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Cooperation Adopted by a Community

AT the county seat of Washington county, Minnesota, a new type of cooperative organization is now in successful operation. The idea provided in this organization is an agency for handling the entire farm output of a whole community. In practical operation it not only accomplishes this end, but eliminates much waste and provides a cooperative service to the local retail dealers in purchasing goods.

In the organization of this association something less than \$10,000 of capital was required. This amount was divided about equally between the retail grocery trade of the village of Stillwater and the farmers of the surrounding country.

After organizing, the association secured a warehouse conveniently located and on the railroad where adequate shipping facilities were provided. A manager was hired. This in a general way constitutes the machinery of an organization established to serve the needs of a community. In carrying out the program, the manager, for instance, designates certain days for the receipt of live stock shipments from farmers. On those particular days the local slaughterers or butchers are present to make their selections of such stock as they may need in their local trade. The surplus is then shipped to whatever market offers the best price. It can be seen at once that this arrangement does away with the heavy expense of stock buyers traveling over the community to collect the stock, and also gives the local butchers a chance to buy at the minimum of expense.

Other products are handled according to the conditions obtaining. For instance, hay, straw and similar bulky products are either shipped on consignment or bought by the organization. Such products as butter, eggs, fruits and vegetables are usually brought to the community market where a price is made by the community manager. This price is based upon the quotations ruling in outside markets. Such an arrangement overcomes the loss resulting from the ruinous cutting of prices which so frequently occurs in small market places during times of heavy marketing. All goods are purchased on their merit and paid for in cash unless handled on consignment.

The local merchants are supplied from this warehouse. Because of

Here is a marketing plan designed to serve the entire community. It provides the farmers with an agency for marketing their crops and an institution through which they can purchase their supplies in quantities. It keeps local retailers supplied with home-grown stuff and gives the consumers the advantage of lower prices and better goods.

it they are not necessarily obliged to overstock, as the cooperative association can take care of the surplus products. There is no retail business from the warehouse, except in shipments of special commodities sold to the farmers, like seed, fertilizers, etc.

With this plan or system of local marketing there is definite gain to the retail grocer who is a member of the association. He has within his reach a warehouse well supplied with farm produce that has been properly stored with the minimum of wastage and expense. The friction of dickering with customers who have produce to offer in exchange for goods is avoided. All goods are bought upon their merits. Competing stores divide carloads of perishable products such as peaches,

strawberries, etc., instead of overloading the market.

The system also works to the advantage of consumers. The volume of business is increased and waste is eliminated. Canned fruits and vegetables, for instance, are purchased in carload lots and disposed of on specified days, which permits the saving of much expense that would otherwise be incurred. One case is recorded in Stillwater where apples were bought from outside producers and sold to farmers and other consumers at about what independent dealers paid in wholesale lots, and yet gave the retailers who handled these apples a fair profit.

The local manager is the expert salesman and buyer for the community and his services are beneficial to all

concerned. He ships the surplus products as conditions warrant, oftentimes in carloads, when heretofore accumulations beyond local needs were wasted or shipped to disadvantage. A producer having special crops in either large or small quantities telephones the manager giving the quantity for sale, when a trained salesman is at once put to work to secure for him the best price, instead of endeavoring to make the most profit for the handling concern. The salesman or market manager pays on the delivery of goods, the current market price, or if preferred, handles the goods on consignment. At the end of the year a dividend is declared on the basis of business done, all expenses of operation being deducted from the gross receipts.

An attempt is already being made to establish one of these community marketing associations in this state, on which we are planning to give a detailed report in an early issue of this journal. Any community desiring to investigate the briefly outlined plan of cooperation should correspond with the State Market Director at East Lansing.

Why, in this trying hour, should we mention matters of this character? For a century and more, different peoples, led by America, have been working, teaching and fighting to establish the principles of democracy in the governments of the world. Today, it seems, we are making the supreme test of these principles, for democracy is fighting to prove itself stronger and more efficient than a highly organized and thoroughly developed autocratic system of government.

Cooperation bears practically the same relation to business that democracy does to government. And inasmuch as cooperation means efficiency it would seem a propitious time to adopt or extend the principle of cooperation as we rally our forces in defense of democracy. Each will succeed best in the presence of the other. Can we not make democracy strong and safe by doing business on just principles? In the adoption of a plan patterned after the one above described, a community not only brings into a closer bond the individuals of each industry, but the plan is also designed to bring together producers, distributors and consumers. Certainly any movement that influences people to do their work in harmony cannot but help strengthen democracy.

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DETROIT, APRIL 13, 1918



CURRENT COMMENT.

War, in a good cause, is not the greatest evil which Humanity. a nation can suffer. War is an ugly thing, but not the ugliest of things; the decayed and degraded state of moral and patriotic feeling which thinks nothing worth a war is worse. When a people are used as mere human instruments for firing cannon or thrusting bayonets, in the service for the selfish purposes of a master, such war degrades a people.

"A war to protect other human beings against tyrannical injustice, a war to give victory to their own ideas of right and good, and which is their own war, carried on for an honest purpose by their free choice is often the means of their regeneration. A man who has nothing which he is willing to fight for, nothing which he cares more about than he does about his personal safety is a miserable creature, who has no chance of being free, unless made and kept so by the exertions of better men than himself. As long as justice and injustice have not terminated their ever-renewing fight for ascendancy in the affairs of mankind, human beings must be willing when need is, to do battle for the one against the other."

The idea of fighting for humanity was expressed in the above words by that great student and humanitarian, John Stuart Mill, over a half century ago. He was a leader of world wide reputation and the truth, as expressed by him, is the same today, tomorrow and will be so till the end of time.

From early reports of subscriptions to the third Liberty Loan, it would appear that when the returns are all in, those who have heretofore charged that the farmers of Michigan and the country have not purchased Liberty Bonds as freely as they ought, may find it necessary to apologize for such statements. Returns obtainable after the first day of the third Liberty Loan campaign indicated that at least two central Michigan counties in which agriculture is the predominating industry had over-subscribed their quota of the loan on the first day of the campaign.

When this issue reaches the reader, one week of the campaign will have

passed, during which it is probable that many more of the strong agricultural counties of the state will have equaled or exceeded their allotted subscription to this loan. We are confident that before the third Liberty Loan is closed, every agricultural county in the state will have discharged its obligation in a similar manner.

In this connection the importance of small subscriptions by people who are not in a position to take a large block of these Liberty Bonds should not be overlooked. The aggregate purchasing power of people who could purchase a single bond of small denomination probably exceeds the total purchasing power of those in a position to buy in large denominations of \$1,000 or more. The patriotic support of the small purchaser of Liberty Bonds is just as important to the government in the present crisis as is the liberal support of those who are in a financial position to make larger purchases.

Indeed, if the war is to be won—as it must be won if the cause of liberty is to be perpetuated in America as well as in the world—it is essential that every citizen give such financial support to the government as he is capable of rendering. Every person who can purchase even a small Liberty Bond should do so at this time, and those who feel themselves unable to subscribe to the Liberty Loan should aid the government and themselves by the purchase of thrift stamps. It should be remembered by all that there is no safer investment than the obligations of the United States government, and that in helping the government in the present emergency they are at the same time adding to their future prosperity by such an investment of their savings.

The Silver Lining.

First hand reports from men who have spent considerable time in the belligerent countries of Europe all agree regarding the lessened production of food stuffs of all kinds under war conditions and the depletion of the live stock on the farms in the warring countries. All agree that the rehabilitation of European agriculture will be a matter of years rather than of weeks or months after the war is over. All agree that there will be a great demand for food stuffs of all kinds and for live stock to build up the depleted flocks and herds as well as for live stock products to feed the people of those countries after peace has been declared. All agree that the same conditions which make it necessary for the United States to furnish food stuffs for the people as well as the armies of our European Allies at the present time will make it equally necessary for this country to provide the requirements of these countries after the war.

Ships available for transportation of such supplies can make the round trip to the United States in about one-half the time required from the Argentine, the nearest other available source of supply. The chaotic condition now prevailing in Russia will eliminate that great country from supplying the needs of any of the warring nations, excepting perhaps the central powers to a limited degree. The prospects for a future foreign demand for the products of our farms is the proverbial silver lining to the present war cloud from the purely business point of view, as the establishment of a lasting universal peace on the just basis of human liberty is its silver lining from the broader humanitarian viewpoint.

While the latter consideration is the one for which we are willing to expend our blood and treasure, the purely business prospect is one which should stimulate every farmer while doing his utmost to increase food production in the present emergency to lay the foundation for permanently increased production by maintaining the fertility of his soil and improving his live stock.

A recently issued government bulletin of labor statistics contains a summary of the index price figures which should be of interest to every Michigan Farmer reader. This bulletin gives eighty-two as the index figure for prices of food stuffs in 1910 when the American public was first introduced to the high cost of living. In July, 1914, just before the outbreak of the European war, this index figure had advanced to 102, or about twenty-five per cent. Last December the same index figure had risen to 157, or almost double the figure for 1907.

The same bulletin gives index figures for the wholesale price of all the leading commodities in this country. In 1907 this index figure was ninety-one. In 1917 it was 181. These figures show that all prices have practically doubled since 1907 when the commodities of commerce are taken as a whole and a total average price is taken. This being true, the general situation has changed chiefly in the relation of the prevailing price of different commodities, hence the relative advance of different classes of commodities becomes of special interest.

In the advance of general index prices this bulletin places drugs and chemicals at the top. Cloth and clothing come next, with farm products pushing them hard for second place. On the other hand, lumber and building materials advanced the least of any commodity during this period, while fuel was next to the bottom. The fact that prices for farm products stands well toward the top in the general list, and that from the nature of their business farmers sell more than they purchase is a matter for congratulation. It is another evidence of the fact that agriculture is steadily coming into its own. Unfortunately, it does not make up for crop losses suffered through unfavorable weather conditions, but it should prove an inspiration for future efforts.

HAPPENINGS OF THE WEEK.

Wednesday, April 3.

The German offensive on the western front is practically brought to a standstill, with the French and British maintaining a continuous front. It is now apparent that the Germans have Amiens as their objective. One of the long range guns bombarding Paris bursts and kills five members of the crew.—Secretary Baker, of the United States army, now in Europe, makes Pershing chief of censors on all information concerning American forces in France.—Government announces that only 14,000,000 bushels of America's 1917 corn crop have been exported to date.—In the Wisconsin senatorial contest Irvine L. Lenroot, republican candidate, wins over both Davies, democratic contestant, and Berger, the socialist representative who scored a poor third position. Berger's possible strength made the contest one of national importance.—Congress passes the war finance bill which provides for the issuing of \$3,000,000,000 of bonds.

Thursday, April 4.

Allies are able to stiffen their lines to meet new offensives by the enemy, the belief being that the supreme struggle has only just begun. Estimates place losses during the first stage of the great battle at 125,000 for the Allies and between 350,000 and 450,000 for the Teutons.—Count Czernin, of Austria, delivers an address which is predicted as a peace move on the part of the central powers.—State governors are asked by Director-General McAdoo, of the United States railways, to see that the tax burdens on railroads are made as light as possible consistent with the necessities of the states.—Forty-six of the sixty-two men arrested in the anti-draft riots of Quebec are released.—Nebraska House of Representatives passes a bill to prevent sedition.

Friday, April 5.

Germans renew attack on wide front against the French to the north of Grivesnes, but are thrust back without making any material gain. The American forces are reported to be occupying a sector on the Meuse heights south of Verdun.—Loyal German-Americans announce their intention to cooperate in assisting the work for a democracy in the German empire.—

Announcement is made that 150,000 U. S. drafted men will be called during April instead of 50,000 as previously determined. The plan of the military authorities now is to call out 150,000 each month, which will provide a national army of 1,350,000 by December 31.—Fire destroys wholesale district of Kansas City, entailing a property loss estimated at over \$7,000,000.

Saturday, April 6.

Germans are forced back by French and obliged to take the defensive near Moreuil. General Haig also repulses bitter attacks further to the north. The enemy drive for the Amiens-Paris railway fails. Berlin reports that 90,000 prisoners and 1,300 guns have been captured since the offensive opened on March 21.—Japanese naval forces land at Vladivostok to protect property and life and prevent disorders.—Announcement is made that the baking of white bread and rolls will be discontinued throughout the United States after April 13.—The administration at Washington asks for legislation which will empower the Federal government to deal severely with all forms of disloyalty.—Mass meetings are held in large cities to start third Liberty bond campaign. Chief among these is the meeting in Baltimore where President Wilson declares that the sword will be necessary to bring peace.

Sunday, April 7.

Between the Oise and Somme rivers heavy fighting takes place in which powerful German attacks were completely repulsed by the French on the left bank of the Oise, where the French were forced to withdraw to previously prepared positions. Artillery on both sides are continuing heavy firing in the Argonne about St. Mihiel and in the region of Ban de Sapt.—Military committee announces its intention of submitting a bill providing for universal military service in this country.—Germans are reported to be overrunning Finland.—British troops land at Vladivostok apparently to cooperate with the Japanese who are already there.—One hundred and fifty towns report their full quota of Liberty Bonds sold on the first day of the campaign.

Monday, April 8.

Constantinople reports that Russians have been cleared from all of Ottoman Armenia.—Counter-attack by the British regains their old line on the Ancre river.—Germans continue to make attacks along the Oise and claim the capture of two towns. The French drive the Germans from positions in the region of Chauny and Barisis, also on the Oise front.—The former imperial family of Russia is to be removed by the Bolshevik government to a town in the Ural mountains.—Announcement is made of plans for aerial mail service between Washington, Philadelphia and New York.—Nearly 1000 men were taken into custody during raids by the home guardsmen and deputy sheriffs in Minneapolis for failing to have registration or classification cards. Thirty of these were held as slackers.

Tuesday, April 9.

Germans extend fighting along 132 mile front from Armentieres on the north to Chauny on the south. Allied line gives way slightly before Coucy. At Ancre the British push their line forward a short distance. Present operations—which exceed in the number of men engaged and the armaments used, that of any battle in history—was evidently begun to turn the flanks of the allied forces to enable the Germans to reach Amiens, their objective.—Spain is wavering in her position of neutrality by reason of threats from Germany to sink Spanish ships unless a proposed treaty with the United States, agreed to on March 7, fails of ratification by the government of Madrid.—Government commandeers five great lake steamers.—Congress is asked by War Industries Board for \$150,000,000 to provide housing accommodations in order that munition work may be rushed.

CIVIL SERVICE EXAMINATIONS.

The Civil Service Commission announces examinations to be held April 24-25, 1918, for "Scientific Assistant in Marketing." Applicants must have graduated from a four-year course at a college or university of recognized standing or be a senior in such an institution and furnish proof of actual graduation within six months from date of this examination. Examinations will be held at the following points throughout the state of Michigan: Ann Arbor, Cheboygan, Detroit, Escanaba, Grand Rapids, Ironwood, Kalamazoo, Lansing, Manistee, Marquette, Saginaw, Sault Ste. Marie and Traverse City. Application blanks may be obtained by addressing local secretary of the United States Civil Service Board at any of these post offices.

Preparing the Seed Bed

By P. H. EATON

FOR best results the soil must be placed in good tilth and the seed bed well prepared before planting begins. Fall plowing that has been left rough during the winter to gather air and moisture will pulverize and work up nicely under the disk and harrow. Fields plowed in the spring should be worked and firmed down so capillary connection with the solid earth underneath will be thoroughly established. Soil left loose and cloddy will lose moisture rapidly while the little air pockets are disastrous to the tender roots of the young plants. Soil worked when too wet will come out chunky and hard so that it is difficult to work down, sometimes requiring the beneficial effects of the hard spring rains to dissolve the lumps.

Plowing and stirring helps to get the air into the stores of potassium, phosphorous and lime resulting in the chemical process of oxidation of these elements which are usually abundant in

red. Compact clay soils give the most trouble, since they puddle when too wet and bake and turn cloddy when too dry. Soils in which there is considerable sand give the least difficulty of all. Increase in the available supply of humus in the soil will improve the tillability of the soil and assist materially in increasing the crop yield. It will pay to put in extra time and effort in the preparation of a first-class seed bed this spring before putting the seed into the ground.

Grub Control

By DON B. WHELAN

NUMEROUS complaints of the ravages of cutworms, especially in their relation to corn, are heard every year. When their presence is first noticed in the spring prompt action is necessary. The cutworm injury is generally worst in the spring about the time that corn is coming through



The Disc is Indispensable on Many Soils.

soils of ordinary fertility, thus releasing much valuable plant food for the coming crops. In the limited time we have and the necessity of giving a part of our attention to other farm work, it is scarcely possible to perform too much labor on the seed bed. Our great trouble is always in getting time enough to do all we should like to do.

It is a good plan to follow each day's plowing with the harrow and if the weather is especially drying, then every half day's plowing should be harrowed. With the tractor, not only capable of pulling the plows, but the harrow as well, this problem is largely solved. The sooner the harrow can follow the plow, the better will be the condition of the soil and the higher the moisture content. Fields that plow up with large chunks should be given a good double disking before resorting to the harrow. A little extra time spent with the disk and harrow may result in adding a good many bushels to the yield at harvest time.

Judicious use of the roller in spring tillage will assist materially toward the compaction of the soil, depending largely upon the nature of the soil. Soil inclined to be sandy is apt to blow and drift, following the use of the roller if it crushes it up very fine; while other soils rolled when too moist will form a crust more injurious than the rolling will be beneficial. The use of the roller in breaking up crusts, pulverizing clods and smoothing down uneven ground so as to form a desirable dust mulch has much to commend it in the preparation of a good seed bed.

