag of flour by the old woman who kept rabbits, and his hair was as white as that of the whitest rabbit.

"I can assure you, Mr. Bat, that I haven't been whitewashed, and I certainly haven't been sleeping in flour. Look at my ears. Does Mr. Sewer Rat have long ears like mine?"

"No, but he could disguise them by using pieces of white paper. I wouldn't trust him a minute."

In desperation, Bumper then added: "But look at my tail! Did a Sewer Rat or any other kind of a Rat have a tail like mine?"

"Where is it?" asked the big Bat. "I don't see any tail at all. All rabbits have white tails, and you haven't any at all."

Bumper wagged the stump of tail that he thought would convince the bats, but for a moment, he wasn't exactly sure that he saw it himself. Instead of a white, fluffy stub of a tail as soft as cotton, he saw the dirtiest, blackest wad of hair waving in the air that had ever disgraced a rabbit. The truth flashed upon his mind in an instant. What he had supposed to be the blindness of the bats was nothing more than a most natural circumstance.

He was so black with the dust and mud of the drain-pipe that it was misleading to call himself a white rabbit. He was far from it. He was a dark as any wild rabbit of the woods—darker, in fact, for there was no white fur under his stomach or around his stubby little tail.

He was so confused by this discovery that he could not find his tongue to make reply. The Bats, accepting his silence as proof that his deception had been found out, suddenly beat their

(Continued on page 607).

Over the Top at Camp Custer

By J. H. BROWN

THE boys from many hundreds of Michigan farms have left their homes and gone "over the top" into the big military training farm at Camp Custer. Many hundreds more are coming in the next few weeks. All have wondered and worried more or less, and others will, as to the kind of a place in which they are, temporarily, going to live and work for Uncle Sam, after they have donned his uniform. Many thousands of the Michigan Farmer readers have wondered also, and will be interested in reading the facts concerning this great farm and in seeing some of the official pictures in connection therewith.

Going "over the top" into Camp Custer is a real stunt. It has been done

It seems strange to drive one's automobile all over these old farms in every direction. Fences, hedge rows, small timber lots, farm houses, barns, orchards and fine lawns have disappeared wherever it was necessary. But, when possible, the plan has been to leave the best houses, barns and trees. And when the camp is completed next summer many thousands of trees and shrubbery will be planted under the direction of a noted landscape gardener. In time the beauty of Camp Custer will be commented upon by every visitor.

We have met hundreds of farmer boys in the camp and have helped to entertain them here in Battle Creek. Many tell us their folks at home take

ter than ever before. The training has been just what they needed to make perfect specimens of manhood. The percentage of sickness is way below normal. The base hospital is the largest, most complete institution of its kind in this portion of the country. Every mother's son in the camp is looked after just as well as when he was at home, and if one has even a cold he goes to the hospital for rest and treatment and is quickly cured.

And it is the same with the lean boys. They have gained a number of pounds in weight and the training and camp life has made them healthier and more vigorous than before they left home. These thousands of soldier boys in Camp Custer are the finest looking and appearing lot of young men the sun ever shone on. When they come to Battle Creek and walk on the streets they win compliments from all sides regarding their gentlemanly conduct and soldierly bearing. And the thousands of their folks back home who have come here to visit them have returned, reassured and full of pride over their fine soldier boys.

The low, or one-story ends of the barracks in the picture are the kitchens. We have eaten in the mess room and never sat down to finer meals anywhere. The boys have good beds to sleep on, plenty of bedding and they get oceans of fresh air to breathe while asleep. The barracks are well heated and winter has no terrors for these boys. Nearly all are already getting anxious to become thoroughly efficient in their training and they are anxious to get over to France in the front of the fight to clean up the old kaiser.

During the October rains the roads leading from Battle Creek to Camp Custer became so bad it was difficult for any vehicle or pedestrian to navigate in the mud. From the ends of the city pavement, and from the terminus of the concrete road through the suburban village of Ubantale, the traffic cut the sandy roads into quagmires. From the time construction started there has been a constant procession of vehicles both ways between the city and camp. The federal government and state highway commission combined with our county road commission, and recently we completed a concrete and asphalt road, eighteen feet wide, from the city to the eastern entrance of the camp. It is the first road of this sort of construction in the state to be built along a country highway. The concrete base is seven and the asphalt two inches thick.

The picture shows this road as it

looks from "over the top" at the main or east entrance to the camp. It resembles a real mountain view, with a straight track, instead of typical hair-pin turns. The view is toward the east into Battle Creek, three miles away. This road will be as smooth as the asphalt on Woodward avenue in Detroit, and next summer there will be thousands of farmers who read this paper who will drive in their automobiles to Battle Creek and over this fine pavement up the grade and over the top into Camp Custer for the first time. Another road will be completed next spring and then farmers will delight in making automobile tours to this big military farm.

Trapping the Weasel

By A. F. DeLaMATER

ONE of the most common of our fur-bearers is also the most overlooked, and is, in the aggregate, one of the most valuable. I refer to the white weasel. They are scattered over at least two-thirds of the state and in the northern half they are almost universally plentiful.

There are quite a number of people who do not know that the brown weasel of the summer and the white weasel of the winter months are one and the same; I know from my own experience that they are. A white weasel is never seen in summer, and in the northern part of the state a brown one is never seen in winter. I have captured weasels that were in the process of turning from brown to white, and when they were three-fourths white I have brushed out the brown hairs and sold them for white weasel; this process of changing color takes place about the middle of November.

The trapping of the weasel is quite simple when once the weasel is located; they are not at all tray-shy. The main difficulty in weasel trapping is that the weasel travels far and wide and has no regular routes; therefore, a trap will often remain for weeks untouched because the weasel fails to find it. This obstacle is overcome in two ways. First, a small shelter is built to protect the traps from the snow and a large bait is placed therein without a trap; a weasel on finding this bait will live there as long as there is anything left to eat. The result is that at the end of a month one often has half a dozen weasels hanging around his bait pen; then a trap can be set in such a manner that the weasel must get into it when trying to get the bait, and thus all of them can be caught in as many nights. If the trapper has a line of these bait pens half a mile apart and baits them all up and leaves them for three or four weeks he can make a



A View Down Old Harmonia Country Road.

This road leads from Battle Creek to the main, or official, entrance of Camp Custer. The view is from "over the top" toward the city. The road has a seven-inch concrete base covered with two inches of asphalt, and the bed is eighteen feet wide.

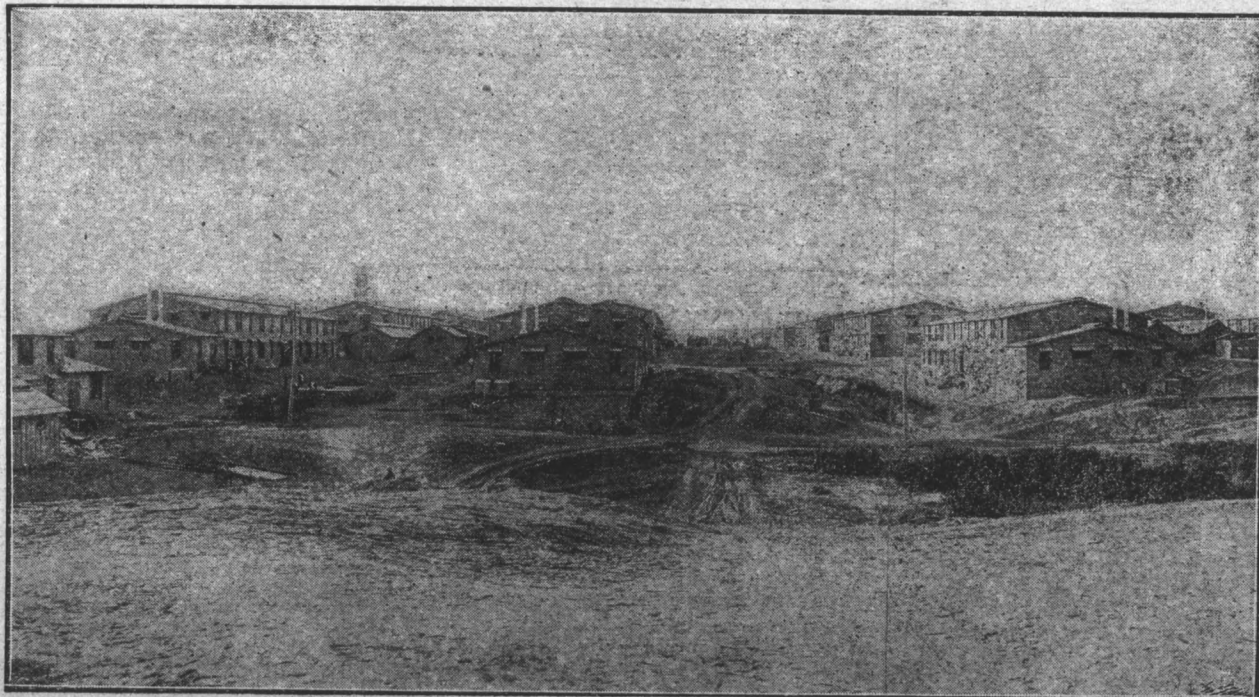
by every one of nearly 26,000 Michigan and Wisconsin boys already. The first lot came in September when it was warm and pleasant. They walked from the scores and scores of trains that came from Detroit, the west and northern Michigan, with their suit cases, bundles and all sorts of packages in their hands. They had to walk about three-quarters of a mile through sand and dust up a long and crooked hill and over the top to the entrance at the northeast corner of the camp. For several hours they waited in sections to go through the receiving station. From an elevation inside the station we took several pictures of these boys as they climbed the hill past us. Nearly every one was cheerful and keeping a sharp lookout for the first sight of the great camp. All were surprised at the immensity of the cantonment and expressed themselves accordingly.

We present herewith a picture of the first view after going over the top last September. The buildings were erected in less than two weeks and stand on two farmers' fields in which, in the years gone by, we have helped the farmers do various kinds of farm work. The former owners of these farms, and of nearly all others inside the cantonment boundaries, have been dead or several years. What would they think if they could come back and look the ground over now?

The picture shows not more than a dozen of the more than 2,000 buildings inside the camp. The three rows in the view are side streets, four blocks long, and all on one side of the main street and paved road which extends over three and one-half miles from one end of the camp to the other. The reader will notice that little attention has been paid to the unevenness of the ground. Big and little hills have been leveled and many of the hollows have been filled since this picture was taken.

the Michigan Farmer. The boys have been interested in the changes that have occurred in the hundreds of fields of growing crops during the last few weeks. Some have helped gather the corn and potatoes, others have picked apples, and it seems almost like being at home again, in one sense.

The very best soldiers in Camp Custer include these boys who came from Michigan farms and their fathers and mothers will be glad to know it. They are being cared for in the very best manner. The boys who were too fat are losing some flesh and have become erect, have square shoulders, and they are in fine athletic condition. They can stand all kinds of hard work bet-



This was the First View the New Recruit had of Camp Custer Last Fall as he Went "Over the Top." Much improvement, however, has been made in the Grounds Since this Photograph was Secured.

State Grange Meets

THE forty-fifth annual session of Michigan State Grange, held at Jackson, December 11-13, was a most delightful assembling of capable farm people who packed into three days an amount of concentrated work and play unequalled in the past by this organization, which already holds some record for doing things in one session.

The exigencies of farm work and blizzard weather early led to the effort to finish the allotted work of the session in three days instead of in four as usual. Master Ketcham stated that other large state Granges would shorten their sessions under pressure of present conditions; and it seemed to suit the temper of our people to meet the situation in similar manner, thus enabling all delegates to reach home by Saturday night. The number of delegates was slightly diminished by the storm which struck the state just as patrons were preparing to leave their homes but, as the week advanced local Grange delegations brought the attendance to normal of other years.

Jackson "made good" its earnest promises to give the state Grange the "best ever" so far as accommodations and city attentions were concerned. Not a single complaint was heard; Masonic Temple proved the most comfortable and agreeable meeting place possible for such a gathering even in the biting cold weather that prevailed. Mr. C. F. Hollands, secretary of the Jackson Board of Commerce, was in almost constant attendance at the building and saw that whenever it was possible every wish was gratified.

The program itself, of this session, was a masterly and artistic piece of workmanship, prepared and carried through by Master Ketcham and State Lecturer Mrs. Dora H. Stockman, officers highly skilled in the rare art of program building. The scope of the program was broad and recognized every feature of varied Grange activity. In personnel it included the governor of our state, and it drew freely upon the uncommonly large number of efficient, Grange-trained men and women present for heads of committees and special service. The reports of officers and character of resolutions presented showed unusual strength and a marked wealth of new subject matter which was later handled by the body without gloves in thoughtful but vigorous fashion. In social and relaxation features, it is easy to say, this particular session of state Grange has never been equalled in simple and perfect plans in which every person present might have a part; chief among these entertainment plans stands out the feature of community singing which was introduced under leadership of Rev. Ray M. Hardy, member of Capitol Grange who has had wide experience upon the Chautauqua platform, in thus welding a group of people into a happy, workable shape through congregational singing. The acme of the social phase of the session was reached when six hundred joyous patrons sat together at banquet tables, interspersing courses and speeches with happy songs.

A highly patriotic spirit characterized the week, of course—crystallizing at the outset in adoption of a strong resolution in support of the government which was dispatched to President Wilson. Patriotism ruled the perfect decoration of the large hall in an impressive scheme wrought by the use of only the national colors—not a flower being in evidence until the simple memorial service and the degree work in the closing hours.

BUMPER, THE WHITE RABBIT.

(Continued from page 605).

wings and set up a terrible uproar.

"It's the Sewer Rat in disguise!" shouted the big leader of the Bats. "Now we'll punish him! Drive him

out of the sewer! Peck out his eyes!" Bumper stopped just long enough to realize that he had no chance in a fight against all those whirring wings and little gnashing teeth. If he was to escape at all, he had to get a start on the bats. Even though flight seemed to confirm the suspicions of the Bats, he turned and fled as fast as his four legs would carry him.

There was plenty of room in the sewer, and Bumper made such tremendous strides that he outdistanced all but a few of the leaders. They tried to land on his back and claw him, but he shook them off, and dodged this way and that, until the light ahead suddenly became so strong and blinding that the bats gave up the chase.

When Bumper finally came to the mouth of the sewer, he was all out of breath, but the view ahead compensated for a lot of his troubles. He could see the blue sky; green fields and waving trees, and near-by the rippling surface of a lake or river. It looked like Paradise after the darkness of the sewer; but all things that glitter, he found out, are not gold, and every earthly Paradise seems to have its serpent lurking somewhere around in the grass.

(Next story tells how Bumper escaped on a raft).

FEEDING FOR EGG PRODUCTION.

Eggs will bring particularly high prices this winter. The proper ration to feed is a vital contributor in egg production at this season. Poultry rations at once divide themselves into two different classes: Those for the fowl, and those for egg production. Too many farmers are feeding for the hen's upkeep, forgetting that they must also feed for eggs. Hens in full laying require rations which have a greater relative content of protein and ash, as against those fed merely for maintenance.

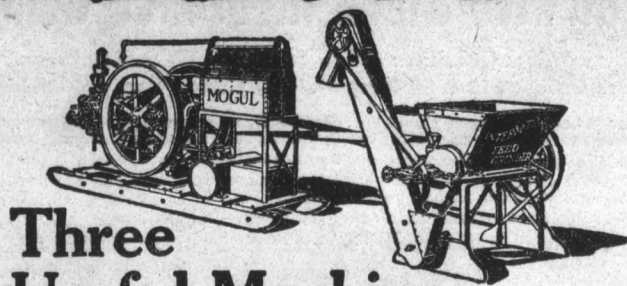
The following makes a satisfactory ration for laying hens weighing from five to eight pounds: Cracked corn, one pound; wheat 0.75 pound; corn meal 0.75 pound, together with 0.5 each of wheat middlings, buckwheat middlings and beef scrap, and 0.66 pound of fresh ground bone and 0.75 of freshened alfalfa or clover.

The natural food of poultry consists of grains, insects, green forage, and grit, and accordingly in domestication it is reasonable that the hens receive cereal grains and other milling products, and such animal feeds as meat meals and skim-milk, and should also have an abundance of green feed or such substitutes for it as roots or steamed clover. Oyster shells, grit and plenty of fresh water should also be supplied.