The depth at which plowing should be done will vary with different soils. Generally, it is better to do the deep plowing in the fall and medium depth in the spring. Moisture conditions and the nature of the soil must necessarily govern the time to begin plowing. The earth should seem friable when stir-

the ground when they cut the plant off at just below the surface of the ground. This injury may continue until late June or July, by which time the worms are full grown. During the day the worms hide under refuse or just below the surface of the soil but come out at night when feeding takes place. If some plants have been found cut off, the culprit can generally be found within a few inches of the place hiding just beneath the surface of the soil.

Life History.

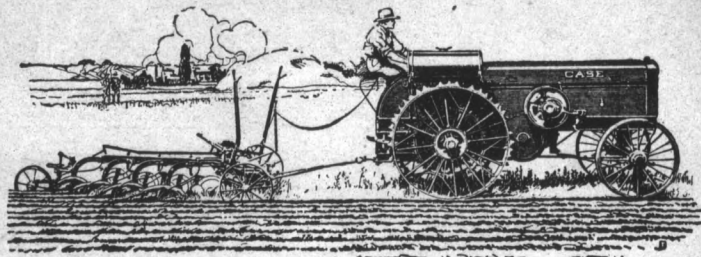
There are many species of cutworms but inasmuch as their histories are similar, as well as their habits and general appearances, they are all considered under the general name of cutworms. The adults of the cutworms are grayish or brownish moths or "millers," which are often seen flying around lights on a summer's evening. Each moth lays from two hundred to five hundred eggs on the lower leaves of grass in fields covered with dense vegetation. This accounts for the fact that cutworms are often abundant in fields which have been in grass or weeds the preceding fall. The eggs hatch in the early fall, a few weeks after they are laid, and the young cutworms, after feeding on grass and other vegetation until cold weather, pass the winter as partly grown caterpillars. If such fields are undisturbed the cutworms will feed on the grass, weeds, etc., and little damage will result, but if it is broken up and corn or some other cultivated crop is planted the worms find themselves deprived of much of their food so the newly planted corn suffers. They attain their full growth about the first of July, changing into the pupa or resting stage.

Control.

Land which is to be planted to corn next year should be plowed in the late summer before the cutworms lay their eggs. If the foliage is turned under it



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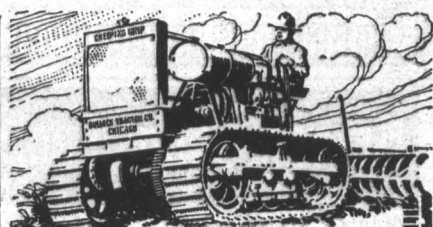
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will be rendered unsuitable for egg laying. Late fall plowing will destroy many of the hibernating worms.

The habit of pasturing hogs upon land harboring either cutworms or white grubs is a good one as these animals will root up and destroy these as well as many other insect pests. Farm poultry, if trained to follow the plow, will be of great value in picking up these insects before they can crawl back into the earth.

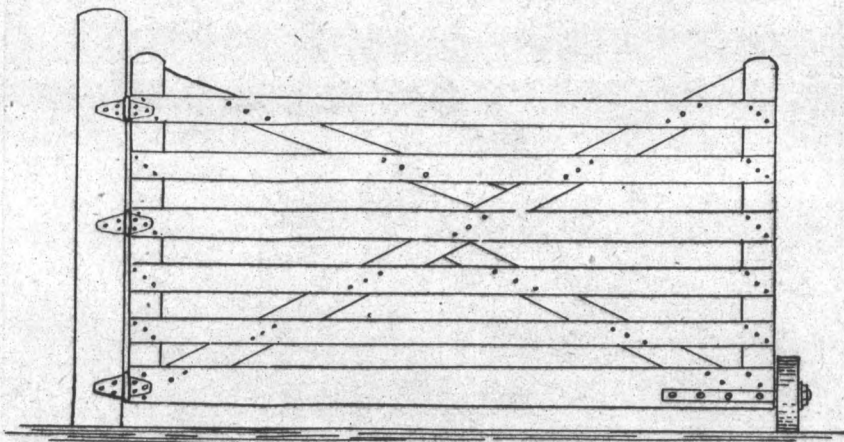
In case cutworms are found to be very abundant in corn land it is advisable to use a poison bait. Probably the best known bait is the Kansas bait, which may be prepared as follows: Take twenty pounds of coarse bran, add one pound of Paris green, or

three-quarters of a pound of white arsenic, and three finely chopped oranges or lemons. Pour into this two gallons of water into which a half gallon of cheap molasses has been stirred. Add enough more water to make a good stiff mash. This bait should be distributed over the infested field in small lumps, taking care to sprinkle it sparingly around each plant. Inasmuch as the cutworms do most of their feeding at night it is best to apply this poison in the evening so that the worms will find it before it dries out. The time of year to apply this bait is about when the corn comes through the ground, this will catch the worms early before they can do any damage and will allow for a replanting of injured hills.

Helps for Busy Farmers

We have had much trouble with gates sagging and breaking loose at the hinges. Here is a remedy for the whole matter. Simply take a wagon box strap and nail or bolt to lower board of gate. Saw off a small wheel from some solid log and bore a hole in the center. Slip the wheel on the

2), and insert a stick and twist it up (No. 3). When the gate-posts are set up in this manner, the whole length of fence can be stretched, stapled fast and the gateways cut out; your gateposts cannot "give" an inch, and the fence remains just as tight as when the stretchers were attached; nor can



strap and fasten with nut and washer. Instead of sagging or dragging on the ground your gate will roll open and shut.

Ohio.

W. E. FARVER.

THE GATEWAY THAT DOESN'T SPREAD.

In fencing around the barnlot, or in front of the house, the farmer quite often finds it necessary, or convenient, to place two gates near each other; for instance, he will place a small gate near the drive gate, for the sake of convenience, as it is handier to have a small gate than to be perpetually opening and closing the larger one.

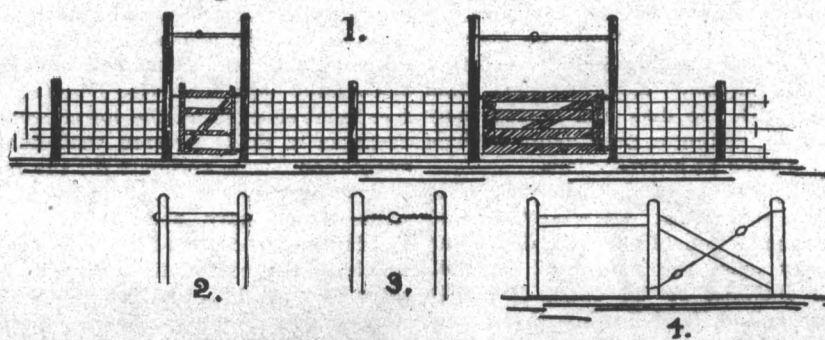
Every farmer knows that in short stretches, such as above, that it is a very difficult task to so brace the gateposts that they will "stay put" and

any amount of freezing and heaving of the ground loosen it, as in the case of braces. There are many ways of bracing the corner posts, the surest of which is to use an anchor; but the anchor cable is usually in the way and is therefore impractical. The method depicted in illustration No. 4 is especially desirable in light soil where it is difficult to hold a corner rigid.

Otsego Co. G. F. DE LA MATER.

A ONE MAN HAY LOADER.

Haying time is always to be found the one busy season of the year. At this time there is always a big demand for extra labor and all labor-saving devices must be called into service. The following described device when used with an ordinary hay loader will



keep the wire taut. When I was a boy we considered the pulling of staples and tightening of short stretches of fence (between gates, etc.), every spring, as one of the penalties for being a farmer. To avoid this we installed long gate posts, and fastened the tops together by means of a piece of No. 9 wire—as per illustration (1)—and it proved very satisfactory; therefore we take this opportunity of passing the hint on to others.

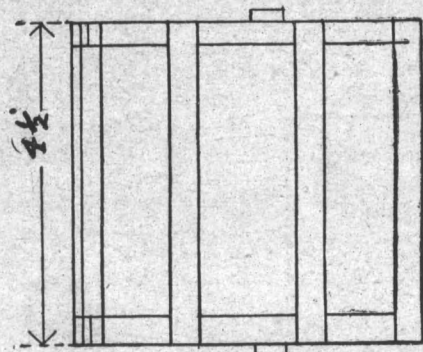
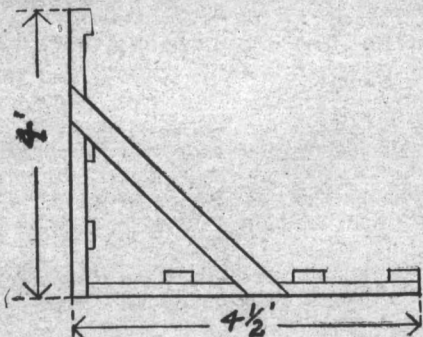
We cut our gate-posts twelve feet long, and set them in the ground three feet; we then pass a strand of No. 9 wire around the tops of the posts (No.

make it possible for one man to do a creditable job of loading the hay while driving the team at the same time.

It is a fact that most farmers know that the ordinary hay loader will load one-half of the wagon in very good shape with very little attention. The one-man hay loader takes advantage of this by having the loader load two separate halves of the wagon one after the other. It is accomplished by making use of a sled that is fastened between slats nailed to the sides of a solid bottomed hay wagon which receives the first half load of hay. When it is full it is pulled to the front of the

wagon and the other half of it is then filled.

The sled is made of two 2x4's four and one-half feet long fastened together with 1x4-inch boards that are also four and a half feet long. A back 4x4½ feet is fastened to this and braced by four-foot lengths of 1x4 boards. The runners are smoothed with a plane and a chain is fastened to the front by means of a hook. This chain must be long enough so that the horses may be



Sled Plan

hitched to it to draw the first half of the load forward.

After the wagon is unloaded the sled is pulled to the back end of the wagon for the next load. As soon as it is filled by the hay-loader it is pulled forward and the rest of the load put on. Last summer this device was used to good advantage by a number of farmers in this section and it helped them a great deal in getting the hay in ahead of the summer rains.

Indiana.

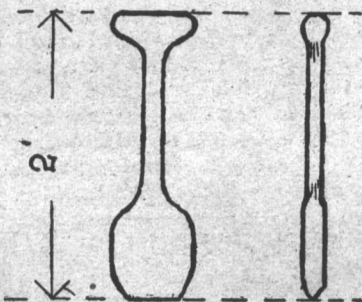
W. E. WIECKING.

A HOME-MADE DIBBLE.

In setting strawberry and cabbage plants, I have found a home-made wooden dibble to be better than either a metal dibble or a spade.

I take a piece of straight grained board about two feet long and an inch thick. With a draw-shave I make it the shape shown here. The bottom is shaved to an edge. In order to use this tool to advantage, the ground must be mellow.

The hole made by the metal dibble or spade is only a slit in the ground.

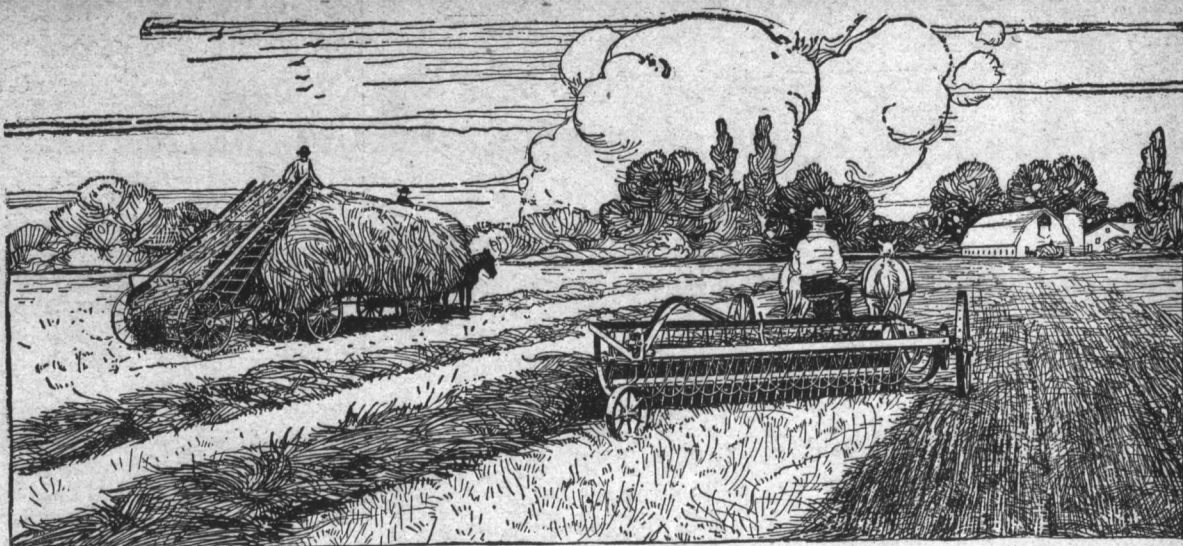


This does not give sufficient room to spread the roots of the plants. The hole is also too deep, and unless care is used, there will be a vacant space left under the roots which will allow them to dry out.

The wooden dibble makes the hole the right depth and shape. It also has another advantage in that the earth does not stick to it so readily as to the metal.

H. L. SPOONER.

Keep your face always toward the sunshine and the shadows will fall behind you.—M. B. Whitman.



Speedy Haying and Finest Hay When Help is Scarce and Time is Short

WHEN the haying rush comes on this season, a good deal of hay money is going to be lost on many farms—and saved on many other farms—in the short space of a few weeks. A very few days' delay, a rainy day or two, poor curing facilities, and hay values vanish like magic. Everything depends on haying machine preparedness. Will you be ready for haying?

Good hay is made in fast time with little help, year after year, on farms equipped with mowers, rakes, tedders, side delivery rakes, loaders, etc., sold by International Harvester dealers.

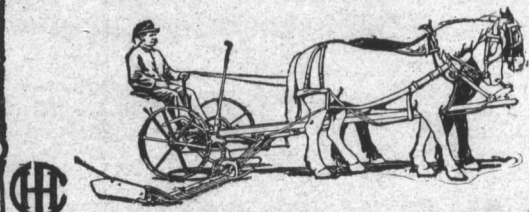
Champion, Deering, McCormick, Milwaukee and Osborne Mowers, Dump Rakes and Tedders have been too long and favorably known on forty million acres of hayfield to need description.

Every hay grower should become familiar with the construction of the new International, Keystone and Osborne Combined Side Delivery Rake and Tedder. This popular, economical machine has two duties in

one—it can be instantly adjusted for rake or for tedder. It rakes clean, teds thoroughly, and handles hay gently. It is a left-hand-delivery rake, which means it can follow the mower closely and strike the heads first (not the stems). It does clean work, piling two swaths at once on the clean stubble (not on an unraked swath), which means proper curing. Quickly adjustable to any condition of hay and ground.

International, Keystone and Osborne Windrow Loaders are built to last. Pulled easily by two horses, they load uniformly, leave the field clean, lift hay over 10 feet, do not thresh off blossoms and leaves. Sold with or without forecarriage and are released easily from top of load.

Hay values are high. These tools, which put hay under cover in prime condition four or five hours after cutting, return their price, and more, to your pocket. The International Harvester dealer can furnish you with proper sizes and types and special equipment. (The lines include also sweep rakes, stackers, and combined sweep rakes and stackers.) **WARNING:** This is a year of big demand for machines, scant supply and handicapped shipping. Act early and be certain. See the dealer—write to the address below for folders.

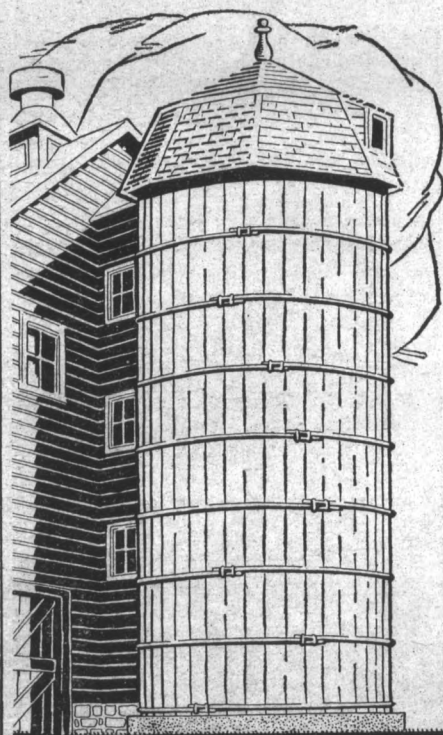


International Harvester Company of America

(Incorporated)

CHICAGO

U S A



SILO SATISFACTION

Century Silos are built for durability, service and satisfaction.

The Century Gambrel roof makes it possible to fill the silo so that the silage will settle down to the tops of the staves. You don't lose the use of the top three or four feet of your silo.

Century doors are hinged and at the same time removable. They fit tight and prevent spoiling or freezing of the silage.

Century Silos are rigidly anchored. They're built to last a lifetime. Write for folder.

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Century Creosoted Silos
"Last till the cows come home"

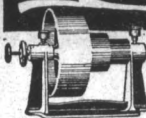


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Farm Machinery FOR SALE

One 10-20 Horse Power International Harvester Tractor Kerosene Motor, and one set of 3 blade Oliver Plough, \$750, terms. Inquire W. F. Krueger, San Souci, Harsens Island, or Campbell & Harding, 2338 Jefferson Ave. E., Detroit, Mich.