Some farmers feed their flocks twice a day and others three times, but three meals usually proves more satisfactory. The fowls should be given a handful each of whole grain buried in the litter, early in the morning, just as they step off the roost. At noon they should be given about two handfuls of grain per dozen hens, which is scattered as before, and are also given the roots, such as mangel-wurzels, sugar beets, turnips, etc., they can eat, either pulped or whole. Cabbage is a good substitute for roots when not over-fed. About four o'clock in the afternoon during severe weather the flock should be given a mash composed of equal parts of bran, shorts, oat chop, and corn meal to which is added ten per cent animal meal, or cut ground bone or cooked meat. Mix these feeds thoroughly together, adding steeped clover, sufficient water being used to moisten the clover and hold the mash together. The clover should equal about one-third of the bulk of the ration. Feed a little ground grain, such as corn, after the mash has been cleaned up, and the flock will go to roost contented and ready for laying the next day. Feeding right means profits right.

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

I am in the Market for 15 head of fresh cows or good grade of Guernsey, Holstein or Durham at a fair price. Address THOMAS F. COWHEY, Washington, Mich.

Avondale Stock Farm, Wayne, Michigan have entered 10 head of Registered Guernsey Cattle in the Michigan Holiday Guernsey Sale at Jackson, Michigan. Dec. 27, 1917.

I have entered 10 head Reg. Guernsey Cattle in the Mich. Guernsey sale at Jackson Dec. 27, 1917. JOHN EBELS, R. 2, Holland, Mich.

GUERNSEYS: Pure bred cows, heifers, heifer and bull calves, of choice May Rose breeding at farm. e's prices for quick sale. Visit our herd before buying. Meadow-Gold Guernsey Farm, R. 8, St. Johns, 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.

REG. HOLSTEINS: Herd headed by Albina Bonte Butter Boy No. 93124. Da m's record at 6 yrs. butter 23.53 lbs. milk 619.4. Yearly record at 2 1/2 yrs. butter 82 lbs. milk 1822 lbs. W. B. READER, 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. Write, 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 90 lb. bull dam is grand-daughter of De Kol 2nd But. M. L. McLAULIN, Redford, Michigan.

I Always Have Holsteins To Sell

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

L. E. CONNELL, Fayette, Ohio

"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 365 days 20854 lbs.
His Dam's Records { Butter 365 days 842 lbs.
Handsomely marked, about 1/2 white. Price \$200.

McPherson Farms Co., Howell, Mich.

REG. Holstein Bull Calf. The last one until winter, a good one with A. R. O. backing. Write for pedigree and price. Elmer E. Smith, Redford, Mich.

A Few Fine Bulls For Sale

Bigelows Holstein Farms, Breedsville, Mich.

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 8 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 Dams is 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. O. Heifers. Write & tell us the kind of a bull you want.

John H. Winn, (Inc.), Holton, Mich.

Pure Bred HOLSTEIN COWS WILL MAKE YOU MORE MONEY

than any other breed. That's a fact—not a theory. Write us for free information. There is no obligation—we have nothing to sell. THE HOLSTEIN-FRIEDLAND ASSOCIATION OF AMERICANS, Box 164, Brattleboro, Vt.

REGISTERED HOLSTEIN BULL

Two years old Jan. 16, 1918. A splendid individual combining the best traits of the Pontiac, Dekol and King Segis strains, for full particulars. E. C. BAYNES, Birmingham, 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 Veiv Farm, R. 8, 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 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. C. 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 90 lb. cow. Edwin S. Lewis, Marshall, Mich.

How Would You Like

a son of a 30 lb. bull from a daughter of Traverse Cadillac Lad? That is what we offer you this week for \$50. Can you beat it? E. M. PIERCE & SON, Manchester, Mich.

Holstein Bull Calf born Mar. 7, fine individual a prize winner from 29.62 lb. Sire and 23.80 lb. 4 yr. old dam. Price low. Owosso, Mich. A. F. LOOMIS.

Holstein cows for sale, 10 head highest class, registered stock. Write for particulars to E. P. KINNEY, Lansing, Mich.

Reg. Holstein bull and heifer calves for sale. C. 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.

Reg. Holstein Bull Calves Pontiac Korndyke and Hengerveld De Kol Breeding at Farmers Prices. John A. Rinke, Warren, Mich.

Fine Reg. Holstein bull calf. Born Nov. 28, about half white. Mothers & fathers dams have A. R. O. records. Price \$30. Chas. I. Cook, Box 77, Fowlerville, Mich.

Reg. Holstein bull calf strong in Segis, Korndyke & Dekol blood. Nicely marked. First check for \$50 takes him. M. H. Chamberlain Jr., Romeo, Mich.

For Sale Registered Holstein bulls ready for service 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

HEREFORDS

ALLEN BROS.
PAW PAW, MICH.

Herefords Bob Fairfax 494027 at head of herd. Stock for sale. Both sexes either polled or horned. EARL O. McCARTY, Sec'y Mich. H. B. Ass'n; Bad Axe, Mich.

FOUR HEAD HEREFORD BULL CALVES ready for service, eligible to register. HERTLER BROS., Saline, Mich., on Electric Car Line.

Jersey Bulls for Sale from high-producing dams, with testing Assoc. records, also on semi-official test. C. B. Wehner, R. 6, Allegan, Mich.

Jersey Bulls For Sale Ready for service. Raleigh - St. Lambert breeding. Waterman & Waterman, Packard Rd., Ann Arbor, Mich.

Additional Stock Ads. on Page 609

President Scully's Address

Before the Recent Meeting of Michigan State Association of Farmers' Clubs at Lansing

IT is a profound pleasure on my part, to have this opportunity of presenting my address to such distinguished guests as are ours this evening and such delegates as are present here, representing one of the best agricultural organizations and the grandest of all vocations offered to mankind, in this great state of ours, on this occasion, the Quarter Century Anniversary, of the Michigan State Association of Farmers' Clubs.

We are associated together as a common class, representing one of our state's greatest industries (agriculture) and for a purpose only of further developing our social, mutual and intellectual progress, a most worthy and complimentary cause.

Agriculture has made a tremendous growth in the past two decades in Michigan, both physical and scientific, and for these existing conditions much credit is due the distinguished gentlemen present, whom we are so proud to have as our guests this evening, viz., Dr. J. L. Snyder, President Emeritus, and Dr. F. S. Kedzie, President of our Michigan Agricultural College. These gentlemen who have been so closely associated with this grand old institution of ours for so many years have grown to not only love and endear the institution that they represent here tonight and three hundred and sixty-five days in the year, but they likewise have grown to love the great cause and purpose for what that institution stands for in a larger degree, Progressive Agriculture.

The effect of our organization cooperating with the college for the past quarter of a century has been greatly beneficial to both, and to this union has been born a new vision in agriculture, a new purpose in its precepts.

Michigan's population in 1910 was 2,810,173, an increase of 16.1 per cent in a decade, her rural population was 1,483,129, an increase of two per cent in the same time. Although it is estimated that but one-third of the United States population at present is rural, it will still hold good that about fifty per cent of Michigan's population is rural today. It is also interesting to note according to statistics that Michigan has 206,960 farms and their value per acre is as follows: Land \$32.48; buildings \$15.09; implements \$2.64; live stock \$7.28, a total average value per acre of the farmer's capital in 1910 being \$57.49. The average size of these farms was 91.5 acres. Therefore the entire estimated capital value of the farmers of Michigan was \$1,088,668,931, which was an increase of 57.7 per cent during the same period of time that our population increased but two per cent. However, it is perhaps surprising to note that with our increase in capital our mortgage condition has been slightly increasing.

In 1890 we find 37.6 per cent of our farms were mortgaged. In 1900 we find 39.4 per cent of our farms were mortgaged. In 1910 we find 40.9 per cent of our farms were mortgaged.

I believe that our 1920 census report will show a surprising increase in our farm capitalization and likewise in our percentage of mortgaged conditions, which goes to disapprove the clamor of many fanatic writers that the farmer is getting immensely rich off the hard earnings of our urban population.

Time will not permit me to draw a comparison of the farmer's profits with that of manufacturing or of mining, our natural resources. These industries have prospered by leaps and bounds in the past decade. It is sufficient perhaps to inquire if anyone presently knows of any farmer within his bounds of knowledge, whether in Michigan or elsewhere, making 100, 200 and

even 300 per cent on his money invested. I leave the problem for your own conclusion as to who is making the greater profits on his investment.

The farmer is at the present time an acknowledged potent factor in this world's great crisis. President Wilson Mr. Hoover, General Crowder, and many others of our great statesmen say that, upon our food production and the conservation of the same hangs more than the equilibrium of success for our allied nations at war. And the success of our allied armies means the restoration of devastated Belgium, the safe and sane control of the high seas by England, a peaceful home-loving country of the United States, world's freedom from the tyranny of autocracy and one-man power.

Our association was favored with a placement of one of our members on the Woman's Committee (Michigan Division) Council of National Defense, and it was my pleasure to name our Worthy Secretary, Mrs. Joseph S. Brown, of Howell, as a member of that all-important committee, which position I am sure she will fill most ably.

Much credit is due our legislative committee, of which our Ex-president, Hon. A. B. Cook, is chairman, through their cooperation with the legislature of 1917 and close scrutiny of the bills introduced, it is my personal opinion that the interests of the farmers of our state were better taken care of by the past session of the legislature than ever before. I trust our association will deem it wise to continue this important committee.

Further, I would recommend the passage of suitable resolutions endorsing the "Ten Proposals" as presented by the American Defense Society, Inc., National Headquarters, asking the administration and congress to act at once upon these measures, as a matter of protection in time of war.

Further, I would recommend the passage of suitable resolutions denouncing the organization of the so-called Non-partisan League, as a menace to good and effective government.

Further, I would recommend the passage of suitable resolutions, commending our war preparedness board upon their successful operations, in this trying time.

Also, commending Mr. W. K. Prudden's activities in his endeavors to relieve the present acute coal situation.

Also, Hon. George A. Prescott's successful activities as State Food Administrator, and pledge him our hearty cooperation in the conservation of our food and food products in this crisis, as a war measure.

Also, as it is a now proven fact that our fire losses in Michigan for the current year will far exceed those of a number of years past, running to perhaps as high as \$8,000,000, I would recommend that our commissioner of insurance be requested to compile a bulletin on causes of fires, with recommendations for prevention, the same to treat upon both city and country conditions, and to be distributed extensively throughout the state.

In conclusion I wish to thank the officers and members of various committees for their untiring efforts in behalf of the organization for the past year, much more than ordinary has been asked of us as an organization and as individuals, our responses have been of the most willing nature to every call. We are hear to back the governor, to back the administration, to back the government, to back our allies and to back Old Glory which waves for universal freedom and the protection of innocent women and children.

LAST CALL

TO THE FIRST

MICHIGAN HOLIDAY

GUERNSEY SALE

Every person interested in **Dairy Cattle** should be at this sale--surely every **Guernsey** breeder in Michigan owes it to the breed to be there. Every one who believes in **bettering** his herd of cattle should be there. Any one in the market for a **Guernsey Cow, Heifer or Bull** cannot afford to stay away. **Too Late to Write for Catalog, Come to**

Jackson, Michigan - Fair Grounds

Thursday, December 27, 1917

SALE STARTS AT ONE O'CLOCK SHARP

CATTLE

Lillie Farmstead Jersey Cattle. 3 bulls, ready for service, out of R. of M. dams. 10 heifers bred to freshen next fall. Colon C. Lillie, Coopersville, Mich.

For Sale Two registered Jersey 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.

FOR SALE Maple Lane R. of M. Jersey Herd R. of M. cows and their daughters all records 500 and 600 lbs. For sale bulls and bull calves out of these cows. IRVIN FOX, Allegan, 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 WILLOW HILL, Alvin Balden, Capac, Mich., Phone 143-5.

FOR SALE Registered Jersey bulls, ready for service. SMITH and PARKER, R. 4, Howell, 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. O. W. Gram, Secy. Cent. Mich., Shorthorn Breeders' Assn., McBride, Mich.

SHORTHORNS Maple Ridge Herd, Established 1867. No stock for sale. J. E. Tanawell, Mason, Michigan.

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. R'y. 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. 1 son of Maxwell 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. 40475, both sexes \$150. Twenty cows WM. J. BELL, Rose City, Mich.

For Sale Shorthorns Bulls 6 mo. to 2 years old from good milking cows. R. R. Clyde Station, H. J. DeGarmo, R. 6, Milford, Mich.

Shorthorns both sexes, hard catalogues mailed free. CHARLES B. HORRIS, Hart, Mich.

ATTENTION HOLSTEIN BREEDERS

Present and Future

This Is Not a BULL Sale

The Central Michigan Holstein Breeders Will Sell

AT AUCTION JAN. 18, 1918

At Michigan Agricultural College, East Lansing, Mich.

Thirty-five head of inspected and guaranteed females, more than half of which will be straight, high quality cows fresh or soon to freshen by bulls of good breeding and extra individuality.

The balance are high-class heifers from eight months to two years old, some of which are well along in calf.

Watch this space and send for catalog if interested, to **Chas. A. Daniels, Secretary, Okemos, Michigan.**

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.

SHORTHORNS Butterfly Sultan, half brother to International St. Champion, in service. For good bulls, cows, and heifers. W. B. McQuillan, Howell, Mich.

HOMESTEAD FARMS

We have for immediate delivery the following thoroughbred registered stock: **Shorthorn Durhams**, Milk-ling strain Scotch topped, one roan cow, Mary Bell, 131419, seven yrs. old, with calf by Maplewood Martin, 517094. One heifer calf, Apr. 19, 1917, registered, Bates milking strain. Advance orders for spring calves, both sexes. **Holsteins**—Bull 6 weeks old, 81re Bell Boy Rosalind, 148544; Dam Queen Caroline 2nd, 161807, H. P. H. B. well marked. Also spring calves. **Jerseys**—advance orders for bull calves. Blood lines on application. Registered Ho 68--A limited number of Hampshire and Duroc Jerseys. Write for full description: let us know what you want. **HOMESTEAD FARMS, Bloomingdale, Mich.**

For sale: Reg. Shorthorns. Two Roan bulls, one 15 mos. one 9 mos., and one Red heifer 13 mos. old. J. A. BATCHELER, Howell, Mich.

Milking Shorthorns and Polled Durhams. 20 head cows heifers and young bulls, Sultans Duchess and Sitzyton Duchess included. M. B. Hallsted, R. 1, Orion, Mich.

Cattle For Sale

2 Loads feeders and two loads yearling steers. Also can show you any number 1, 2 and 3 years old from 600 to 1200 lbs. Isaac Shanstun, Fairfield, Iowa, R. 8.

HOGS.

DUROC Boar for sale. Top Cherry King 2nd, bred by Truax & Son, farrowed Mar. 1917. Breeding includes the Orion Cherry King, Top Col. and Defender lines which are among the best in the country. This boar is right in every way. Price reasonable. The JENNINGS FARMS, Bailey, Mich.

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 Hard Boar. Write your wants. Orlo L. Dobson, Quincy, Mich.

DUROC SOWS

Bred to Orion's Fancy King 83857, the biggest pig of his age ever shown at the International. NEWTON BARNHART, St. Johns, Mich.

Duroc Jersey Spring gilts and fall pigs either sex. E. D. HEYDENBERG, Wayland, Mich.

DUROCS for sale, 1 fall boar, 7 Spring boars, good breeding. Write for description and prices. J. D. ORR & SON, Plainwell, 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.

For Sale Duroc Jerseys Boars and gilts; also, dandy fall pigs. Prices right. JOHN MCNICOLL, Station A, Route 4, Bay City, 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. O. TAYLOR, Milan, Mich.

BOARS

Big growthy fellows. The kind that pleases. I ship C. O. D. and pay express. J. CARL JEWETT, Mason, 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. Service boars all sold. Have some fine last O. spring gilts, and a nice lot of this fall pigs, not akin, good growthy stock. 1/2 mi. west of Depot. Citiz. phone 124. Otto B. Schulze, Nashville, 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. NEWMA'S STOCK FARM, R. 1, Marlette, Mich.

Additional Stock Ads. on Page 611

Markets.

GRAINS AND SEEDS

December 18, 1917.

WHEAT.—This market is active, with millers reporting a brisk demand for flour, which showed a decline on Monday of from 10@20c per bbl. A year ago No. 2 red wheat was quoted at \$1.67 per bushel. Present prices are: No. 2 red \$2.17; No. 2 white \$2.15; No. 2 mixed \$2.15.