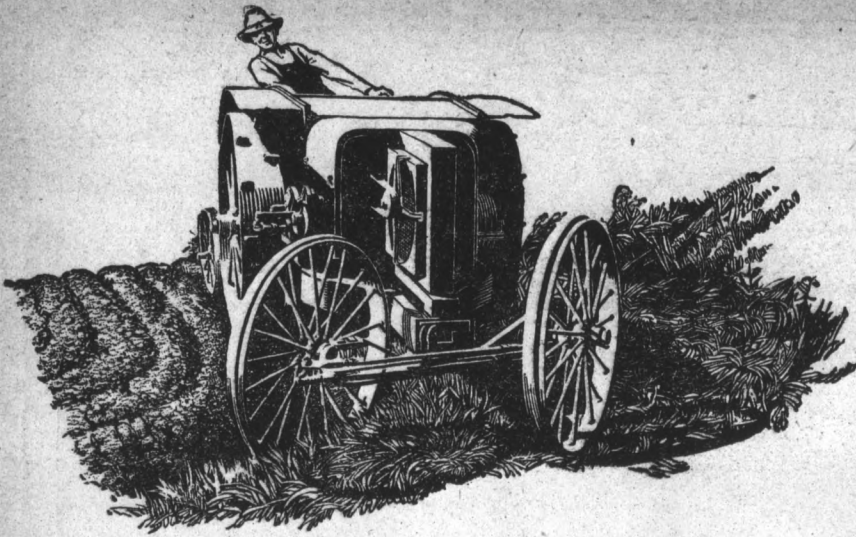
Hand Picked Seed Beans "Early Wonder" 90% germination, Gov't test. These are small white pea beans requiring less pounds per acre and being two weeks earlier than the "Navy", escape late and early frosts. Order from this ad. \$18 per 100 lb. Sacks free. Reference, First State Bank here or in Bellaire, Mich.
F. E. PECK, Central Lake, Mich.

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We pay salary to good subscription getters, who can devote their entire time to our work. The offer our salaried men handle is especially attractive to farmers.

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The "hard-to-plow" places offer no difficulties to the Parrett Tractor. The front axle, mounted on a special pivot, swings freely up and down enabling the Parrett to go easily over hills and hummocks and to adapt itself to rough, uneven ground. The unusually short turning radius allows it to get right up into the corners.

For five years, in all kinds of soils and climates, the Parrett has proved its ability. Pulls three 14 inch plows; operates a 20 to 26 inch separator or does any other kind of belt work; burns kerosene; does not require a special hitch; is self steering in the furrow; special ball governor maintains an economical use of fuel at all times; and it can be operated easily by a boy. Write for the Parrett Catalog.

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Michigan Parrett Tractor Co., Distributors, 306 Pine St. So., Lansing, Mich.

PARRETT

12-25 TRACTOR

SPEAKS FOR ITSELF

Books that Help You Get the Big Money for Your Hay

Increase your hay land profits. Get more and better hay from the same land. These books tell you how. They contain valuable information on varieties of hay, hay seeding, hay culture, hay making and modern haying machinery. Authoritative information based on years of actual field experience and exhaustive tests. They tell all about the



JOHN DEERE DAIN SYSTEM of Air Curing Hay

The system that is being practiced profitably by thousands of hay growers. Hay made by this system brings better prices. There is often a difference of from \$6.00 to \$10.00 per ton between choice and ordinary hay. Hay made the Dain way keeps better, is more palatable, more digestible and has greater feeding value.

This system consists of following the mower closely with a Dain System Rake, handling the hay while the leaves are still active and placing it on clean, dried-out stubble. The hay is delivered in medium sized windrows with the bulk of the leaves on the inside and the majority of stems on the outside.

The loose windrows allow for free circulation of air. The hay retains its color and nutrition.

The Dain System Rake is easy to operate. You put the machine in and out of gear, raise and lower the raking head, change the angle of the teeth with levers accessible from the seat. Unusual capacity is provided. The inclined frame grows higher where the windrow becomes larger—an exclusive feature. Many other splendid features of this rake are illustrated and described in the free books.

To get these books state the implements in which you are interested and ask for free package DS-421.

JOHN DEERE, Moline, Ill.

"Over the Top" with Oats

By J. F. COX

Farm Crops Specialist, M. A. C.

MICHIGAN is famous as an oat state. The soil and climate are well adapted to the production of this crop. We can do our part best in this war by increasing the acreage and yield per acre of the crops we can grow best. A bumper oat crop means another bump for the Kaiser.

Getting the Most Out of Oats.

When asked how to get the most out of the oat crop, successful oat growers almost invariably agree in their statements. "Plant a good variety fairly early in the season on well prepared loam or clay loam; treat seed with formaldehyde to fix smut; fertilize with acid phosphate to get better yields and more rapid growth."

Though oats do best on well drained loam and clay loams, well supplied with organic matter, successful yields are often secured on sandy loams, well fertilized with manure and phosphate. On heavy clay and muck soils oats frequently lodge, but this tendency can be largely overcome by planting a stiff strawed variety, such as the Worthy, and by using acid phosphate or other phosphate carrying fertilizers.

Oats do best on a firm seed bed. Fall plowed land can be put in excellent shape for oats by thorough discing. In many cases clean bean, corn or sugar beet land can be well fitted by the use of the disc. Weedy or intractable soils need plowing, but spring plowing for oats should be shallow. The turned soils should be immediately followed by roller and harrow to pack the lower part of the furrow slice firmly and to fit the surface thoroughly.

Preparing Seed Oats for Planting.

It means several bushels in yield and less weeds on the land if seed oats are fanned thoroughly with a good fanning mill. Light oats, pin oats, chaff, weed seeds and dirt can all be effectively removed. In case of oats, more than with other grains, large plump seed gives an increase in production.

The formaldehyde treatment is an important factor in insuring big yields. It has been demonstrated that this treatment almost completely controls loose smut of oats. The method commonly used for many years consists of sprinkling seed oats thoroughly previous to seeding with a solution of the proportion of one pound of forty per cent formaldehyde to forty gallons of water. Oats are spread out on the floor or in tight wagon box, sprinkled with solution, being shoveled over until thoroughly moistened. About one gallon of solution is needed for one bushel of oats. The oats are then piled up and covered with wet sacks for from three to six hours. They are then spread out to dry.

The new concentrated formaldehyde treatment advised by the Department of Botany of the Michigan Agricultural College, is much more convenient and equally effective. In this treatment the oats are sprayed with the concentrated formalin, using small hand-sprayer such as is commonly employed in spraying potatoes. One pint of forty per cent formaldehyde will treat fifty bushels of oats. For convenience a pint or more of water may be added. Sprayer should be held close to the surface of the oats, the oats being

Sowing and Fertilizing.

As a general rule, oats should be sown as early as the soil warms up and can be put in proper condition. Oats are usually planted in Michigan in late April or early May. The earlier planting gives opportunity for greater development before the hot spells of summer occur.

In applying fertilizer for oats, acid phosphate or commercial fertilizer high in phosphate, is usually sown through fertilizer attachment on drill. From two hundred to three hundred pounds of acid phosphate, or fertilizer, high in phosphorus, should be applied per acre. Dependable growers frequently claim increases of from ten to fifteen bushels per acre from such treatment.

Experiments of Dr. M. M. McCool, Michigan Agricultural College, in many Michigan localities have demonstrated the great effect of phosphorus on oats.

Secure the Best Varieties.

There are many excellent varieties of oats grown in Michigan and a still larger number which do not yield as well and thereby cause a loss in comparison, to the farmers who grow them.

The improved varieties developed by the Michigan Agricultural College plant breeder are proving their dependability. The Wor-

thy are available in large quantities, and are best adapted to heavier loams and clay loams. The Alexander, though not greatly different, have given excellent results on lighter soils as well.

College Success and Wolverine, newly developed oats, obtainable only in small quantities, are high-yielding varieties. Other widely grown varieties that have given success are Swedish Select, Big Four, Great Dane, and New Victor. In choosing your variety care should be taken to find the strain that has given good results under similar conditions and in the same locality where it is to be grown. Judge the variety by its performance and weed out the low-yielding strains.

Michigan can do her part best in the way of spring cereals by increasing the acreage and growing more per acre of crops of proven reliability.

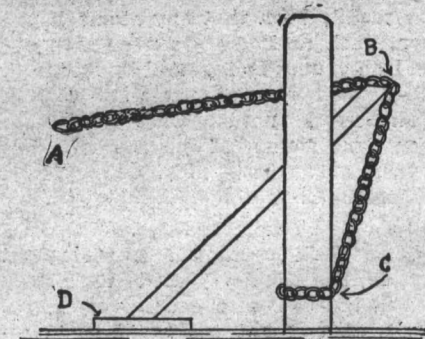
BANKS HELP FARMERS TO GET TRACTORS.

Federal reserve banks are to rediscount notes secured by farm tractors, the United States Department of Agriculture announces. Instructions have been issued by the Federal Reserve Board to all federal reserve banks authorizing them to rediscount tractor paper presented by any member bank, provided it has maturity not exceeding six months and the tractors are purchased for agricultural purposes. This action of the Federal Reserve Board explains the department; means that notes given for farm tractors will be treated in the same manner as other agricultural paper, thus making it easier for farmers to obtain tractors where needed.

PULLING OLD POSTS.

Here is a fine device to aid in pulling posts quickly and efficiently.

Take a medium heavy chain and fasten about the post, as at C in illustration. Bring chain up around the end of a piece of timber, (two, or three



by six, preferred), as at B. To the end of timber, D, a block should be spiked squarely to avoid sinking into the ground. Hitch your team to the chain at A and you will find it beats all the digging and sweating that you ever did. W. E. FARVER.

NORTHERN-GROWN SEED BEANS.

Are seed beans grown near Tawas City affected by blight? Would it be advisable to send there for seed to plant in Lapeer county? How much cottonseed meal can one safely feed to a dairy cow? How much to a fattening steer? What is the best crop to sow on clay land to furnish protein to put with ensilage corn? Where can the seed be obtained?

Lapeer Co.

READER.

Beans grown in the northern part of the state are not as apt to be infected with blight and anthracnose as those grown farther south largely because the disease has not become prevalent there as yet, but the mere fact that they were grown in the northern part of the state wouldn't make these beans safe seed to plant. You ought to learn whether these beans were infected by either blight or anthracnose before you plant the seed.

Amount of Cottonseed Meal to Feed.

No one recommends feeding dairy cows more than two pounds of cottonseed meal per day but for short periods more than this can be fed without any appreciable danger. Therefore it would be perfectly safe to feed fattening steers a large amount as they are only fed for a short time and then slaughtered. The trouble comes in feeding dairy cows too much cottonseed meal over long periods of time. I should say that if one would carefully keep increasing the amount of cottonseed meal for steers that as much as five, six or perhaps eight pounds could be fed to a steer daily.

Best Crop to Furnish Protein with Corn Silage.

There are several crops that can be grown that are very much richer in protein than corn silage, and they can be mixed with the corn silage at the time of filling the silo and this increases the per cent of protein in the silage. Undoubtedly, soy beans is one of the best crops that can be grown for this purpose. These beans can be grown on separate land then mixed at the time the silo is filled. A number of farmers have made quite a success in growing the beans right with the corn, planting them at the same time. Then the beans can be harvested at the same time and they are well mixed with the silage and it is all done at little cost for labor. You can buy your beans of any reliable seedsman.

Dwarf Essex rape is another crop much richer in protein than corn silage and this can be readily grown anywhere in Michigan and mixed with the silage when the silo is filled. Some people raise sunflowers, the seeds of which are very rich in protein and these are mixed with the ensilage as the silo is filled. Again, you can raise vetch, sand vetch, or you can put the last cutting of alfalfa into the silo with the corn.



Champion

Dependable Spark Plugs

THE prime essential of emergency equipment is dependability.

And the essentials of dependability are efficiency and durability.

The gasoline motor can only be as efficient as its spark plugs—not one whit more so.

When you think of the high efficiency of the millions of motors in constant use, and realize that an overwhelming majority of all American

motors are equipped with Champion Spark Plugs, you gain a realization of what we mean by dependability.

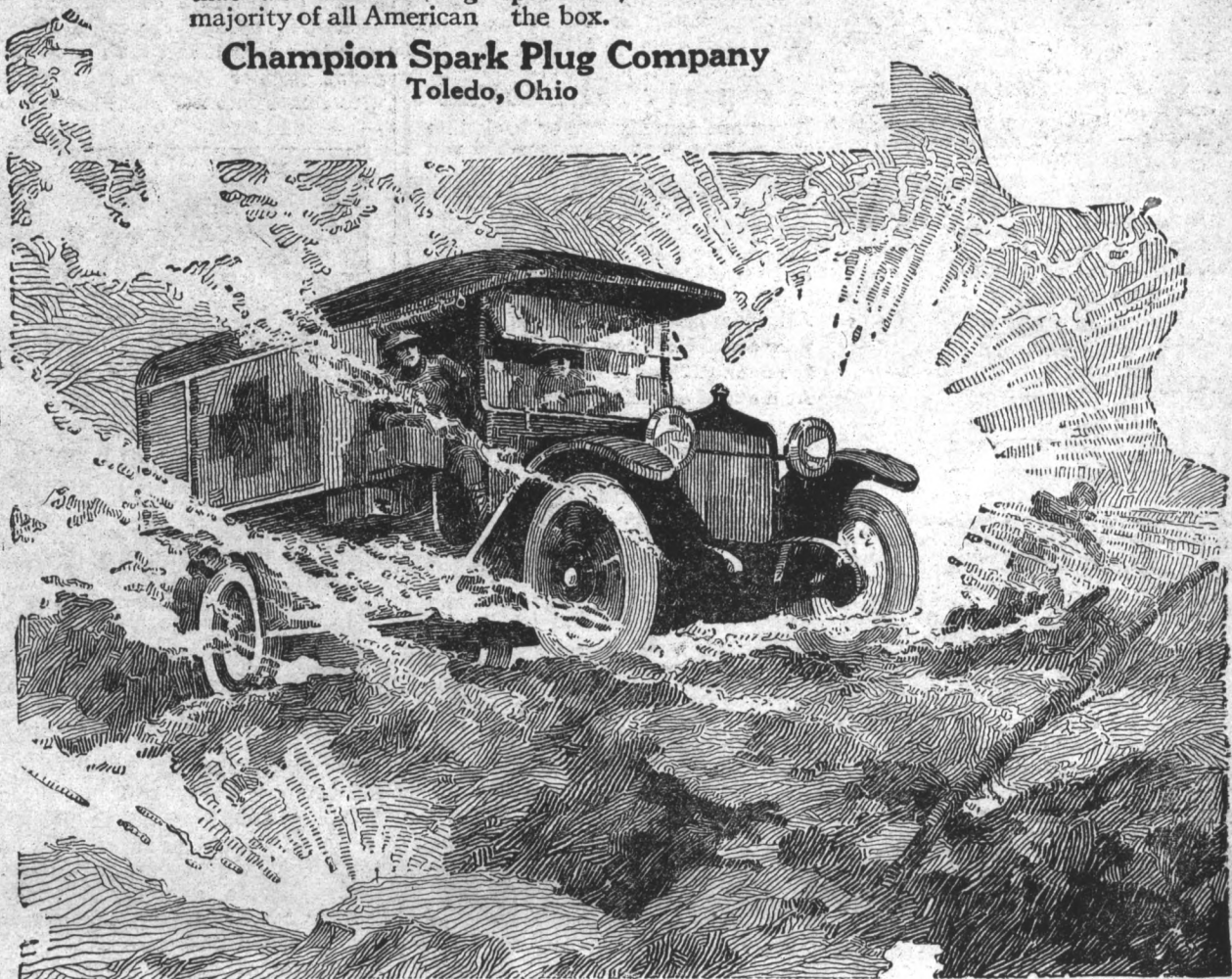
You never know what moment your motor may have to be relied upon for emergency service.

See that your spark plugs are dependable—see that the name "Champion" is on the porcelain, not merely on the box.



Champion
Regular
1/2-inch
7/8-18
\$1.00

Champion Spark Plug Company
Toledo, Ohio



BUY MYERS PUMPS-ALL KINDS
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MYERS DOOR HANGERS
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least expense? How can I cultivate
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IRON AGE Riding Cultivator

will help you do this. Has pivot wheels and gangs with parallel motion. Adjustable to any width of row. Every tooth can be raised, lowered or turned to right or left. Lever adjusts balance of frame to weight of driver. Light, strong and compact—the latest and best of riding cultivators. We make a complete line of potato machinery, garden tools, etc. Write us today for free booklet.

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has become so popular in its first three years that thousands have been called for to replace, on their old towers, other makes of mills, and to replace, at small cost, the gearing of the earlier Aermotors, making them self-oiling. Its enclosed motor keeps in the oil and keeps out dust and rain. The Splash Oiling System constantly floods every bearing with oil preventing wear and enabling the mill to pump in the lightest breeze. The oil supply is renewed once a year. Double Gears are used, each carrying half the load. We make Gasoline Engines, Pumps, Tanks, Water Supply Goods and Steel Frame Saws. Write AERMOTOR CO., 2500 Twelfth St., Chicago

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

GOOD SEED CORN & BARLEY ARE SCARCE

If not provided for Farmers should get busy and secure their Spring supply of seeds. Our Iowa Gold Mine is a fine corn and with favorable corn weather will produce a matured crop. Don't forget King's Improved Red Cob Ensilage when ordering. Both money makers for the farmer. Have limited amount Six Row White Russian Barley seed. There is not a more sure or profitable crop grown. You need some early grain to fatten the pigs, and U. S. A. needs the pork to help win the war. Address

H. C. King Seed Company, Battle Creek, Mich.

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(PROLIFIC) Seed, State Tested.
BIG YIELDERS

Yield 60% more than Pea or Navy on any soil. Sample and price on request.

A. A. Lambertson, Cedar Springs, Mich.

SEED BEANS

Choice Medium Pea. Beans that have been run thru fanning mill and pick three pounds per hundred. Put up dry and have no excess moisture. \$9.00 per bushel, bags extra.