CORN.—There appears to be some increase in the movement in corn from the farms. Now that more cars are promised, it is expected that supplies at all markets will be increased. However, if adequate transportation facilities can be provided, foreign demands will quickly absorb all surplus stocks in our markets here. Any interference however, with transportation is likely to cause fluctuations in quotations. Dealers report an improvement in the quality of the grain now coming forward. On Monday prices were unchanged at Detroit, but a fraction lower in Chicago. A year ago No. 3 corn brought 97½c on the local market. Last week's Detroit quotations were:

	No. 3 Mixed.	No. 3 Yellow.
Wednesday	2.03	2.07
Thursday	2.03	2.07
Friday	2.05	2.07
Saturday	2.05	2.07
Monday	2.05	2.07
Tuesday	2.05	2.07

Chicago.—December corn \$1.25½ per bushel; January \$1.21½; May \$1.19½.

OATS.—This market appears to be influenced largely by the car situation. While receipts at country elevators are fairly liberal, dealers are uncertain as to their ability to move the grain in the event of buying, consequently the sales are more or less limited. Foreign demand is as urgent as ever, and cargoes are going out of the country. A year ago standard oats were quoted at 55c per bushel. Last week's Detroit quotations were:

	No. 3 Standard.	No. 3 White.
Wednesday	79½	79
Thursday	81½	81
Friday	81½	81
Saturday	81½	82½
Monday	81½	83
Tuesday	81	80½

Chicago.—December oats 75½c per bushel; May 72½c.

RYE.—Rye is in demand, with cash No. 2 quoted at \$1.83 per bushel.

BEANS.—This trade is active and steady with quotations unchanged from last week. Cash beans are quoted by the Detroit exchange at \$12.50 per cwt. The Chicago market remains steady, with only a moderate volume of transactions. Michigan pea-beans hand-picked, are quoted at \$14 per cwt; red kidneys \$17.

PEAS.—Market is easier, with field peas quoted at \$6.50@7 per cwt.

SEEDS.—Prime red clover \$16.20; March \$16.10; alsike \$14.20; timothy \$3.65 per bushel.

FLOUR AND FEEDS

FLOUR.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$11.10; seconds \$10.80; straight \$10.50; spring patent \$11.20@11.30; rye flour \$10.50@10.70 per bbl.

FEED.—In 100-lb. sacks jobbing lots are: Bran \$44; standard middlings \$47; fine middlings \$50; cracked corn \$84; 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@24; No. 2 timothy \$22.50@23; light mixed \$23.50@24; No. 1 clover \$19@20 per ton.

Pittsburgh.—No. 1 timothy \$29@29.50; No. 2 timothy \$27@27.50; No. 1 light mixed \$28@29; No. 1 clover, mixed \$29@30; No. 1 clover \$29@30 a ton.

POULTRY PRODUCTS

POULTRY.—(Live).—Demand for all kinds of poultry is active and prices are higher. Best spring chickens 22@23c; hens 20@21c; ducks 25@26c; geese 23@24c; turkeys 30@31c.

Chicago.—(Live).—Supply fair and demand good for turkeys and geese. The Chicago Poultry Board has ruled that poultry must not be fed at least 12 hours before placing on the market for sale. Fowls 18@19c; spring chickens 20c; ducks 22c; geese 16@20c; turkeys, good 26c. (Dressed).—Fowls 20@21c; ducks, fancy 25c; geese 22c; turkeys 34@34½c.

EGGS.—Fresh eggs are firm and 2c higher. Fresh firsts 45@50c.

Chicago.—Receipts are small owing to severe weather, and the fine fresh stock commands high prices. Fresh Michigan firsts sell for 51@53c; ordinary firsts 44@49c; miscellaneous lots, cases included 44@51c.

DAIRY PRODUCTS

BUTTER.—Market is firm and receipts are small. Fresh creamery firsts 43½@44½c; fresh creamery extras 45½@46½c.

Chicago.—A firm feeling generally pervades the market and fresh goods are taken up on arrival. Creamery extras 49c; extra firsts 48@48½c; packing stock 32½@33c.

CHEESE.—Michigan flats 23½c per lb; New York flats 25c; brick 24½c; long horns 26½c; Michigan daisies 24½c; Wisconsin daisies 25½c; Wisconsin double daisies 25c; domestic Swiss 35@40c for prime to fancy; limburger 28@29c.

FRUITS—VEGETABLES

POTATOES.—There were 17 cars of potatoes on track at Detroit on Monday morning. Sales of Round Whites of good quality and sacked, were made at \$2.10 per cwt. At Cleveland the Michigan Round Whites, sacked, sold at \$2.15@2.25; in New York at \$2.22@2.37; in Buffalo \$2.25@2.30; in Columbus, Ohio, \$2.25@2.35; in Pittsburgh \$2.10@2.15; in Indianapolis \$2.25@2.30; in Washington, D. C., \$2.50@2.75. All of the markets mentioned above were reported steady on Monday morning.

ONIONS.—The local market for onions is slow with whites and reds in 100-pound sacks selling around \$2.50. Michigan whites are selling in Buffalo at \$2.50@2.75, while yellows are quoted at \$2.50@2.65 for the better grades. In Pittsburgh, Michigan yellow stock is bringing \$2.75; yellows in Chicago are quoted at \$1.25@1.50 per 70-lb. sack.

CABBAGE.—No sales have been reported on the local market the past few days. At Cleveland Danish seed is selling to jobbers at \$50 per ton; in New York at \$45@50, and domestic at \$38@40; in Buffalo domestic brings \$43@45, while in Pittsburgh the quotation is \$45. Chicago prices are: Holland seed \$2.50@3 per bbl; in bulk \$40@43 per ton. Markets are generally stronger, and prices higher.

CELERY.—At Rochester N. Y., there is considerable improvement in the demand for this product. Large crates bring \$3.75, medium \$2.75@3.20 and small \$2@2.25. The cold weather has interrupted business at Kalamazoo, Mich. The market is also weak at Hudsonville.

APPLES.—There were 12 cars of apples on the Detroit market on Monday morning. On Saturday jobbers were paying \$6.15 for fancy Jonathans and \$5 for Baldwins. The New York market is active with stock so variable in quality and condition that it is difficult to quote. In Cincinnati the trade continues firm while in Pittsburgh and Chicago it is reported steady. Considerable stock has been reported frozen during the recent cold spell.

GRAND RAPIDS

The potato movement continues slow and market weak. While shipments have been heavier than last year the increase in movement is only about 20 per cent, while the crop is estimated to be 40 to 50 per cent larger. Both owners and buyers are holding back, and there is a shortage of cars. Prices for Round Whites, bulk per 100 lbs., range as follows: Traverse City section \$1@1.20; Petoskey \$1@1.10; Cadillac \$1@1.20; Reed City \$1@1.25; Hart \$1.10@1.25; Greenville \$1.45@1.50; Grand Rapids \$1.20@1.30. No special change is noted in grains, and hay is worth \$23@25 on the city market. In live poultry, fowls are worth 16@18c; ducks 18@20c; turkeys 20@26c per pound.

LIVE STOCK

BUFFALO.

December 17, 1917.

Cattle.—Receipts 75 cars; market is 25c higher; best shipping steers \$13@13.50; fair to good \$12@12.50; plain and coarse \$9.50@10; yearlings \$11.50@12; best handy steers \$10.50@11.50; fair to good \$9@10; handy steers and mixed \$8.50@9.25; light butcher steers \$8@9.25; western heifers \$8@10; best fat cows \$9@10; butcher cows \$6@7; cutters \$5.50@6; canners \$4@5; fancy bulls \$8.75@9.50; butcher bulls \$7@8; common bulls \$6@6.50; best feeding steers 900 to 1000 lbs, \$8.75@9; medium feeders \$7.75@8; light common \$6.50; stockers \$6.25@6.50; best milkers and springers \$6@120.

Hogs.—Receipts 40 cars; market 50c

lower; heavy and yorkers \$17@17.25; pigs \$16.25.

Sheep and Lambs.—Receipts 150 cars; market 25c higher; top lambs \$19@19.25; yearlings \$15@16.50; wethers \$12.50@13; ewes \$11.75@12.

Calves.—Receipts 300. The market is strong; tops \$17.50; grassers \$6@7.

CHICAGO.

December 17, 1917.