JAS. E. CAMPBELL, R. 10, St. Johns, Mich.

Pedigreed Seed Oats. The two wonderful yielding varieties that excel all others. For sale by **W. J. MERRIAN, Almont, Mich.**

SEED CORN Early Improved Leaming. Write for prices. **THEO. BURT & SONS, Melrose, Ohio.**

Onion Seed our specialty, all kinds of tested and pay your postage. Fresh seeds. We sell by weight **ALLEN'S SEED HOUSE, Geneva, Ohio.**

For Sale CHOICE SEED CORN. 500 bushel 100 day Yellow Dent, 400 bushel White Cap Yellow. Order early. **Woodfields Farms, Wycombe, Bucks Co., Pa.**

Barley—Pure, cleaned for seed \$2.50 per bushel, new grain bags included. **H. L. COLE, Palmyra, Mich.**

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Less than two cents per day insures your car against fire, theft, personal liability, property damaged, defense of suits, cyclone and windstorm.



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Auto Thieves If your car is stolen we recover it for you and repair any damages; or if not recovered we pay you the value of the auto. With thousands of cars being stolen annually, you should make sure that your car is fully insured.

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If you accidentally run or back into and destroy property we protect you against loss or expense resulting from the accident. We will defend you at our expense against suit brought to enforce claims for damages. Our policies also cover losses by cyclone and windstorm.

All this protection for \$7.00 per year on a \$1,000 car, and fifty cents for each \$100 additional value.

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Let us send you full information about our policy. Let us send you a comparison of our rates and the rates charged by other companies. Your inquiry incurs no obligation upon your part. We'll be glad to send you the name of our agent in your locality. We have more than 500 agents in Michigan.



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NEW BEAN THE MONEYMAKER

AN ENORMOUS YIELDER
Over 45 bushels have been grown on less than an acre. Men who have grown beans for thirty years say they never saw its equal. Plants are loaded with pods producing snow white beans; will mature in about 75 to 80 days. "No danger of Jack Frost;" excellent for home use. You should plant this **NEW BEAN**, as so many can be grown in a small space; **Five Quarts** have been grown from 100 beans. Try this bean in your garden, you will surely harvest a good supply for next season. Growth of plants and yield will surprise you. **BOOK** how to grow garden and field beans **FREE** with every order. Order at once, sold only in sealed packets containing 60 beans each. **Packet 10 cts. 3 pkts. 25 cts., 7 pkts. 50 cts., 1 Quart \$1.00 Postpaid.**
H. J. HARDACRE Box 67 OSWEGO, N. Y.

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Mites pester fowl so they get scrawny, lose their feathers and won't lay. The sooner you rid your flock of Mites, the better for your pocketbook. Use the easy, sure, cheap way—**SPRAY HOFSTRA!** Kills Mites, Lice, Fleas, many Garden Bugs, Flies, Ants, Mosquitoes, Roaches. **It Must or Money Back!**

Loaded Gun FREE
Send your dealer's name and 50c to get big 50c box of **HOFSTRA**, all delivery charges prepaid, and loaded Metal Gun **FREE!**
309 Nogales
HOFSTRA Mfg. Co. TULSA, OKLA.

Open field grown well rooted cabbage plants. Millions now ready. Orders shipped same day received. Packaged with damp moss to the root. Varieties, Charleston and Jersey Wakefield, Succession, Drumhead. Price \$1.25 per 1000. Tomato Plants, Globe, Stone, Earliana, Red Rock. Price \$2 per 1000, 75c per 100, by mail prepaid. Bruce Wholesale Plant Company, Valdosta, Ga.

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Strategy In Garden Warfare

By I. J. MATHEWS

GARDEN warfare is nine parts strategy and one part force. Strategy refers to the "know how" while force refers to the "doing," which will ultimately be the undoing of the garden pests.

General Washington said: "If you are going to fight Indians, you will have to fight as they do." In other words, the success of Indian warfare depended upon how well the opposition knew the habits and modes of Indian life and the peculiarities of Indian warfare. So it is in the garden. Insect fighting is successful only when the gardener knows the habits of the insects he fights.

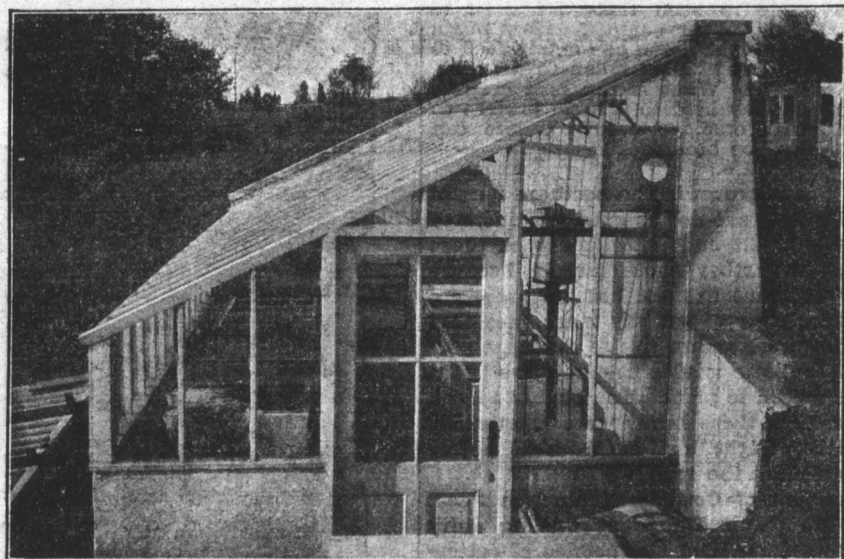
Use the Right Dope.

For instance, there is the humble plant louse that so often tantalizes and provokes the housewife who would like to keep a few plants. Many a goodly pound of arsenate of lead has been used up spraying these creatures. Still, they thrive on it and their avoirdupois grows greater every day. The good wife comes into her plant room two or

those that kill merely upon coming in must be killed by contact sprays or contact with the louse's body. It will be readily seen that any stomach poison, such as Paris green or arsenate of lead cannot be ingested by an insect with sucking mouth parts and cannot, therefore, be used against any of the countless forms of plant lice, stink bugs, squash bugs, plum curculio and others of their ilk.

Traps for Bugs.

One dark evening last spring an enamored couple picked their way along the side of a country road in a sure, though not too rapid route towards home. Passing a farmer's garden, they saw several lanterns here and there through the garden. This being a rather uncommon sight to the belated ones, the fuzzy-haired girl made this lackadaisical query to avoid another burning question whose asker was still in the dark. "I wonder if this old farmer is trying to light up all outdoors or is he trying to get rid of his coal oil? Is he trying to make it



For Early Gardens the Farm Greenhouse is a Valuable Asset.

three days after such a spraying and disgustedly finds the opulent louse tethered to the same spot. "Dear me," she wrathfully ejaculates, "I wonder why they don't eat the arsenate of lead I gave them?"

As a killing matter, the housewife has forgotten that the plant louse is not a potato beetle. Because the potato beetle sips the luscious arsenate of lead and forthwith wafts his toes and thoughts skyward, she thinks the louse should follow suit and do likewise. Perhaps she doesn't know it, but a long while ago the plant lice decided to be in a class by themselves. So they lost their teeth, if they ever had any, and grew sucking mouthparts instead. Now when a plant louse desires dinner, he does not clumsily gnaw away at the outer rind of a leaf. Instead, he scouts out and stealthily approaches a tender spot in the leaf's surface. Deftly and with one thrust he pushes his hollow sword-like bill through the tough outer surface and into the tender juices and pulp beneath. He curls his legs up under him and prepares for the feast. When the irate housewife tries to drown him with the unholy arsenate spray, his face assumes rotundity, a chuckle issues forth and the feast proceeds unmolested.

To Control Plant Lice.

However, should the housewife be seen coming in with a spray gun loaded with nicotine, sulphate, or kerosene emulsion, the louse immediately sits up and takes notice, not because the taste of this stuff doesn't suit him, but because he knows that the moment it touches him, sudden death will be his fate.

light so that the bugs can work at night as well as in the day time?"

Coming closer, one would find these lanterns set in pie tins, the bottom of the tin being covered with kerosene oil. In the morning, I examined some of them and found that each lantern had attracted its quota of night-flying moths or noctuides. In flying about the lantern, they would occasionally drop into the pan of oil. Here, they "got theirs."

Cutworm Control.

Probably the cutworm is the most troublesome form of insect that is in our gardens, one year with another. The mother of the cutworm is a night-flying moth and the farmer who had the lanterns resting in the pans of kerosene oil told me he thought this practice saved him a great many vegetables each year because it destroyed so many of the parent moths.

As he pointed to a plant that had been gnawed off, the top lying wilted on the ground, he said: "Do you see that plant over there?" I nodded assent, whereupon he continued, "I have an idea that the cutworm who did the cutting now lies cuddled there just under the soil by the stump of that plant. Those cutworms certainly are wise old boys. They don't like anything else but wilted food and they have found that cutting by day is a rather risky bit of hewing, so they just crawl out at night and cut the plant off, burrow down close beside the stump and wait until the next night. By this time the plant has been wilted and they issue forth and devour what they want of it and cut off another for the next night's meal."

We dug into the ground, only to find the cutworm fast asleep day dreaming.

Plant lice and other sucking insects

It will be readily seen that the only method of fighting this insidious insect is suggested by knowing the night-flying habits of the adult. He eats so little of the plants themselves that it is practically impossible to poison him with such a stomach poison as Paris green or any of the others. We can, however, catch the moths pretty easily at night by attracting them with the lantern.

It is also possible to poison a good many cutworms by using a poisoned bran bait which is sprinkled in thin patches about over the garden and is eaten by them when out on their nocturnal scouting raids. In the morning there a few cutworms at least that have cut their last.

Arsenical Poisoning.

On the other hand, there are a good many troublesome insects bold enough to gnaw by day and any insect that does this causes the gardener no trouble except the application of the stomach poison. Arsenate of lead is one of the most suitable of stomach poisons that is now in use for insects that have chewing mouth and parts and chew the outer portions of whatever part of the plant they attack. The Colorado potato beetle, the black flea beetles that occur on the tomato plants early in the spring, and the tomato worm are common examples of this class, as is also the codling moth larvae which is so familiar to the orchardists. It is pretty hard to kill an old potato bug, but the reason is because she eats so little rather than because the arsenate of lead will not do it. Most adult beetles have attained maturity and therefore require but little nourishment; this makes them very hard to combat.

The Tomato Worm.

Did you ever go into the tomato patch in the middle of the day and hear continuous noises like the sounds of many small fire crackers? Sometimes there will be many of these coming from different parts of the patch. A large tomato worm busy gathering up enough food for its growth will make such a noise that may be distinctly heard several feet. While tomato worms can be easily killed with arsenate of lead spray, it is customary to pick them by hand since there are usually such a relatively small number of them.

What to do with a troublesome insect depends upon knowing his habits and his mouthparts. After knowing this, it is a good scheme to make sure that the intruder can be reached with the treatment. Insect looses belong in the class known as preventable and good results follow heroic treatment.

SPRAY SUGGESTIONS.

Very few small orchard owners have spraying outfits which are capable of doing a good thorough job, no matter how careful the operator may be.

Some barrel outfits have no agitator. The result is a non-uniform mixture, lack of success, and sometimes tree injury.

Some outfits now on the market are sold with hose but twelve feet long, and sometimes only four. Often there is no extension rod. This combination is practically useless. A man should have thirty or more feet of hose and a good extension rod, preferably of bamboo, eight, ten or twelve feet long.

Most barrel outfits include small nozzles, usually of the Vermorel type. The use of larger capacity disk nozzles with a forty-five degree angle makes the pumping easier and the spraying faster.

An air chamber of a pump tends to equalize the pressure at the nozzle. A pressure gauge lets a man know just how much pressure he has. He isn't guessing.

Every extension rod should have a cut-off at the base of the rod. It saves spray and pressure.

How to keep your Ford engine running like new

Every car has different lubricating problems. In the Ford the special problem arises from the exclusive and ingenious construction by which the disc clutch and transmission gears are enclosed with the engine.

In other makes of cars, these three parts are separate, and the oiling requirements of each are met by a different lubricant.

In the Ford, one oil must lubricate all three of these parts—the engine, transmission gears and the disc clutch.

Faulty lubrication causes 90% of trouble

A careful analysis of the causes for trouble in the Ford engine shows that improper lubrication is to blame for 90% of them. This is largely due to the sediment formed by ordinary oil which breaks down under the heat of the engine. This sediment crowds the oil with lubricat-

ing qualities away from points where it is most needed, causing friction and rapid wear.

The ideal lubricant for your Ford

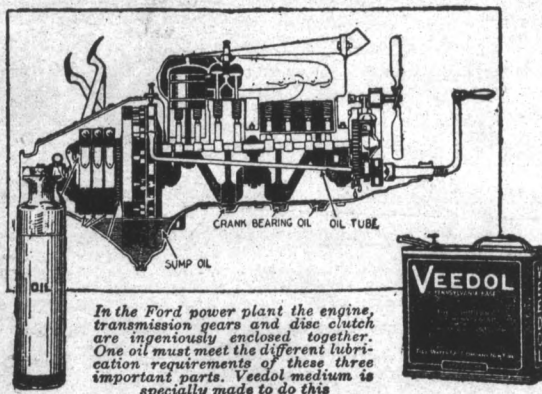
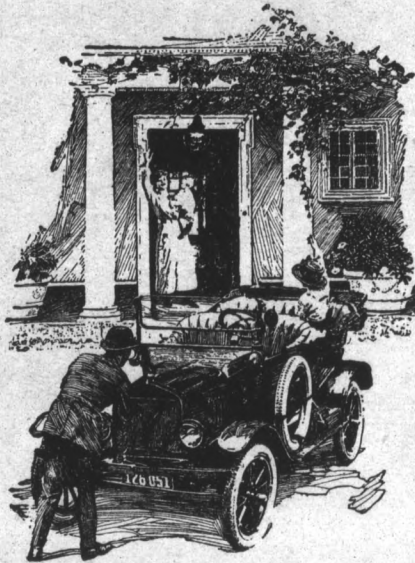
Ford owners are rapidly learning that Veedol Medium is the ideal lubricant for their cars.

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In the Ford power plant the engine, transmission gears and disc clutch are ingeniously enclosed together. One oil must meet the different lubrication requirements of these three important parts. Veedol medium is specially made to do this.

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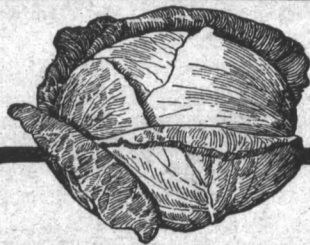
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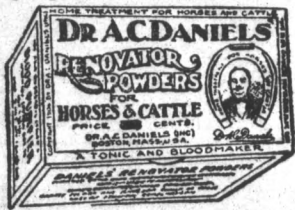
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The Money-Making Hogs

By N. A. CLAPP

NOTWITHSTANDING the fact that in the past the hog was despised by a considerable percentage of the civilized population of the globe, and in the more recent years has been berated with vigorous terms, he stands today the most lauded and highly honored of our domestic animals. With all that has been said in praise of our domestic swine, the linguistic experts of today can very properly increase the number of words that can be brought into use in extolling the merits of the American hog, for all of his desirable characteristics do not seem to be seen and fully appreciated.

The various transformations through which the hog has passed from the dawn of the early days of capture and imprisonment are well worth considering. From a wild, ferocious beast, dangerous to approach, he has been transplanted to a quiet, peaceful, tractable animal, that is easily controlled and handily modified and changed in many ways. From a slow-growing, late maturing animal which once required several years to bring him to a desired weight for marketing purposes, he has been changed to a rapidly growing animal, which attains to desirable marketing weights, often in six or eight months, and rarely is fed beyond a whole year's time. From an animal which brought forth but two pigs at a litter, and that only once a year, we now have the distinctively prolific animals which increase in a "ten-fold

ratio," (bringing ten or more pigs at a litter), and farrowing two litters per year. It is this latter characteristic that ought to be considered at its full worth at the present time.

Winning the War.

Our national food administrator has said that it is to be the American hog that will win the war. If such is the case better judgment should be used than is usually displayed in breeding, feeding and rearing the pigs. There are losses and wastes sufficient to turn the scale in the wrong direction in not only large businesses, but in a gigantic war. It will be well to learn to avoid the wastes if we are to win in this great conflict. The fact is too well known to require repeating at the present time, that the pork meats more fully meet the requirements of the laboring men in our great industries, and in the army camps, than any other class of meats. It is worth the while to learn to follow the methods which will not only increase the number of hogs raised, but will materially increase the quantity of pork meats which will be available for use.

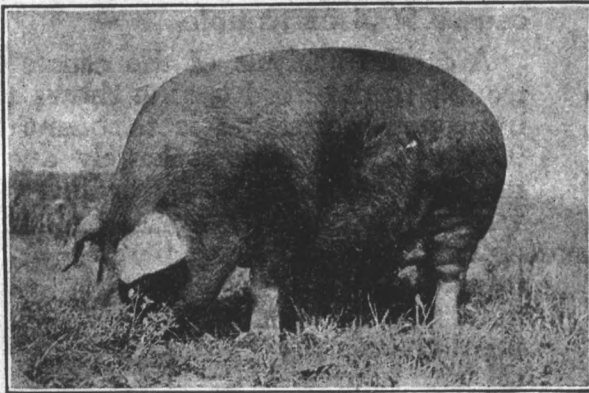
Insuring the Numbers.

In pig breeding, as well as in many other kinds of business there is too much gambling with the odds, against success. Too many take chances in bringing pigs into the world when the sows have not been properly fed and handled, and when weather conditions are likely to be against their meeting with success.

There are two seasons of the year when weather conditions are likely to be favorable for saving newly farrowed pigs, and raising them. It is during the first continuous warm weather in the spring and the first comfortably cool weather in the fall. For raising pigs in the northern states the weather which we usually have during the month of April in the spring, and October in the fall, is almost invariably ideal for saving and starting pigs. Of

course sometimes, if farrowed earlier in the spring and later in the fall, they can be saved and reared successfully, but there are conditions which are likely to be met which makes the venture risky. If pigs have to be confined too closely to the nest while small, the foul odors and disagreeable temperature invites diseases which destroy a considerable percentage of the pigs and the outcome is discouraging. The almost invariably fatal disease known as the "thumps" is met with, under such conditions. Then there is damp conditions which invites catching cold, followed by pneumonia and a general unthrifty condition which requires careful nursing and generous feeding with warm, nourishing feeds to overcome.

The balmy, sweet, fragrant air of spring, which is usually met with in April seems to invite the pigs to come out of the nest and remain in the sunshine which is health-giving and the volunteer exercise strengthens and invigorates the young pigs and starts them frolicking and nipping the fresh



Win the War with More Hogs.

herbage which contains the mineral substances which are needed to give strength to the bones and elasticity to the muscles.

The abundance of and great variety of feeds which are generally in reach of the little pigs in October are just what is needed to start the pigs to growing rapidly and prepare them for a continuous growth through the winter. October pigs, well started, are not feeble little pigs to winter, but are of good size ready to rough it and consume a great variety of feeds during the winter, which will insure a rapid growth. It is an old saying that "a fall pig well started is half wintered." Some of the best show pigs, developed among the different breeds, have been fall pigs farrowed and started under favorable conditions met with during the fall months.

The number of pigs in the United States at the present time is about eight million less than what is considered the normal number. If we wish to increase and maintain the number of pigs up to the desired point, the safest and surest way to attain to that condition will be to select sows from prolific families of hogs and make it a rule to have each and every sow farrow two litters of pigs per year in April or early May and the other some time between the middle of September and the tenth of November. At such dates a very large percentage of the pigs can be saved and started well on the way to market weights.

The Kinds of Feed to Use.

For many years people have entertained erroneous ideas as to what should constitute the feed for growing pigs. The ration selected has been almost invariably a narrow one of which corn has constituted the major part, if not the entire ration. The pigs raised under that plan have been reduced in size, rarely, if ever, keeping up to the size and weights of their ancestors.

The ration produces heat and fat, but does not develop the frame and muscles, the lean part of the meat.

Now that the prices for grain feeds are abnormally high, it is a good time to inaugurate a better plan for developing the pigs. Raise the feeds on the farm. As early as the ground can be plowed and fitted for sowing spring crops, sow some field peas, and some barley, and then some oats. Or oats and peas and oats and barley can be sown together, the crop harvested and threshed, the grain ground and fed to the pigs. Either mixture soaked in water twelve hours before feeding will make excellent feed for developing the pigs. They will relish it and will grow much faster on it than they will if fed corn, or corn meal. One advantage in using this ration is that it is not necessary to use corn to fit the pigs for market; they will grow and the meat harden enough for butcher bacon, a popular and palatable brand, on the mixture if as much of the oats are used as the peas. For large hogs it may be well to corn-harden them before killing or shipping to market.

Increasing the Weights.

For reasons, not necessary to mention, the average weights of the hogs sent to market this year have been considerably less than in former years. Sixty pounds shortage on each and every hog sold means a vast shortage in pork meats available for the consumers. The difference in the amount of meat available, if at hand, would supply a large army of laborers or soldiers.

It will be worth the while to use more of the mill feeds while the pigs are small, and more of the peas, barley and oats while they are growing, fattening for market with corn, when necessary, to increase the amount of pork to more nearly meet the requirements of our consumers in our home country as well as in our armies in Europe. If the American hogs are to win the war, indirectly, let us strive to give them a boost that will help them to increase in numbers and size until the demand for pork meats will be fully met.

BEEF ANIMALS.

The decline in the number of cattle on farms and ranges in the United States from the high point of seventy-two millions in 1907, reached its lowest point in 1914, with an estimated total of fifty-six millions. Since that date a steady increase has been maintained, the supply on January 1, 1916, being about sixty-two millions and on January 1, 1918, more than 66.8 millions, or nearly five millions more than in 1910.

The exports of dressed beef and beef products have increased 177 per cent during the last three years. The shortage of beef abroad, like the shortage of other meat products, doubtless will be accentuated as the war progresses.

Beef production can be increased in the settled farm areas of the nation. It can be increased everywhere by preventing the loss of flesh by calves during their first winter and keeping the calves growing during this period so that beef animals may be marketed at earlier ages, thereby requiring the maintenance of fewer stocker cattle and making possible the maintenance of larger breeding herds; by using a larger proportion of bulls on the range to insure larger calf crops; by using good bulls only; by reducing the tick-infested areas as rapidly as possible; by eliminating as far as possible the losses from disease and predatory animals; by transferring animals from regions of scarcity of feed to those where there is an abundance of feed; by providing a more ample supply of winter feed and better shelter, and by utilizing all roughage produced, either as fodder, hay, or silage, and supplementing these feeds with more nitrogenous concentrates and less grain.

The Final Factor in the World War

To the American Farmer:

The winning of the world war, the war of Civilization against Savagery, rests, in the last analysis, with you.

Armies upon the far fields of France are as chaff before the wind except as they are supported by other armies as large, as determined and as heroic in the furrows at home.

Last year we increased the planting of six food crops—corn, oats, rye, rice, buckwheat and potatoes—by 22,000,000 acres, and we increased the production of those crops by 900,000,000 bushels over the five-year average.

But what we did last year is not enough. It is merely an earnest of what we must do this year. Up to this time America is not in the war twenty-five per cent. If we are going to win the war, we must get in one hundred per cent.

We are going to win the war, but recent events in Russia and Rumania indicate that if we are to win it in the near future, we shall have to put every ounce of our power into the fight.

We farmers must do our honest best to produce the greatest quantity and the best quality of food crops that we have ever grown.

City dwellers, as well as farmers, should make the best kitchen gardens they

know how to make. Their wives should can and dry the greatest possible quantity of fruits and vegetables, so that their own tables may be supplied, so far as practicable, by their own efforts. By so doing they will "eat less freight", as well as fewer food products that can be transported to the armies over seas.

We must increase our production of hogs from fifteen to fifty per cent., and our production of poultry, goats and other meat and dairy animals, just as much as good farm practice will permit.

We must practice *frugality*, so that nothing will be needlessly consumed, and we must practice thrift, so that no money will be needlessly spent. All the money and all the food that the nation can save will be needed to win the war.

We must keep stout and loyal hearts; we must neither falter nor doubt.

The full duty of a faithful soldier of the furrows lies in these things.

I know—and the world knows—that you are made of soldierly stuff. You proved it last planting time. You will prove it again—and finally—when the broad fields of this good land are again white for the harvest.

Carl Vrooman

Assistant Secretary of Agriculture.

★ ★ ★

The Hercules Powder Company welcomes the opportunity to publish this important statement by Mr. Vrooman,

and hopes, by so doing, to render some service to the Nation and to the American Farmer.

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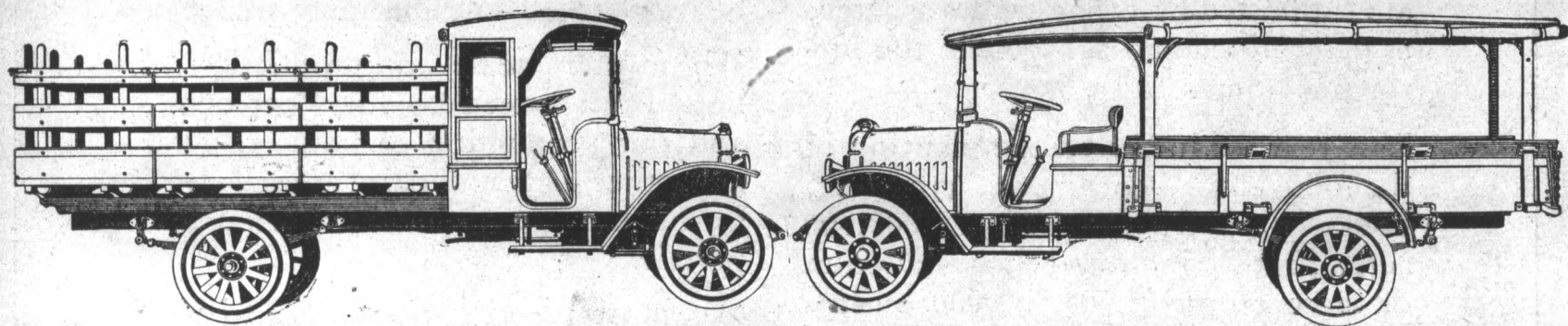
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This truck costs little more than a first class team, wagon and harness. Costs less when you figure up-keep. Eats only when it works. Requires one-twenty-fifth the care and attention horses do. Travels the 7 or 12 or 16 miles to market, under load, in one-fourth the time.

The farm hand who formerly took all day to drive to mill with a load of grain can now go and return in two hours.

Here is a truck with all the features of \$5000 trucks, and sold under the same guarantee. Worm drive. Electric lights and generator. 10-foot loading space. Gas consumption, 16 miles to every gallon. A tire miser. Mechanical trouble practically unknown. Repair bills are too low to mention.

This Maxwell is built for the farm. Weighs 2500 pounds. Goes faster than heavier and more expensive trucks and goes where they daren't follow.

6600 Maxwell trucks are in service. 1100 on farms. Service records show a verdict of 99.6% perfect based on all the trucks now in use. You'll find no mechanical faults in the Maxwell. A safe investment and a paying one.

You save \$400 the day you buy this Maxwell truck, for its price is \$1085. And \$1085 is \$400 less than any other truck of similar capacity on the market.

\$1085 Chassis only, f. o. b. Detroit. Electric lights. Electric generator. Worm drive. 10-foot loading space. 2500 pounds. 16 miles on a gallon of gas.

MAXWELL MOTOR COMPANY, DETROIT, MICHIGAN

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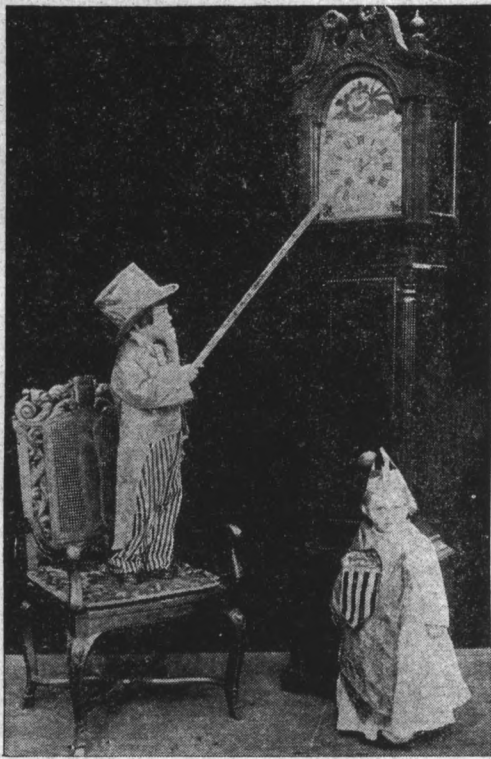
MICHIGAN FARMER
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The FARM BOY
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SCIENTIFIC and
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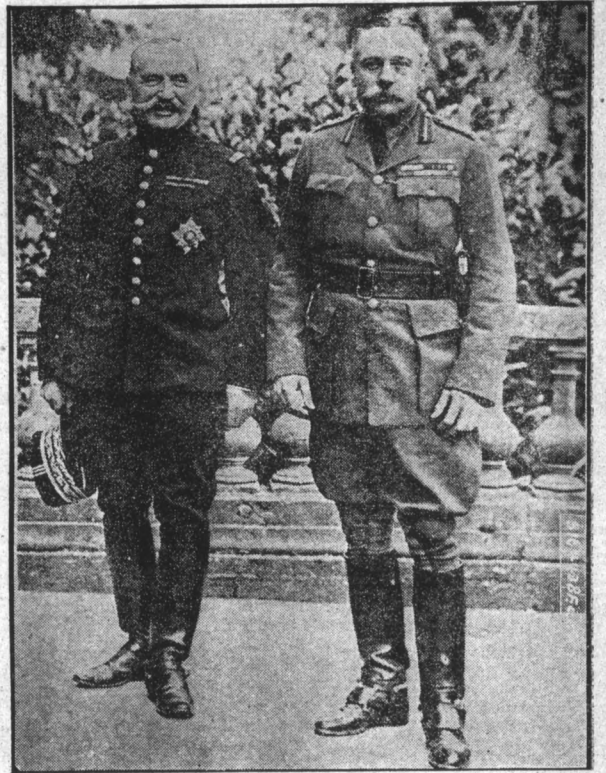
WORLD EVENTS IN PICTURES



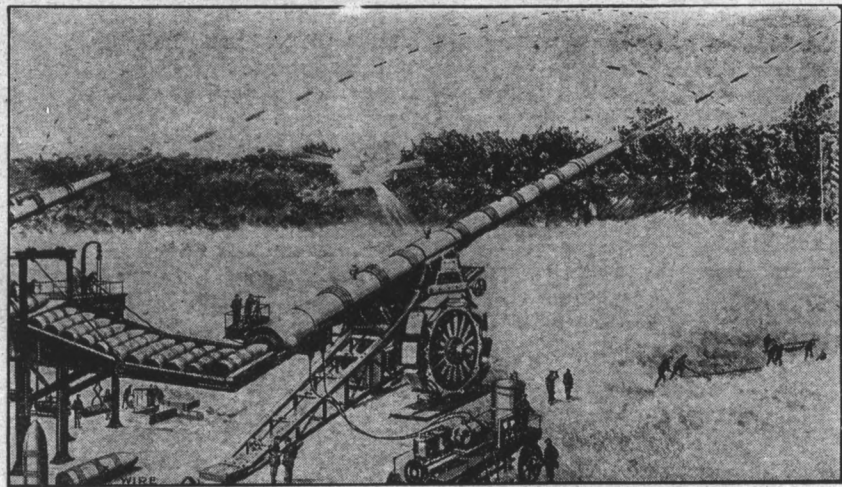
Firing of great French gun in night bombardment of German lines. The gun is mounted on railroad truck on specially constructed railway.



"Save Daylight," says Uncle Sam, as he turns clocks ahead one hour, on morning of March 31, when Daylight Saving Law went into effect.



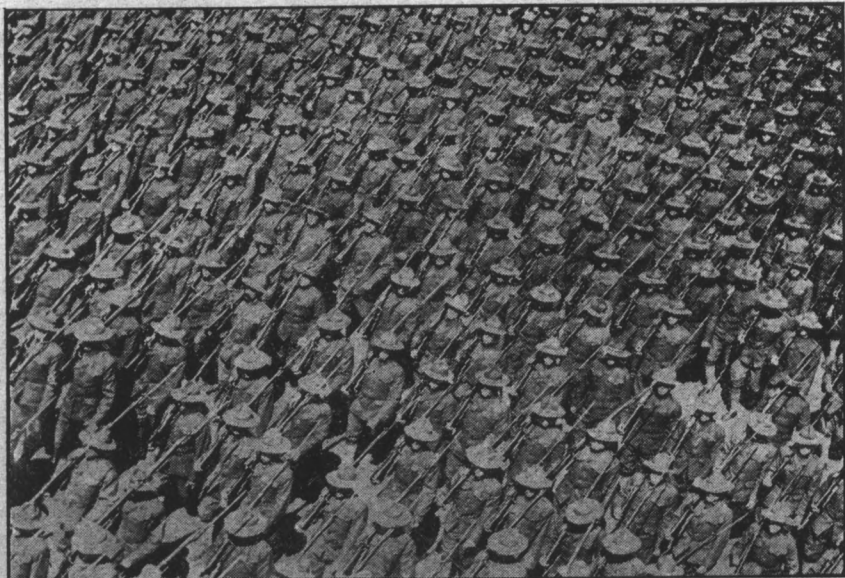
At left, General Foch, a leader of great military ability, recently chosen Generalissimo of the Allied armies. At right, Gen. Haig, commander of the British forces.



Sketch of electro-magnet long range gun patented in United States in 1915, designed to throw nineteen-inch shells great distances without noise or smoke. Some surmised this to be the type the Germans used to bombard Paris, but it is now understood that the explosive gun is being employed.



British horse battery advancing to new position near enemy over wooden roads laid down by British engineers under heavy fire. This leading gun of the battery is enveloped in flames and smoke, and the air is rendered suffocating by exploding charges.



Soldiers of an infantry division of the National Army passing in review in mass formation. This picture gives some idea of the remarkable military organization developed here during the past year, in spite of Germany's predictions that a democracy could not do it.



City of St. Quentin, photographed from aeroplane. At this point the Germans broke through the British lines in their recent drive across the old Somme battlefield. Their losses, however, were tremendous, as was also the case when they first captured the city three years ago.

The Grizzly King

By JAMES OLIVER CURWOOD

Copyright by Paget Newspaper Service

Here in this valley into which he gazed was the same soft droning and the warm sunshine that had filled all the other valleys; and yet here, also, was a different life. Other bears ranged the slopes that he could see dimly with his naked eyes far to the west and north. It was a new domain, filled with other promise and other mystery, and he forgot time and hunger as he sat lost in the enchantment of it.