Cattle. Hogs. Sheep.
Receipts today..15,000 32,000 12,000
Same day 1916..27,099 73,313 24,168
Last week.....97,285 238,713 92,729
Same wk 1916..78,486 280,897 98,592

Despite much smaller supplies of cars available on eastern railroads last week many more cattle and sheep were shipped from here than a year ago, but only 15,390 hogs were shipped from here, comparing with 70,006 in the same time last year. Large numbers of cattle were left over unsold on Saturday, while 20,765 hogs were carried over, thereby greatly swelling today's supply. For all that, prices were much higher for hogs than closing quotations of Saturday, sales ranging at \$15.35@16.40. Hogs received last week averaged 207 lbs. Cattle were in lively demand at advances of 15@25c, and some sales indicated an ever larger advance. There was a meager sheep and lamb supply, and prime lambs sold at \$17, an advance of 25c. Prime ewes advanced to \$11.75.

Cattle receipts last week were increased enormously, and prices were on the down-grade nearly all of the time. Excepting 22 head of fancy heavy Hereford steers taken at \$15.75, the best weighty cattle went for \$13.50@14.75, with not many sales above \$13.50. Medium grade steers sold at \$10.50 and over, plain to fair steers of light weight \$9.40 and over, and inferior little steers \$6.50@7. Yearlings \$13@14.50 for the better class, and \$9@9.50 for ordinary kinds. A large business was transacted in butcher stock, with cows taken at \$6.60@10.25, heifers at \$5.75@12.50, cutters at \$6@6.55, canners \$5.40@5.95 and bulls \$6@11. The calf market was exceptionally high, with the better class of light vealers purchased for \$15@16 per 100 lbs., and sales all the way down to \$6.50@10 for coarse to good heavy lots. Stockers and feeders were very largely 50c lower, with sales at \$6.90@10.50 mainly and not much trading higher than \$10. With the week's cattle receipts the largest ever known, the close was bad, and after Wednesday not many steers sold above \$13. The best heavy cattle closed at \$14.40 and best yearlings at \$14.

Hogs were marketed last week in greatly increased numbers and a weakness developed in prices. Closing sales took place at \$15.45@16.50, comparing with \$16.75@17.75 on the week's best day and with \$16.40@17.40 at the close of the previous week.

Lambs were unevenly higher in price during the first half of last week with insufficient supplies to go around, the local and shipping demands being liberal; but later on prices ruled lower, the receipts being greatly increased, with many belated arrivals swelling the supplies. Fed western lambs made up most of the arrivals. Closing prices were: Lambs \$12.50@16.75; feeding lambs \$15@17; yearlings \$12@14.50; wethers \$11.40@13; ewes \$9@11.60; breeding ewes \$11@13.25; feeding ewes \$7@10; bucks \$7.50@10; goats \$5@8.75. At one time during the week prime killing lambs brought \$17.

Horses were marketed in fair numbers last week and sold at generally unchanged prices, although the only real activity was in army horses. Sales were made of ordinary to good farm chunks at \$60@150, drafters at \$135@165, drivers at \$75@200 and loggers at \$150@225.

LIVE STOCK NEWS.

According to John Huling, of Warren county, Indiana, who was in the Chicago market recently for the purpose of purchasing a carload of feeding cattle weighing about 700 lbs, the crop of hogs and cattle on feed in that district is about normal. He stated that corn was not of very good quality, it being very largely soft. He added that he was about to begin feeding soft corn to his stock. The pig crop of Warren county is fairly large and good in average grading.

W. T. Walker, of Monica, Ill., who visited the recent International Live Stock Exposition, reported that great numbers of cattle and hogs in that district have been turned into corn fields, as the corn was caught by frosts and made rather soft. He said the farmers in that part of Illinois are endeavoring to comply with the food bureau's request to increase the production of hogs by doing their share, the increase asked for the state of Illinois being about 15 per cent.

Eliminate Disease; Make the Cow Productive

If your cow is not giving the quantity or quality of milk you expect, it is time to give her medical attention.

For twenty-five years thousands of dairymen have used Kow-Kure as their "first aid." Particularly before and after the calving period, the use of Kow-Kure is valuable. It is a sure preventive of Milk Fever and Retained Afterbirth, and will enable the organs to resist the diseases which frequently originate at this time.

Kow-Kure has a positive action on the genital and digestive organs, toning them up, making them perform properly and helping the system to function as nature intended. Kow-Kure has proven a prompt remedy for Abortion, Barrenness, Scouring, Lost Appetite, Bunches and other common ills.

A small investment will prove the worth of Kow-Kure in your dairy. Put it to a severe test; try it on your poorest milker and watch results. Druggists and feed dealers sell it; 55c and \$1.10 packages.

DAIRY
ASSOCIATION CO.
Lyndonville, Vt.



Nelson Tank Heater Two weeks Free Trial

Heats water in half the time with half the fuel. Burns trash, coals, wood or coal. All heat under water. 60,000 in use. If you don't think it worth double the price, return it at our expense.



For Sale, Used and Rebuilt Machinery

22 H. Peerless, steam tractor engine.
22 H. Stevens, 20 H. Huber, two 20 H. Rumleys.
18 H. and 22 H. Wood Bros.
19 H. Port Huron, 18 H. Pitts, 18 H. Huber.
18 H. Nichols and Shepard.
18 and 20 H. Baker, 15 H. Port Huron.
15 H. Case, 12 H. Case, 8 H. Gaar-Scott portable.
20 H. Russell portable.
32 in. and 36 in. Wood Bros. steel threshers.
28 in., 32 in. and 36 in. Case, 30 in. and 32 in. Advance, 31 in. Gaar-Scott, 30 in. and 34 in. Pitts, 28 in. and 32 in. Nichols and Shepard.
Big Six and No. 1 Birdsall clover hullers.
Pitts and Huber bean threshers.
Write us for complete used machinery list. Save money by buying used machinery.

The BANTING MFG. COMPANY
114 Superior St., TOLEDO, OHIO

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

POTATOES--APPLES--ONIONS WANTED

CHAS. W. RUDD & SON, Detroit, Mich.

EGGS: We are paying good premiums for new-laid Eggs, either Whites or Browns. Write us for particulars. AMERICAN BUTTER & CHEESE COMPANY, Detroit, Mich.

CUTTERS Mr. Farmer: Here is your chance to get a high-grade cutter at a bargain. We are offering 50 Brand New Cutters at the manufacturing cost. Immediate delivery. Write for booklet and prices. WOLVERINE SALES CO.
711 Delaware St., Grand Rapids, Mich.

HORSES

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

Percheron Stallion: 3-year old beautiful style and high bred, registered. For sale.
E. P. KINNEY, Lansing, 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.

For Sale, Span Black Percheron Mares
Six and eight years old, weight 2800 lbs., one registered. Roan Durham bull, 20 months old, registered. Clark Crankshaw, Lawrence, Mich. Home Phone.

Registered Percheron Stallions and mares, imported and American bred, very reasonably priced. Ben Bickel, Frankenmuth, Mich.

Percheron Stallions black No. 121705 foaled June 23, 1915. No. 131951 foaled June 29, 1916.
J. F. GLADY, R. 7, Vassar, Mich.

Will take a Draft Stallion on share, 2000 lbs Black or Gray.
O. D. MURRAY, New London, O.

HOGS

Duroc gilts bred for April farrow \$35 to \$40; fall yearlings bred for April farrow \$45 to \$50; white 175 lb. to 250 lb. Priced for 10 days. H. G. Keeler, Cassopolis, Mich.

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.
December 20, 1917.
Cattle.

Receipts 2295. All grades active at last week's prices; quality not so good. Best heavy steers \$11.50@12; best handy weight butcher steers \$9@10; mixed steers and heifers \$8.50@9; handy light butchers \$7.50@8; light butchers \$6.50@7; best cows \$8@8.50; butcher cows \$7@7.50; cutters \$6@6.25; canners \$5.25@5.75; best heavy bulls \$8@9; bologna bulls \$7@7.50; stock bulls \$6@6.50; feeders \$7.50@8; stockers \$6.50@7.50; milkers and springers \$6.50@10.