It seemed to Langdon that these hundreds or thousands of valleys would never grow old for him; that he could wander on for all time, passing from one into another, and that each would possess its own charm, its own secrets to be solved, its own life to be learned. To him they were largely inscrutable; they were cryptic, as enigmatical as life itself, hiding their treasures as they droned through the centuries, giving birth to multitudes of the living, demanding in return other multitudes of the dead. As he looked off through the sunlit space he wondered what the story of this valley would be, and how many volumes it would fill, if the valley itself could tell it.

First of all, he knew, it would whisper of the creation of a world; it would tell of oceans torn and twisted and thrown aside—of those first strange aeons of time when there was no night, but all was day; when weird and tremendous monsters stalked where he now saw the caribou drinking at the creek, and when huge winged creatures half bird and half beast swept the sky where he now saw an eagle soaring.

And then it would tell of The Change—of that terrific hour when the earth tilted on its axis, and night came, and a tropical world was turned into a frigid one, and new kinds of life were born to fill it.

It must have been long after that, thought Langdon, that the first bear came to replace the mammoth, the mastodon, and the monstrous beasts that had been their company. And that first bear was the forefather of the grizzly he and Bruce were setting forth to kill the next day!

So engrossed was Langdon in his thoughts that he did not hear a sound behind him. And then something roused him.

It was as if one of the monsters he had been picturing in his imagination had let out a great breath close to him. He turned slowly, and the next moment his heart seemed to stop its beating; his blood seemed to grow cold and lifeless in his veins.

Barring the ledge not more than fifteen feet from him, his great jaws agape, his head moving slowly from side to side as he regarded his trapped enemy, stood Thor, the King of the Mountains!

CHAPTER XVII.

A BROKEN, choking breath—a stifled sound that was scarcely a cry—was all that came from Langdon's lips as he saw the monstrous grizzly looking at him. In the ten seconds that followed he lived hours.

His first thought was that he was powerless. He could not even run, for the rock wall was behind him, he could not fling himself valleyward, for there was a sheer fall of a hundred feet on that side. He was face to face with death, a death as terrible as that which had overtaken the dogs.

And yet in these last moments Langdon did not lose himself in terror. He noted even the redness in the avenging grizzly's eyes. He saw the naked scar along his back where one of his bullets had plowed; he saw the bare

spot where another of his bullets had torn its way through Thor's fore-shoulder. And he believed, as he observed these things, that Thor had deliberately trailed him, that the bear had followed him along the ledge and had cornered him here that he might repay in full measure what had been inflicted upon him.

Thor advanced—just one step; and then in that slow, graceful movement, reared himself to full height. Langdon even then, thought that he was magnificent. On his part, the man did not move; he looked steadily up at Thor, and he had made up his mind what to do when the great beast lunged forward. He would fling himself over the edge. Down below there was one chance in a thousand for life. There might be a ledge or a projecting spur to catch him.

And Thor!

Suddenly and unexpectedly he had come upon man! This was the creature that had hunted him, this was the creature that had hurt him—and it was so near that he could reach out with his paw and crush it! And how weak, and white, and shrinking it looked now! Where was its strange thunder? Where was its burning lightning? Why did it make no sound?

Even a dog would have done more than this creature, for the dog would have shown its fangs; it would have snarled, it would have fought. But this thing that was man did nothing. And a great, slow doubt swept through Thor's massive head. Was it really this shrinking, harmless, terrified thing that had hurt him? He smelled the man-smell. It was thick. And yet this time there came with it no hurt.

And then, slowly again, Thor came down to all fours. Steadily he looked at the man.

Had Langdon moved then he would have died. But Thor was not, like

man, a murderer. For another half minute he waited for a hurt, for some sign of menace. Neither came, and he was puzzled. His nose swept the ground, and Langdon saw the dust rise where the grizzly's hot breath had stirred it. And after that, for another long and terrible thirty seconds, the bear and the man looked at each other.

Then very slowly—and doubtfully—Thor half turned. He growled. His lips drew partly back. Yet he saw no reason to fight, for that shrinking, white-faced pigmy crouching on the rock made no movement to offer him battle. He saw that he could not go on, for the ledge was blocked by the mountain wall. Had there been a trail the story might have been different for Langdon. As it was, Thor disappeared slowly in the direction from which he had come, his great head hung low, his long claws click, click, clicking like ivory castanets as he went.

Not until then did it seem to Langdon that he breathed again, and that his heart resumed its beating. He gave a great sobbing gasp. He rose to his feet, and his legs seemed weak. He waited one minute, two three; and then he stole cautiously to the twist in the ledge around which Thor had gone.

The rocks were clear, and he began to retract his own steps toward the meadowy break, watching and listening, and still clutching the broken parts of his rifle. When he came to the edge of the plain he dropped down behind a huge boulder.

Three hundred yards away Thor was ambling slowly over the crest of the dip toward the eastward valley. Not until the bear reappeared on the farther ridge of the hollow, and then vanished again, did Langdon follow.

When he reached the slope on which he had hobbled his horse Thor was no longer in sight. The horse was where he had left it. Not until he was in the saddle did Langdon feel that he was completely safe. Then he laughed, a nervous, broken, joyous sort of laugh, and as he scanned the valley he filled his pipe with fresh tobacco.

"You great big god of a bear!" he whispered, and every fibre in him was

trembling in a wonderful excitement as he found voice for the first time. "You—you monster with a heart bigger than man!" And then he added, under his breath, as if not conscious that he was speaking: "If I'd cornered you like that I'd have killed you! And you! You cornered me, and let me live!"

He rode toward camp, and as he went he knew that this day had given the final touch to the big change that had been working in him. He had met the King of the Mountains; he had stood face to face with death, and in the last moment the four-footed thing he had hunted and maimed had been merciful. He believed that Bruce would not understand; that Bruce could not understand; but unto himself the day and the hour had brought its meaning in a way that he would not forget so long as he lived, and he knew that hereafter and for all time he would not again hunt the life of Thor, or the lives of any of his kind.

Langdon reached the camp and prepared himself some dinner, and as he ate this, with Muskwa for company, he made new plans for the days and weeks that were to follow. He would send Bruce back to overtake Metoosin the next day, and they would no longer hunt the big grizzly. They would go on to the Skeena and possibly even up to the edge of the Yukoni, and then swing eastward into the caribou country some time early in September, hitting back toward civilization on the prairie side of the Rockies. He would take Muskwa with them. Back in the land of men and cities they would be great friends. It did not occur to him just then what this would mean for Muskwa.

It was two o'clock, and he was still dreaming of new and unknown trails into the north when a sound came to rouse and disturb him. For a few minutes he paid no attention to it, for it seemed to be only a part of the droning murmur of the valley. But slowly and steadily it rose above this, and at last he got up from where he was lying with his back to a tree and walked out from the timber, where he could hear more plainly.

Muskwa followed him, and when Langdon stopped the tan-faced cub also stopped. His little ears shot out inquisitively. He turned his head to the north. From that direction the sound was coming.

In another moment Langdon had recognized it, and yet even then he told himself that his ears must be playing him false. It could not be the barking of dogs! By this time Bruce and Metoosin were far to the south with the pack; at least Metoosin should be, and Bruce was on his return to the camp! Quickly the sound grew more distinct, and at last he knew that he could not be mistaken. The dogs were coming up the valley. Something had turned Bruce and Metoosin northward instead of into the south. And the pack was giving tongue—that fierce, heated baying which told him they were again on the fresh spoor of game. A sudden thrill shot through him. There could be but one living thing in the length and breadth of the valley that Bruce would set the dogs after, and that was the big grizzly!

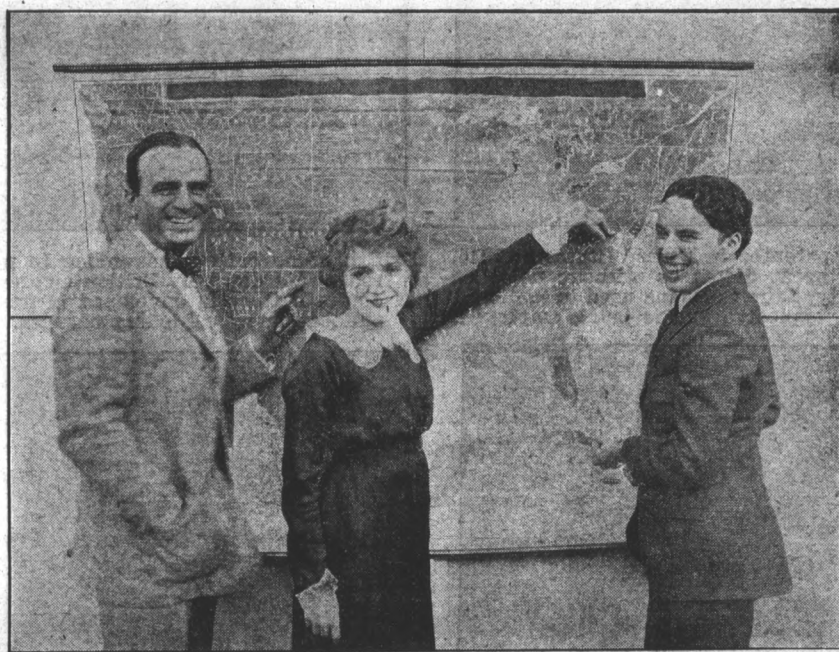
For a few moments longer Langdon stood and listened. Then he hurried back to camp, tied Muskwa to his tree, armed himself with another rifle, and resaddled his horse. Five minutes later he was riding swiftly in the direction of the range where a short time before Thor had given him his life.

CHAPTER XVIII.

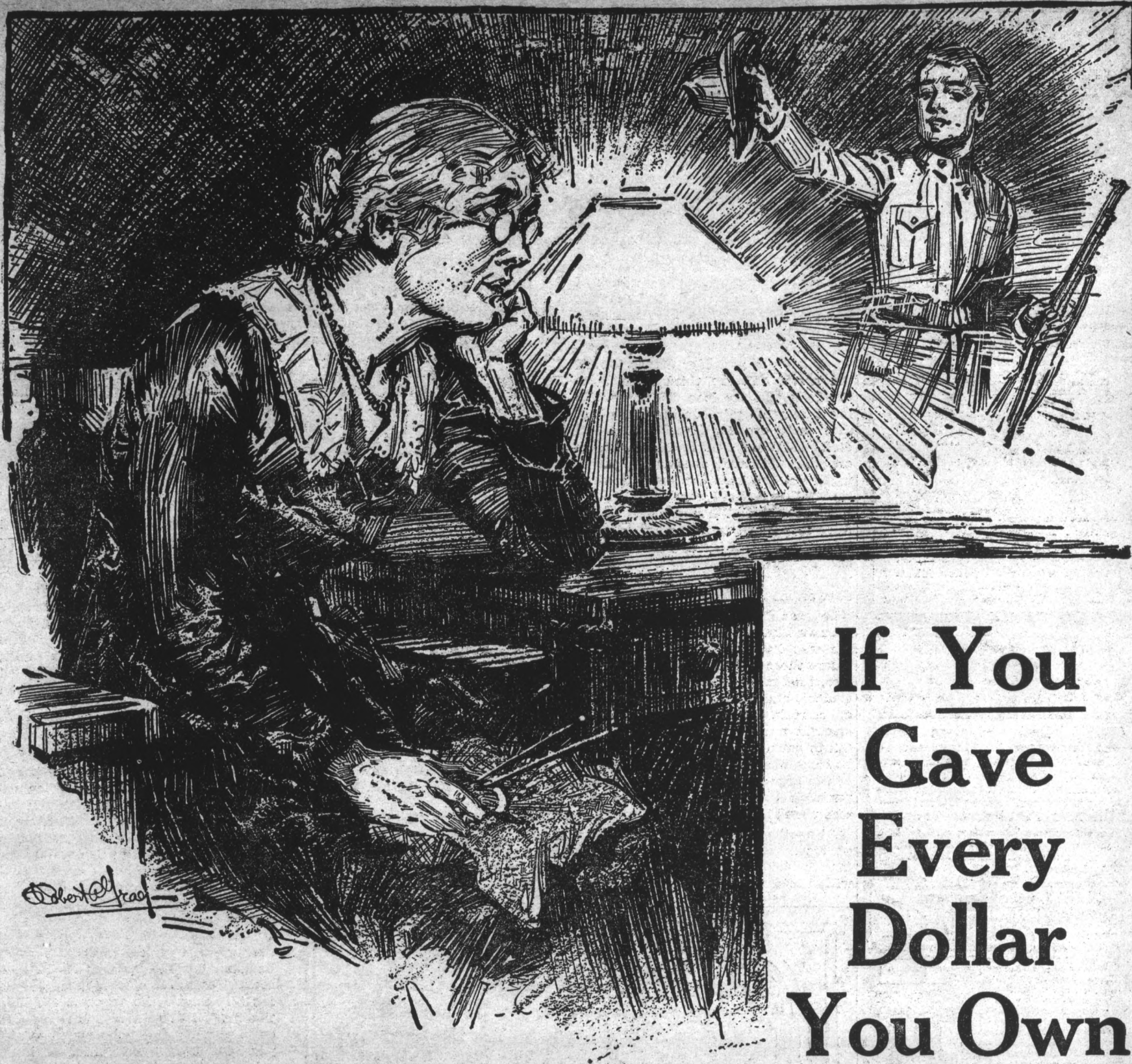
THOR heard the dogs when they were a mile away. There were two reasons why he was even less in a mood to run from them now than a few days before. Of the dogs alone he had no more fear than if they

(Continued on page 496).

Mapping Out Their Campaign



Douglas Fairbanks, Mary Pickford and Charlie Chaplin, the three most famous screen stars, are mapping out their campaign for the Third Liberty Loan. These stars will tour the greater part of the United States in a whirlwind campaign and they undoubtedly will succeed in getting great results. Everybody everywhere will turn out to see their favorites and everyone will quickly acknowledge that the stars are right when they say buy, and buy heavily to help our country win the war. Secretary of the Treasury McAdoo assigned each of them a territory to cover, and they are shown looking them up on the map. Each of them aided the previous Liberty Loan and did good work. Fairbanks was the only one to go on tour, and he is credited with being responsible for many bonds sold. Mr. Fairbanks was scheduled to speak in Saginaw and Jackson, Mich., on April 11. Miss Marguerite Clark had promised to appear in Detroit on April 9, but was prevented from filling this date through illness.



If You
Gave
Every
Dollar
You Own

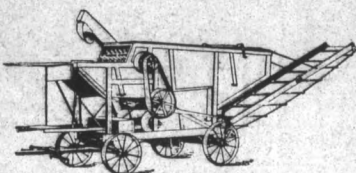
how little would the sacrifice be compared to theirs?

You are not asked to give. You are asked only to *lend*. To lend at good interest secured by the best collateral on earth

Buy U. S. Liberty Bonds

This advertisement contributed by a manufacturing company which is more interested in winning the war than advertising itself.

Will You Take This Koger "Beaner" On 10 Days' Trial?



Koger Bean and Pea Thresher for use with Waterloo Boy, Ford and other Tractors and Gas Engines.

Threshes any variety of cow peas; navy, kidney, soy or wax beans from the mown vines, and breaks less than two percent. This is guaranteed.

Can be had with grain attachment to thresh wheat, oats, barley and rye in a clean, successful way.

J. M. Rogers says "I threshed 6,780 bushels of beans with my little beaner and a 6 H.P. Engine in 40 days—white, navy, black and wax mostly. Best work ever done in this section—she's a peach."

Made in 3 sizes—16 and 20-inch for 4 to 12 H.P. gas engines; 30-inch for 10 to 15 H. P. tractors. Prices \$250 to \$550.

To demonstrate to you the efficiency of this "beaner", we'll ship it to you on trial. Write today for catalog and particulars of our free trial proposition.

The Arbuckle-Ryan Company,
222-34 Cherry St., Toledo, O.
Headquarters for Tractor Machinery.

Heats Your Whole House Comfortably From One Register -

THE Mueller Pipeless Furnace frees you from the disadvantages of stoves—gives you all the comfort and satisfaction of real furnace heat—without having to tear up your walls for pipes or flues. Saves 35% in fuel—burns hard or soft coal, coke or wood.

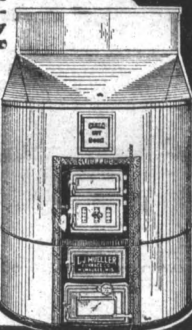
A real furnace, solid castiron, with triple jacket, substantial firepot and radiator, triangular duplex grate. Does not heat cellar.

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You can depend on the Mueller—its efficiency and economy have been proved for you. It is exactly the same construction as the old reliable Mueller line, but without pipes or flues. Easy to install in old or new homes.

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Write for interesting free booklet "Heating Your Home" and name of nearest dealer.

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THE GRIZZLY KING

(Continued from page 494).

had been so many badgers, or so many whistlers piping at him from the rocks. He had found them all mouth and little fang, and easy to kill. It was what followed close after them that disturbed him. But today he had stood face to face with the thing that had brought the strange scent into his valleys, and it had not offered to hurt him, and he had refused to kill it. Besides, he was again seeking Iskwaio, the she-bear, and man is not the only animal that will risk his life for love.

After killing his last dog at dusk of that fatal day when they had pursued him over the mountain Thor had done just what Bruce thought that he would do, and instead of continuing southward had made a wider detour toward the north, and the third night after the fight and the loss of Muskwa he found Iskwaio again. In the twilight of that same evening Pipoonaskoos had died, and Thor had heard the sharp cracking of Bruce's automatic. All that night and the next day and the night that followed he spent with Iskwaio, and then he left her once more. A third time he was seeking her when he found Langdon in the trap on the ledge, and he had not yet got wind of her when he first heard the baying of the dogs on his trail.

He was traveling southward, which brought him nearer the hunters' camp. He was keeping to the high slopes where there were little dips and meadows, broken by patches of shale, deep coulees, and occasionally wild upheavals of rock. He was keeping the wind straight ahead so that he would not fail to catch the smell of Iskwaio when he came near her, and with the baying of the dogs he caught no scent of the pursuing beasts, or of the two men who were riding behind them.

At another time he would have played his favorite trick of detouring so that the danger would be ahead of him, with the wind in his favor. Caution

had now become secondary to his desire to find his mate. The dogs were less than half a mile away when he stopped suddenly, sniffed the air for a moment, and then went on swiftly until he was halted by a narrow ravine.

Up that ravine Iskwaio was coming from a dip lower down the mountain, and she was running. The yelping of the pack was fierce and close when Thor scrambled down in time to meet her as she rushed upward. Iskwaio paused for a single moment, smelled noses with Thor, and then went on, her ears laid flat back and sullen and her throat filled with growling menace.

Thor followed her, and he also growled. He knew that his mate was fleeing the first bullet threw up a cloud of dust from the dogs, and again that deadly and slowly increasing wrath swept through him as he climbed after her higher up the mountain.

In such an hour as this Thor was at his worst. He was a fighter when pursued as the dogs had pursued him a week before—but he was a demon, terrible and without mercy, when danger threatened his mate.

He fell farther and farther behind Iskwaio, and twice he turned, his fangs gleaming under drawn lips, and his defiance rolling back upon his enemies in low thunder.

When he came up out of the coulee he was in the shadow of the peak, and Iskwaio had already disappeared in her skyward scramble. Where she had gone was a wild chaos of rock-slide and the piled-up debris of fallen and shattered masses of sandstone crag. The sky-line was not more than three hundred yards above him. He looked up. Iskwaio was among the rocks, and here was the place to fight. The dogs were close upon him now. They were coming up the last stretch of the coulee, baying loudly. Thor turned about, and waited for them.

Half a mile to the south, looking through his glasses, Langdon saw Thor and at almost the same instant the dogs appeared over the edge of the coulee. He had ridden halfway up the

mountain; from that point he had climbed higher, and was following a well-beaten sheep trail at about the same altitude as Thor. From where he stood the valley lay under his glasses for miles. He did not have far to look to discover Bruce and the Indian. They were dismounting at the foot of the coulee, and as he gazed they ran quickly into it and disappeared.

Again Langdon swung back to Thor. The dogs were holding him now, and he knew there was no chance of the grizzly killing them in that open space. Then he saw movement among the rocks higher up, and a low cry of understanding broke from his lips as he made out Iskwaio climbing steadily toward the ragged peak. He knew that this second bear was a female. The big grizzly—her mate—had stopped to fight. And there was no hope for him if the dogs succeeded in holding him for a matter of ten or fifteen minutes. Bruce and Metoosin would appear in that time over the rim of the coulee at a range of less than a hundred yards.

Langdon thrust his binoculars into their case and started at a run along the sheep trail. For two hundred yards his progress was easy, and then the patch broke into a thousand individual tracks on a slope of soft and slippery shale, and it took him five minutes to make the next fifty yards.

The trail hardened again. He ran on pantingly, and for another five minutes the shoulder of a ridge hid Thor and the dogs from him. When he came over that ridge and ran fifty yards, down the farther side of it, he stopped short. Further progress was barred by a steep ravine. He was five hundred yards from where Thor stood with his back to the rocks and his huge head to the pack.

Even as he looked, struggling to get breath enough to shout, Langdon expected to see Bruce and Metoosin appear out of the coulee. It flashed upon him then that even if he could make them hear it would be impossible for them to understand him. Bruce would not guess that he wanted to spare the beast they had been hunting for almost two weeks.

Thor had rushed the dogs a full twenty yards toward the coulee when Langdon dropped quickly behind a rock. There was only one way of saving him now, if he was not too late. The pack had retreated a few yards down the slope, and he aimed at the pack. One thought only filled his brain—he must sacrifice his dogs or let Thor die. And that day Thor had given him his life!

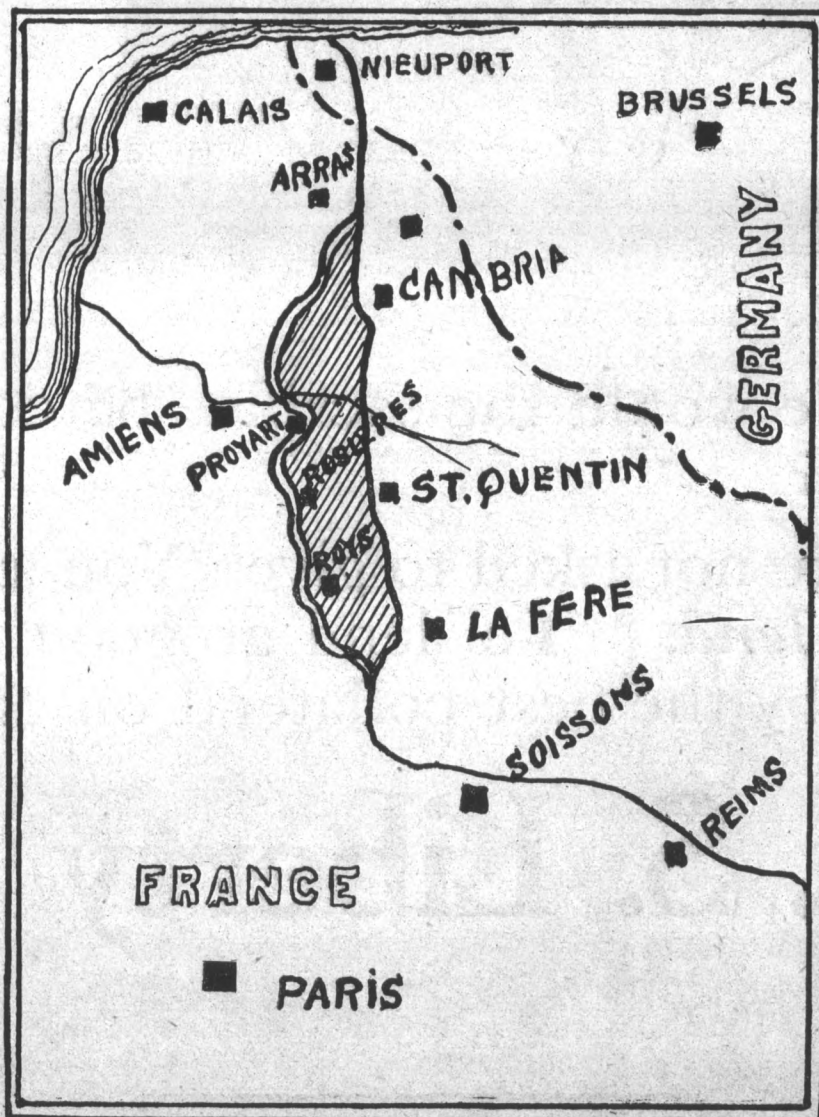
There was no hesitation as he pressed the trigger. It was a long shot, and fifty feet short of the Airedales. He fired again, and missed. The third time his rifle cracked there answered it a sharp yelp of pain which Langdon himself did not hear. One of the dogs rolled over and over down the slope.

The reports of the shots alone had not stirred Thor, but now when he saw one of his enemies crumple up and go rolling down the mountain he turned slowly toward the safety of the rocks. A fourth and then a fifth shot followed, and at the fifth the yelping dogs dropped back toward the coulee, one of them limping with a shattered forefoot.

Langdon sprang upon the boulder over which he had rested his gun, and his eyes caught the sky-line. Iskwaio had just reached the top. She paused for a moment and looked down. Then she disappeared.

Thor was now hidden among the boulders and broken masses of sandstone, following her trail. Within two minutes after the grizzly disappeared Bruce and Metoosin scrambled up over the edge of the coulee. From where they stood even the sky-line was within fairly good shooting distance, and Langdon suddenly began shouting excitedly, waving his arms, and pointing downward.

(Continued next week).



The shaded section in the map shows the extent and location of the recent German drive. It is evident that as soon as weather conditions permit the bringing up of fresh troops and artillery, that the Huns will make another desperate attempt to reach Amiens.

The Rural School

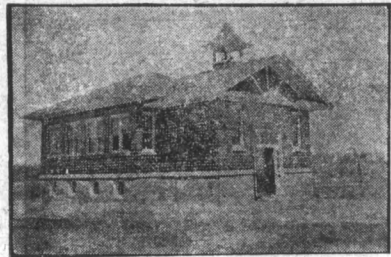
AN educator who has spent his life working with rural schools once remarked, "You can gauge the intelligence, the character and the future of a rural community by the way it supports its school." The school is the people's institution. In it all the children of the community receive their training. In it and through it they also receive many impressions which will go with them through life. If the school is such that it commands their respect they will respect education. If the school and the school yard is neat and clean, they will be likely to care for things that are neat and clean.



The Old.

Most children live up to the standard which their elders set for them through the school.

The accompanying photographs illustrate what one community thinks of its school and its children. The patrons of the Weadock School, of Monroe township, Cheboygan county, were not satisfied with the school shown at the top. They knew that this was not the kind of a school that would draw the best out of their children. They set about to give their children a school which they could respect and honor. The lower picture shows the result of this determination. The new



The New.

school is built of hollow tile. It has a furnace, adjustable seats, proper lighting and ventilating facilities, in fact, everything that a modern, standard school should have. It cost the community, complete with all equipment, approximately twenty-five hundred dollars. Are the children worth it? If you are a parent, you will know your own answer.

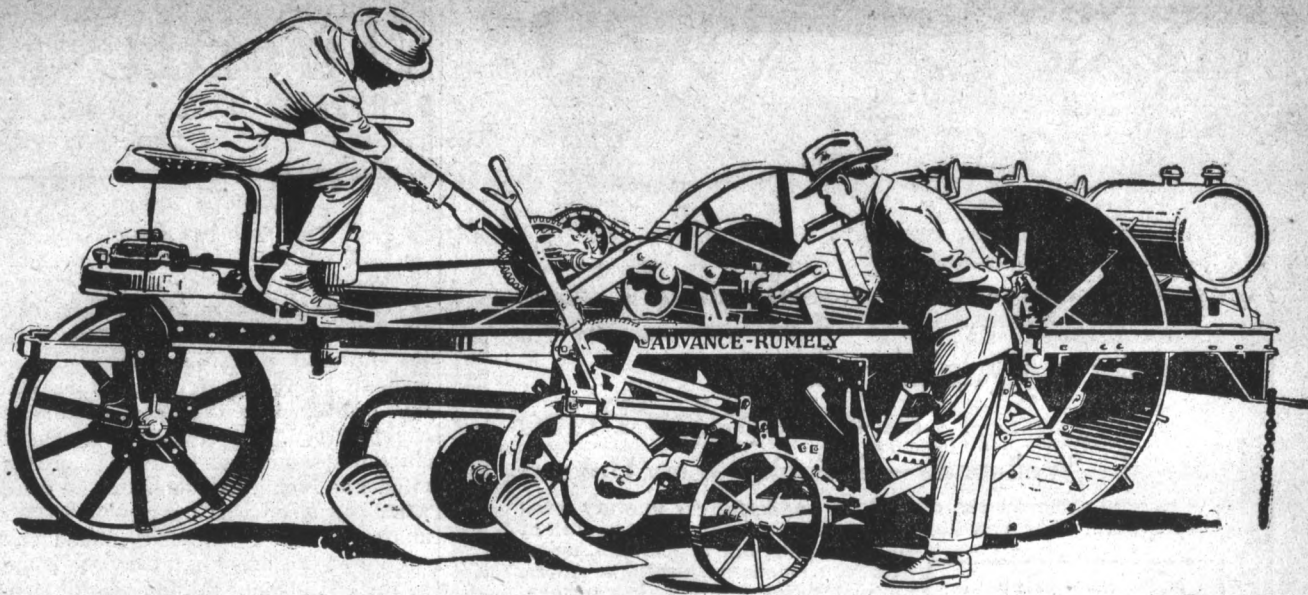
Perhaps it is not the time for a new school in your community, but it may be the time for improvements. During the vacation period is the time to organize the "bee" for cleaning up the grounds, putting on the new roof, painting the building inside and out, putting in a septic tank and sanitary toilet. There is something that your school needs. What is it? Are you ready to help supply the thing needed?

YOUR BEST.

BY LALIA MITCHELL.

It isn't so much the thing you have done
That matters when shadows fall;
The field you have tilled or the fight
you have won
But whether 'twas great or small.
'Tis good to know, as you seek your
rest,
In your destined place you have done
your best.

Weary of hand and limb you turn
From the traffic or toil of day,
And never a soul shall flout or spurn
Wherever your journey lay
If all its courses and turns have confessed
You can proudly say, I have done my
best.



"See how these plows are hung"

"They're right where you want them—underneath and in front of you—so that you can see what you're doing every minute. Beside that, you can back with your plows—clean up a field of any shape—right into the fences and corners. And you control the entire outfit from this seat. This 8-16 just fits your quarter section."

One Man Control—Tractor and plows are combined in one machine—control of the entire outfit and mechanism from the driver's seat.

Handles Like a Horse Gang—The plows are right underneath in front of the driver—*always in sight*—he sees just what they're doing every minute.

Cuts Square Corners—With the 8-16 you can back up with your plows—make short turns—cut square corners—work right up to the fences and corners.

For Small, Irregular Fields—The 8-16 just fits small, irregular fields—with it you can plow every foot, whether it's along the fences or in the corners.

Burns Kerosene—The 8-16 is equipped with a powerful, heavy duty, four cylinder motor—guaranteed to burn kerosene.

Nothing Runs in Dirt But the Plows—All motor gears and transmission enclosed and running in oil—cut steel gears—Hyatt roller bearings.

Plows are Detachable—The plows and plow frame complete are detached when the 8-16 is used for other draw bar jobs—only two nuts to remove—two minutes work.

An All Purpose Outfit—The Advance-Rumely 8-16 is a general utility tractor—made to handle all the various power jobs on the small farm—plowing, discing, seeding, harvesting, hauling, threshing, grinding, pumping.

Completely Equipped—When you buy an 8-16 you get a *complete* outfit—plows and all. There's even a large umbrella as part of your equipment.

Backed By Service—Every 8-16 backed by Advance-Rumely Service—22 branch offices and warehouses.

A special catalog covers every point in the construction and operation of the 8-16. Ask our nearest Branch Office.

ADVANCE-RUMELY THRESHER COMPANY

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Inside the Lines

By EARL DERR BIGGERS & ROBERT WELLES RITCHIE

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CHAPTER XVIII.

The Trap is Sprung.

JANE GERSON, tossing on her pillows, heard the mellow bell of a clock somewhere in the dark and silent house strike three. This was the fifth time she had counted the measured strokes of that bell as she lay, wide-eyed, in the guest chamber's canopied bed. An eternity had passed since the dinner guests' departure. Her mind was racing like some engine gone wild, and sleep was impossible. Over and over again she had conned the events of the evening, always to come at the end against the impasse of General Crandall's blunt denial: "You shan't sail in the morning." In her extremity she had even considered flight by stealth—the scaling of walls perhaps, and a groping through the dark streets to the wharf, there to smuggle herself somehow on a tender and so gain the Saxonia. But her precious gowns. They still reposed in their bulky hampers here in Government House; to escape and leave them behind would be worse than futile. The governor's fiat seemed absolute.

Urged by the impulse of sheer necessity to be doing something—the bed had become a rack—the girl rose, lit a taper, and began to dress herself, moving noiselessly. She even packed her traveling bag to the last inch and locked it. Then she sat on the edge of the bed, hands helplessly folded in her lap. What to do next? Was she any better off dressed than thrashing in the

es, and at last hit on the ship of deliverance—for all but her; to do this would be better than counting the hours alone. She softly opened the door of her room. Beyond lay the dim distances of the library, suddenly become vast as an amphitheater; in the thin light filtering through the curtains screening the balcony appeared the lumpy masses of furniture and vague outlines of walls and doors. She closed the door behind her, and stood trembling; this was somehow like burglary, she felt—at least it had the thrill of burglary.

The girl tiptoed around a high-backed chair, groped her way to the general's desk, and fumbled there. Her hand fell upon the double tubes of the binoculars. She picked them up, parted the curtains, and stepped through the opened glass doors to the balcony. Not a sound anywhere but the faint cluck and cackle of cargo hoists down in the harbor. Jane put the glasses to her eyes, and began to sweep the light-pointed vista below the cliff. Scores of pinprick beams of radiance marked the fleet where it choked the roadstead—red and white beetles' eyes in the dark. She swung the glasses nearer shore. Ah, there lay the Saxonia, with her three rows of glowing portholes near the water; the binoculars even picked out the double column of smoke from her stacks. Three brief hours and that mass of shadow would be moving—

lap. What to do next? Was she any better off dressed than thrashing in the

A noise, very slight, came from the



Covering General Crandall, Jaimihr Khan Picked up the Telephone.

bed? Her yearning called up a picture of the Saxonia, which must ere this be at her anchorage, since the consul said she was due at two. In three short hours tenders would puff alongside; a happy procession of refugees climb the gangway—among them the Shermans and Willy Kimball, bound for their Kewanee; the captain on the bridge would give an order; winches would puff, the anchor heave from the mud, the big boat's prow slowly turn westward—oceanward—toward New York! And she, a prisoner caught by the mischance of war's great mystery, would have to watch that diminishing column of smoke fade against the morning's blue—disappear.