Bishop, B. & H. sold Nagle P. Co. 9 steers av 1170 at \$10.75, 1 do wgh 1020 at \$8; to Sullivan P. Co. 8 cows av 870 at \$7, 1 bull wgh 1360 at \$7.50, 11 cows av 824 at \$8, 3 do av 1043 at \$7, 3 do av 870 at \$7, 2 bulls av 1000 at \$7.25, 22 butchers av 724 at \$7.50; to Bresnahan 20 canners av 894 at \$6, 5 do av 808 at \$5.75, 10 cutters av 957 at \$6, 5 canners av 768 at \$5.50; to Rattkowsky 2 cows av 975 at \$7.50, 4 do av 870 at \$6.25; to Mason B. Co. 1 bull wgh 1600 at \$8; to Livenelly 7 stockers av 586 at \$6; to Parker, W. & Co. 25 steers av 970 at \$11.25; to Newton P. Co. 16 butchers av 908 at \$8, 1 cow wgh 1220 at \$5.50, 5 do av 810 at \$6.50, 4 steers av 1200 at \$10.10, 13 butchers av 844 at \$8, 14 do av 920 at \$8.50, 2 steers av 1075 at \$10.50, 1 bull wgh 1530 at \$8.50, 15 butchers av 786 at \$7.75; to Mich. B. Co. 31 steers av 1122 at \$9.85, 15 do av 956 at \$9, 1 do wgh 1100 at \$12, 9 do av 861 at \$10.50, 5 do av 1000 at \$10.50, 3 do av 1187 at \$12, 4 do av 1027 at \$10, 6 do av 875 at \$8.50, 4 do av 960 at \$11; to Walk 26 butchers av 640 at \$6.75; to Nagle P. Co. 24 do av 833 at \$8.85; to Parker, W. & Co. 2 bulls av 1250 at \$7.

Erwin, S. & J. sold Bernfeldt 8 butchers av 630 at \$6; to Newton P. Co. 2 cows av 850 at \$6.75, 8 canners av 831 at \$5.75, 4 do av 870 at \$5.50, 2 do av 900 at \$5.75, 2 cows av 975 at \$7, 14 butchers av 586 at \$6.50, 20 do av 841 at \$8.50; to Applebaum 15 do av 620 at \$6.10; to Sullivan P. Co. 12 do av 630 at \$6.35, 1 cow wgh 1130 at \$7.25; to Bresnahan 3 cows av 1150 at \$6.50, 7 canners av 961 at \$5.50, 2 heifers av 560 at \$6, 10 stockers av 597 at \$6.75; to Casemer 5 cows av 1068 at \$6.60; to Barlage 18 butchers av 684 at \$6.75; to Sullivan P. Co. 8 do av 740 at \$7, 6 do av 753 at \$7.50, 3 do av 653 at \$6, 8 do av 700 at \$7.50; to Nagle P. Co. 14 do av 873 at \$9.25, 2 cows av 1065 at \$7.75, 2 do av 950 at \$8, 7 do av 914 at \$6, 3 butchers av 623 at \$6.50, 2 bulls av 1125 at \$7.50; to Grant 17 butchers av 550 at \$6; to Nagle P. Co. 1 bull wgh 1550 at \$9.25; to Sullivan P. Co. 8 butchers av 715 at \$7.25.

McMullen, K. & J. sold Kamman B. Co. 21 steers av 982 at \$8.85, 9 do av 728 at \$7.40; to Bernfeldt 1 cow wgh 1150 at \$6.75, 3 do av 957 at \$6.50, 6 butchers av 660 at \$6.25; to Bresnahan 9 canners av 980 at \$5.50; to Goodgold 8 butchers av 605 at \$6.25; to Parker, W. & Co. 13 stockers av 1083 at \$10.75, 1 cow wgh 1120 at \$7.50; to Mason B. Co. 10 do av 1000 at \$7.25, 16 butchers av 592 at \$6.75; to Fineman 8 do av 500 at \$5.25; to Hammond, S. & Co. 1 heifer wgh 840 at \$7.50.

Veal Calves.

Receipts 742. Market strong. Best \$16; few fancy at \$16.50; others \$7.50 @15.

Bishop, B. & H. sold Sullivan P. Co. 2 av 135 at \$12, 4 av 145 at \$16, 2 av 150 at \$12, 10 av 143 at \$15.50; to Hammond, S. & Co. 3 av 118 at \$11.50, 12 av 150 at \$16, 3 av 130 at \$12, 4 av 150 at \$16, 10 av 120 at \$15, 2 av 155 at \$16; to Newton P. Co. 8 av 145 at \$16; to Shipiro 9 av 150 at \$16; to Newton P. Co. 22 av 155 at \$16.

Sheep and Lambs.

Receipts 2615. Market steady. Best lambs \$17@17.25; fair lambs \$16@16.50; light to common lambs \$14@14.50; fair to good sheep \$9@11; culls and common \$6@8.

McMullen, K. & J. sold Hammond, S. & Co. 6 sheep av 100 at \$7, 2 lambs av 55 at \$16; to Wilson & Co. 17 do av 90 at \$16.75, 41 do av 82 at \$17.

Erwin, S. & J. sold Wilson & Co. 13 lambs av 80 at \$16.75, 112 do av 75 at \$17.25; to Hammond, S. & Co. 51 do av 73 at \$17, 23 do av 55 at \$16, 4 do av 65 at \$14; to Thompson 24 do av 75 at \$17.25; to Hammond, S. & Co. 64 do av 70 at \$17.25.

Receipts 7779. Market 15@20c higher than on Tuesday. Mixed \$15.50@16.15; pigs \$14.50@15. No market on Christmas.

Veterinary.

CONDUCTED BY W. C. FAIR, V. S.

Cow Coughs.—About three weeks ago one of my best cows commenced to cough, and a week later another cow occasionally coughs, but so far as I can tell the cows are healthy. They are now running in clover pasture and I would like to know what to do for them. M. A. W., Remus, Mich.—At milking time rub their throat with camphorated oil and don't dope them with drugs.

Rheumatism—Tuberculosis.—What can I do for a hen that is lame? She has a good appetite and sings when I go to feed her. Her comb is a fine red color and she seems to be in good health, except that she cannot walk. I also have two White Leghorn hens that were troubled with a cough. When I examined them I could not see anything wrong in the throat of either one. I locked them up and gave them two drops of tincture of aconite on bread morning and evening for a few days, and they apparently recovered, but a couple of weeks later I let them out, one of them died very suddenly; before death she would open her mouth and stretch her head well forward in her efforts to breathe. Can you tell me what the disease was and how I should have treated her? M. M. R., Harrisville, Mich.—Give your hen ½ gr. of sodium salicylate at a dose four times a day. Examine her feet for they may be sore, possibly the result of a badly shaped roosting pole, which perhaps should be changed in shape to accommodate the foot. Your other chickens died the result of tuberculosis which is incurable.

Lacerated Teat.—I have a six-year-old cow that had one of her teats almost cut off by a cow stepping on it. The wound healed fairly well, but this teat leaks milk continually. I am satisfied that she will never be any good for dairy purposes and as she will come fresh in December would like to know if I had better beef her now or wait until after she has had her calf. A. P., Elsie, Mich.—If your cow is in high flesh at present and you can sell her for a good price, it would relieve you of any farther expense, as during the latter period of gestation, she will not gain in flesh and after she calves you may find it somewhat difficult to dry her and fatten her.

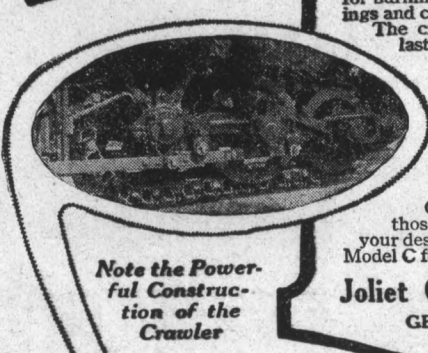
Bruised Shin.—Four weeks ago my nine-year-old mare was kicked by another horse, wounding shin in two different places a short distance below hock joint causing some soreness and considerable swelling. The leg remains thick and I would like to know what remedy to apply. G. L. T., Camden, Mich.—First of all the hair should be clipped off and the swollen part of shin painted with tincture of iodine every day or two. Also, give her 30 grs. of potassium iodide at a dose in feed or drinking water three times a day.

Incipient Heaves.—For the past 60 days my seven-year-old mare appears to have but little strength, sweats altogether too freely when doing only light work; furthermore, she is short-winded. She is fed oats and plenty of clover hay. L. K., Ross, Mich.—First of all you should discontinue feeding clover, or dusty, musty, badly-cured fodder of any kind. Grain an roots is the best food you can feed her; besides, her food supply should not be bulky. She should be clipped, clothed warm, the stable kept clean, free from foul gas and well supplied with fresh air. Give her 40 drops of fluid extract lobelia, 40 drops fluid extract nux vomica and ½ oz. of Fowler's solution at a dose in either feed or drinking water three times a day. By following these directions your mare will soon regain her strength and be comfortable. Remember, if she is pot-bellied, inclined to eat filthy bedding, you had better bed her with shavings or sawdust.

Warts.—I have two young heifers that have a warty condition of skin; these patches are not very numerous but where they exist the skin cracks open. C. N., Wallace, Mich.—Apply one part iodine and nine parts lanolin or petrolatum to sore parts once a day. Occasionally paint these patches with tincture iodine.

Worms.—I have a nine-year-old mare that does not appear to be sick, but her coat is rough and no matter how much I feed her she remains thin. She is fed ground corn, oats and both hay and straw for roughage. H. W., Hamilton, Mich.—Mix together one part powdered sulphate iron, one part ground nux vomica, one part salt and three parts ground gentian; give her a dessertspoonful at a dose in ground feed three times a day.

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The Model C Bates Steel Mule was built especially for the European fields, where conditions are unusually severe. It made good in a tremendous way and fully justified every point in its construction. So successful was it under the strains and heavy requirements that we determined it was too good to keep from the American farmers. Therefore the

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The Model C has a medium speed, extra heavy duty, 4-cylinder, valve-in-head motor. Especially designed for burning kerosene economically. Has large bearings and crankshaft to insure best wear and long life. The crawler is powerfully constructed and will last as long as the tractor itself.

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The well known, original, Bates one-man feature is retained in this model. This enables you to perform your heavy farm duties without extra help, thus saving a second man's wages and board.

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Our capacity is somewhat limited. So only those who respond early can be provided. Get your descriptive booklet at once and be sure of your Model C for spring work. Write today.

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HOGS

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.

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.'s: A few prize winning gilts at Michigan State Fair; also Aug. Sept. pigs of the best blood lines. Clover Leaf Stock Farm, Monroe, Mich.

O. I. C. Am offering some good boars of May far row and fall pigs either sex. O. J. THOMPSON, Rockford, Mich.

Big Type Poland China. Apr. boars, sire and dams from 1000-lb. stock; can be returned if not satisfactory. R. W. MILLS, Saline, 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. Prices right. 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.

Big Type Poland China boar now ready to ship, buy G. W. HOLTON, KALAMAZOO, MICHIGAN.

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.

Walnut Alley big type P. C. boars that represent the best breeding of Iowa at ½ their value for the next 10 days. (Two that are extra.) Ionia, Mich. A. D. GREGORY,

LARGE STRAIN P. C. nothing for sale until after H. O. SWARTZ, Schoolcraft, Mich.

Big type P. C. Boars and Gilts of Peter Mouw breeding. He sold 104 head Sept. 21 for \$32,535 average \$308 per head. C. E. Garnant, Eaton Rapids, Mich.

Big Type P. C. Big boned fellows from Iowa's greatest herds. Special prices on spring boars. E. J. MATHEWSON, Burr Oak, Mich.

Registered Big Type Poland Chinas: Boars and bred sows at reduced prices. LONE CEDAR FARM, Pontiac, Mich.

Registered Hampshires, spring boars and gilts JOHN W. SNYDER, R. 4, St. Johns, Mich.

SHEEP

IT PAYS TO BUY PURE BRED SHEEP OF PARSONS "The Shepman of the East." I sell and ship everywhere and pay express charges. Write for club offer and price list. Oxford, Shropshire and Flock Delaines. PARSONS, GrandLedge, Mich. R. 9

Reg. Shropshire Rams For Sale
Prices reasonable.
Harry Potter & Son, Davison, Mich.

Shropshire Ram Lambs and one three year old flock header for sale. ARMSTRONG BROS., R. 3, Fowlerville, Mich.

SHROPSHIRE AND HAMPSHIRE RAM LAMBS

Husky ones with quality, price \$35. Shipped C. O. D. Kope Kon Farms, Sheep at Lupton address Coldwater, Mich.

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.

Registered Oxford Down Ram lambs for sale. OLMSTED and J. SFAANS, Muir, Mich.

Registered Oxford Ram and Ram lambs. Also Berkshire hogs. CHASE STOCK FARM, R. 1, Marlette, Mich.

FOR SALE

100 Good Breeding Ewes

bred to good Shropshire bucks, weighing over 200 lbs. Will sell in small flocks if desired. Hillcrest Farm, Kalamazoo, Mich.

EWES: Rambouillet and Hampshire for sale. A. A. WOOD & SON, Saline, Mich.

Western Ewes bred to Registered Mutton Rams. BARNARD SHEEP RANCH, R. 5, Clare, Mich.

HORSES

Eleven (11) Head of Registered Percherons For Sale.

Stallions, brood mares, colts and fillies. A fine lot, big boned, clean limbed, strait gaited, drafty show-horse type. I will sell cheap for cash or will give time to reliable parties. Dr. C. L. Barber, Lansing, Mich.

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.

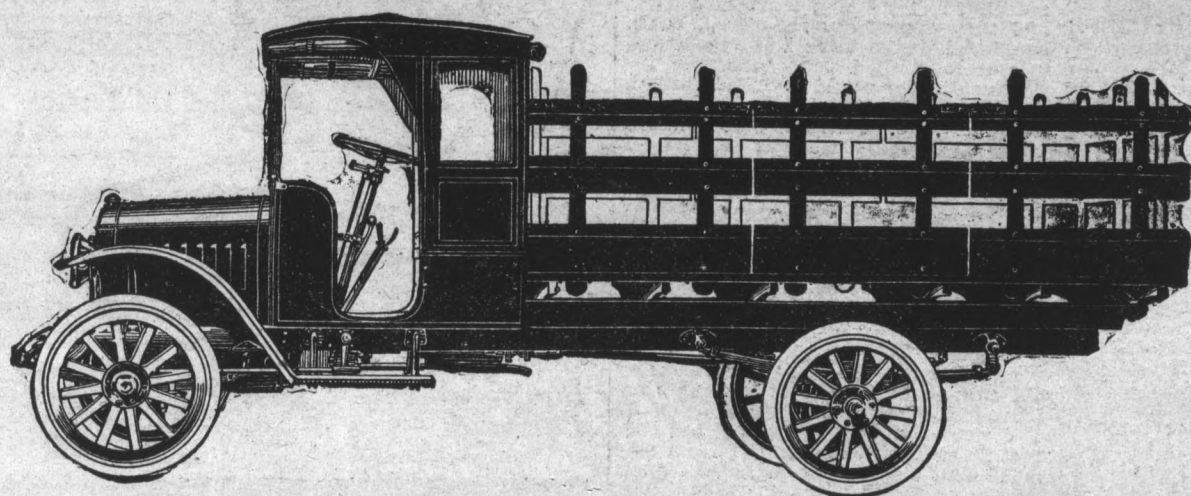
FOR SALE Percheron Stud coming two, cheap if sold at once. E. J. ALDRICH, Tekonsha, Mich.

Additional Stock Ads. on Page 610

MAXWELL

Most Miles
per Gallon

Most Miles
on Tires



Seven 18-Mile Trips to Town by Motor Truck in One Day

That is what Mr. Walter Faber did with his Maxwell one-ton truck during the last season.

Mr. Faber is a successful farmer living nine miles out of Wayne, Nebraska.

He believes in applying business methods—efficiency methods—to agriculture.

So last spring he bought a Maxwell one-ton truck.

In that truck he hauled to market EVERY-THING his farm produced. Said Mr. Faber:

"I made seven trips into Wayne and back each day with my Maxwell truck—just five more than I could possibly have made with horses."

Among the crops truck-marketed by Mr.

Faber were corn, oats, wheat, hay, potatoes, etc.

He hauled 10,000 bushels of shelled corn—55 bushels, that is, 3080 pounds, to the load.

That was more than 50 per cent overload.

Mr. Faber's truck cost no more to keep going than one team of horses.

Now most of his neighbors are planning to buy Maxwell trucks.

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