Inspiration seized her. It would be something just to see the Saxonia, now lying amid the grim monsters of the war fleet. From the balcony of the library, just outside the door of her room, she could search the darkness of the harbor for the prickly rows of lights marking the merchant ship from her darker neighbors. The general's marine glasses lay on his desk, she remembered. To steal out to the balcony, sweep the harbor with the glass-

library behind the opened doors. The marine glasses remained poised in the girl's hands while she listened. Again the noise—a faint metallic click.

She hardly breathed. Turning ever so slowly, she put one hand between the curtains and parted them so that she could look through into the cavernous gloom behind her.

A light moved there—a clear round eye of light. Behind it was the faintest suggestion of a figure at the double doors—just a blur of white, it was; but it moved stealthily, swiftly. She heard a key turn in a lock. Then swiftly the eye of light traveled across the library to the door leading to General Crandall's room. There it paused to cut the handle of the door and keyhole beneath out of darkness. A brown hand slipped into the clear shaft of whiteness, put a key into the keyhole, and softly turned it. The same was done for the locks of Lady Crandall's door, on the opposite side of the library, and for the one Jane had just closed behind her—her own door. Then the circle of light, seeming to have an intelligence all its own, approached the desk, flew swiftly to a drawer there

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and paused. Once more the brown hand plunged into the bore of light; the drawer was carefully opened, and a steel-blue revolver reflected bright sparks from its barrel as it was withdrawn.

Jane, hardly daring to breathe, and with the heavy curtains gathered close so that only a space for her eyes was left open, watched the orb of light, fascinated. It groped under the desk, found a nest of slender wires. There was a "snick—snick!" and the severed ends of the wires dropped to the floor. The burnished dial of the wall safe, set near the double doors, was the next object to come under the restless searching eye. While light poured steadily upon the circular bit of steel, delicate fingers played with it, twisting and turning this way and that. Then they were laid upon the handle of the safe door, and it swung noiselessly back. A tapering brown hand, white-sleeved, fumbled in a small drawer, withdrew a packet of papers and selected one.

Jane stepped boldly into the room. "Sahibah!" The white club of the electric flash smote her full in the face.

"What are you doing at that safe? Jaimihr Khan?" Jane spoke as steadily as she could, though excitement had its fingers at her throat, and all her nerves were twittering. She heard some sharply whistled foreign word, which might have been a curse.

"Something that concerns you not at all, Sahibah," the Indian answered, his voice smooth as oil. He kept the light fair on her face.

"I intend that it shall concern me," she answered, taking a step forward.

"Veree, veree foolish, Sahibah!" Jaimihr whispered, and with catlike stride he advanced to meet her. "Veree foolish to come here at this time."

Jane, frozen with horror at the man's approach, dodged and ran swiftly to the fireplace, where hung the ancient vesper bell. The flash light followed her every move—picked out her hand as it swooped down to seize a heavy poker standing in its rack beside the bell.

"Sahibah! Do not strike that bell!" The warning came sharp and cold as frost. Her hand was poised over the bell, the heavy stub of the poker a very few inches away from the bell's flare.

"To strike that bell might involve in great trouble one who is veree dear to you, Sahibah. Let us talk this over most calmly. Surely you would not desire that a friend—a veree dear friend—"

"Who do you mean?" she asked sharply.

"Ah—that I leave you to guess!" Jaimihr Khan's voice was silken. "But certainly you know, Sahibah. A friend the most important—"

Then she suddenly understood. The Indian was referring to Captain Woodhouse thus glibly. Anger blazed in her.

"It isn't true!"

"Sahibah, I am sorry to contradict." Jaimihr Khan had begun slowly to creep toward her, his body crouching slightly as a stalking cat's.

"I'll prove it isn't true!" she cried, and brought the poker down on the bell with a sharp blow. Like a tocsin came its answering alarm.

"A thousand devils!" The Indian leaped for the girl, but she evaded him and ran to put the desk between herself and him. He had snapped off the torch at the clang of the bell, and now he was a pale ghost in the gloom—fearsome. Hissing Indian curses, he started to circle the desk to seize her. (Continued next week.)

There are two literary maladies, writer's cramp and swelled head. The worst of writer's cramp is that it is never cured, the worst of swelled head is that it never kills.—Coulson Kernahan.

Wherever is love and loyalty, great purposes and lofty souls, even though in a hovel, there is Fairyland.—Kingsley.

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The Food Controllers of United States and Canada are asking for greater food production. Scarcely 100,000,000 bushels of wheat can be sent to the allies overseas before the crop harvest. Upon the efforts of the United States and Canada rest the burden of supply.

Every Available Tillable Acre must Contribute; Every Available Farmer and Farm Hand must Assist.

Western Canada has an enormous acreage to be seeded but man power is short and an appeal to the United States allies is for more men for seeding operations.

Canada's Wheat Production last Year was 225,000,000 Bushels; the demand from Canada alone, for 1918, is 400,000,000 Bushels.

To secure this she must have assistance. She has the land but needs the men. The Government of the United States wants every man who can effectively help to do farm work this year. It wants the land in the United States developed first of course; but it also wants to help Canada. Whenever we find a man we can spare to Canada's fields after ours are supplied, we want to direct him there. Apply to our Employment Service, and we will tell where you can best serve the combined interests.

Western Canada's help will be required not later than May 5 th. Wages to competent help, \$50 a month and up, board and lodging.

Those who respond to this appeal will get a warm welcome, good wages, good board, and find comfortable homes. They will get a rate of one cent a mile from Canadian boundary points to destination and return. For particulars as to routes and places where employment may be had, apply to

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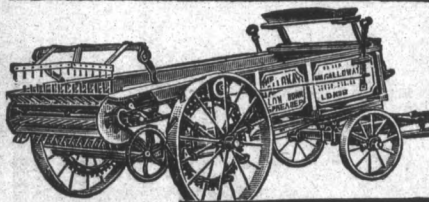


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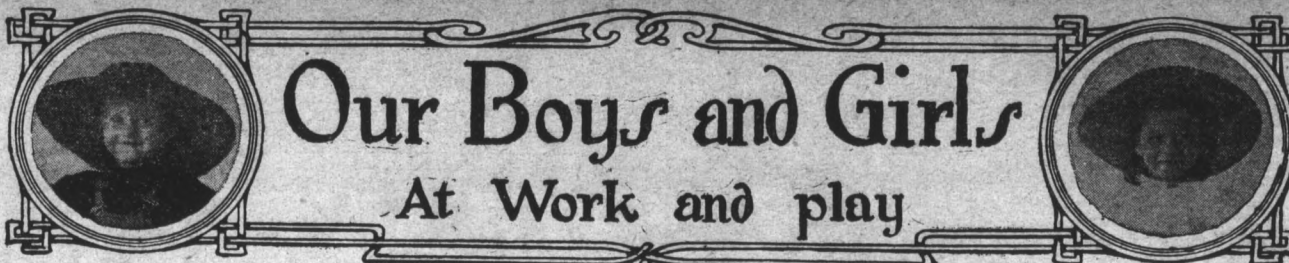
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How the World's Business Is Transacted - By COMFORT A. TYLER

IN this article fifteen I may possibly repeat some of the things I have said before, but if so it will be because of the fact that I think them worth repeating and wish especially to impress you with their importance.

Now, supposing you do not bank by mail, that is, that you always make your deposits in person or by some member of your family it is always best to take your pass book with you and have the entry made in the book at that time. Should you forget it, however, then when you make your deposit slip, make two instead, that is, make out a duplicate as well as the one you leave with your receiving teller, have the teller stamp and sign this duplicate deposit ticket, and take it home with you. Now, laddies, don't just stick it in your pocket or behind the clock or in some place that is so "safe" that you can never find it again, but make it your first business to put it in your pass book until such time as you may go to the bank again, when the teller will enter it in the book in its proper order. Do this just as religiously as you would do any other errand. If your folks have sent for a box of matches, you put them in the match safe. If they have asked you to bring some coffee you put that in the canister; in fact, any other thing you are likely to put in its proper place, but the deposit slip, the most important part of your business, is often, oh, so often, simply dropped or "tucked" somewhere (?) the good Lord only knows where, and you say, oh, well, the banker keeps the account anyway, his book is right, so why should I worry—well, perhaps. Probably he does, but sometimes he makes an error, and some other times, many more, in fact, if you do not keep your accounts for yourself you will think he has made an error when he has not, and it has been your own careless methods that are at fault instead.

Now, I want to save you this embarrassment and your banker the annoyance of all this for it is embarrassing to you to feel that your banker has made a mistake, if you don't tell him about it, and it is much more so if you do tell him, and then find out that it is not he but you have erred. The chances are that it will be you, but not always. Now, if you think there is an error, don't keep thinking he has made a mistake and not tell him of it. He would a thousand times rather go over it with you time and time again, and find out just who is at fault, even though it be not he, as it probably will not be, than to have you go on thinking that he is at fault in his book-keeping, so first, always keep books; next, if you don't keep books then reconcile your bank account at least once a month.

For a checking account that is not so very extensive it is not a difficult thing at all to keep your balance all the time on the stub of your check book. All standard checks as now printed, unless it be bank "counter checks," have a little "balance sheet" all their own. That is, before writing your first check, there is a line where you may enter the amount of your

bank balance. When you write a check, another line is provided wherein you may enter the amount of this check, subtract that amount from the amount of your balance, carry this new balance thus obtained, over to your next check stub and continue the process as the checks are written from time to time. This would be tedious where a large business is transacted, but where but few checks are written it is a very good plan to do this, in which case you always have right before you the exact amount of your balance and will thus avoid the very undesirable experience of receiving a notice that your account is overdrawn, or that one of your



Off For a Ride.

checks is refused, with the disheartening little comment, "insufficient funds."

I think I have mentioned it before, but will repeat, and repeat again, that there is nothing that will do more to demoralize your credit standing than the continued practice of overdrawing. Why, boys and girls, it really isn't honest with your banker to do so. He is doing a vast amount of business, not only for nothing, but is paying you a subsidy for the privilege. Is this fair or quite honest, do you think? I put it thus strongly for I want you to avoid the practice for all time.

Another courtesy you owe your banker—if a check should become lost after being signed by you, even though it is not payable to bearer and some specific payee is named, you still owe it to your banker to notify him at once and stop payment on that particular check. Of course, you may say, oh, well, if he pays it to any other than the payee named, or under his endorsement, it is his funeral and not mine so why should I worry about it. Technically speaking, this is true, but you know there are some very clever rascals in this world of ours—not so many as some people would have you believe, but a plenty to make lots of trouble sometimes, and should one such get hold of this check he may find a way to duplicate this endorsement so cleverly that it might in some rush hour get by the banker, and if so, even though the check was good and the signature genuine, the banker would be liable for the amount of the check. You owe it to your banker to protect him from this risk. Probably it will not "get by" anyway, but it might, and it is so simple and easy for you to call him up or drop him a line saying that check No. 108 drawn for \$27.50 in favor of John Doe, has been lost, so please stop payment on same. It will not cost you more than a moment or so of time and I assure you that he will appreciate the courtesy.

Courtesy always pays, pays big dividends, is the best investment any boy or girl ever made and is a commodity that is yours simply for the taking.

Boys' and Girls' Club Notes

Conducted by E. C. Lindemann

Training schools for preparing garden club leaders will be conducted by the Extension Division of the Michigan Agricultural College in Detroit, Grand Rapids, Jackson, Saginaw, Kalamazoo and Lansing.

There were 105 volunteer club leaders in Michigan last year. Every club should have a resident leader.

Evelyn Pepper, of Osceola county, won the State Canning Club Championship for the second year in succession. She canned 516 quarts of vegetables and fruits last summer and her net profit was \$118.72.

The championship on for First Year Club Members goes to Helen Miller of Schoolcraft county. She canned 263 quarts of fruits and vegetables at a profit of \$67.19.

State, district and county club leaders met for a two-day conference at Kalamazoo Normal College last week. There were thirty-two in attendance. These conferences are held each corn

month. The next one will probably be held at Saginaw.

Following are some new club leaders appointed in Michigan: C. J. Barnum, Gladwin county; R. A. Turner, Hillsdale county; F. C. Brown, Barry county; W. J. Atchison, Muskegon county; Grace M. Watson, Garden Club Leader for Grand Rapids.

George D. Gilbert, formerly District Club Leader for Northeastern Michigan, is now located at Columbus, Ohio. He has enlisted in the ordnance corps.

C. E. Ackley, formerly District Club Leader for Southern Michigan, has resigned the district secretaryship of the County Y. M. C. A. for western Michigan.

Bertha Collier, of Calhoun county, has been declared Grand Champion of the Michigan Garment-making Clubs.

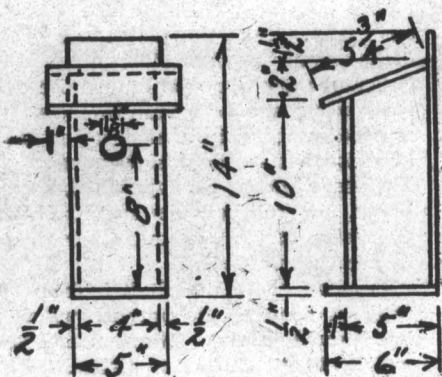
Harold Coffman, of Clinton county, the State Corn Club Champion, made a net profit of \$133.03 from his acre of corn.

Houses for the Birds

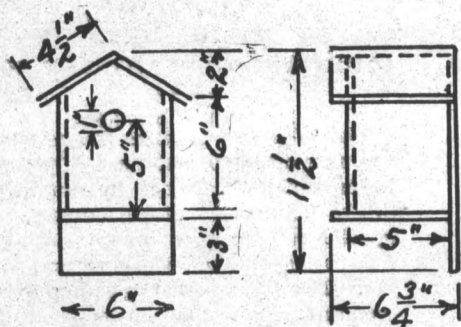
More bird houses should be constructed on the farms to help in rearing birds that are beneficial. Chickadees, wrens, martins, and many others get almost their entire living from injurious insects. A few birds attracted by means of a bird house or by serving suet or nut meals in the winter time will attract more birds. Interest yourself in birds—they are some of the best friends the farmer has.

Material.—One piece of basswood or pine $\frac{1}{2}$ x 12 x 3 inches. A number of 1 $\frac{1}{4}$ -inch finishing nails.

mensions given in the bill of stock. Set T-bevel on the square at an angle of 1 $\frac{1}{2}$ to 4 $\frac{1}{2}$ inches instead of 5 to 5 inches as shown in illustration Fig. 12. Use this same angle for cutting front, sides, and roof. Plane down the front piece to ten inches plus the angle on the T-bevel. Use this longer measurement for marking the point on the side pieces. From these side pieces extend the lines at angle of T-bevel. Saw and plane to this line, giving slant for roof. Cut back end of roof at same angle reversed. Bore one hole in the center



CHICKADEE HOUSE



WREN HOUSE

Finished Stock.—One piece of $\frac{1}{2}$ x 5 x 13 $\frac{1}{2}$ inches for back; one piece $\frac{1}{2}$ x 7 x 5 $\frac{1}{4}$ inches for top; 2 pieces $\frac{1}{2}$ x 4 x 11 $\frac{1}{2}$ inches for sides; one piece $\frac{1}{2}$ x 5 x 10 $\frac{1}{4}$ inches for front; one piece $\frac{1}{2}$ x 5 x 6 inches for bottom.

Directions.—Saw the boards to di-

of the front eight inches up from the lower end. Assemble: Nail the front piece to sides. Nail back piece, then floor and roof.

Directions will not be needed for the wren house. After the chickadee house has been constructed

The Ambitious Turkey

By AUNT QUILLA

Many years ago when our state was almost an unbroken wilderness a flock of wild turkeys were seeking a night's lodging.

All were enjoying the quiet hour and communion of spirit—all save Pomp, a selfish fellow who held himself aloof, revolving in mind how he could best secure the highest perch when a suitable tree were found.

The highest perch is absolutely essential for my purposes thought he. Although the nights are now cool, yet too close quarters are never desirable when it comes to the matter of roosting. Strut and Swell are bound to get on either side of me, and my feathers are becoming rumpled and lustreless from constant crowding, to say nothing of thin flesh and blue wattles caused by loss of sleep.

Now my one object in life is to become "cock of the walk," so to speak, or in other words, to rule this neck of the woods. This cannot be done without a commanding presence. Even in the man-world this would be conceded. I must be the largest, sleekest, most imposing personality that roams this forest. To accomplish this I must remove myself from restless wings, irritating claws and everything that gets onto my nerves, for whoever heard of a neuresthenic achieving success? Besides that, I must be the first to catch the earliest glimmer of dawn and make for the marsh over there. This can't be done without an elevated position.

Long before the rest are awake I must be off for those choice feeding-grounds where I can restore my lost avoirdupois, elegant plumage, and gracious bearing. Yes, mine must be the highest perch.

At last the company came to a tall tree which all agreed upon as an ideal spot in which to camp. Getting just the right purchase on his legs, Pomp at once hoisted his wings and made for the highest branch. This proved to be a miserable little twig but in some way he managed to get a grip on it and soon was off to the world of dreams.

But, alas! in the small hours of the night a mighty wind arose and great was the slump of live-weight in that part of the forest. However, all, save Pomp, quickly recovered from the shock and were on their roosts once more.

Soon an observing old hen noted his absence and gave the alarm, whereupon the whole company began an anxious search for their missing comrade. At the height of the excitement a mysterious voice was heard from the shadows of a great white oak. An owl just returned from a poultry yard had witnessed the whole tragic event.

"Friends," said he, "poor Pomp, who selfishly sought the highest place, now lies dead at the roots of the tree. Lest any of you should be tempted to follow his example let me remind you of the old saw, which says: 'The higher the perch the harder the fall.'"

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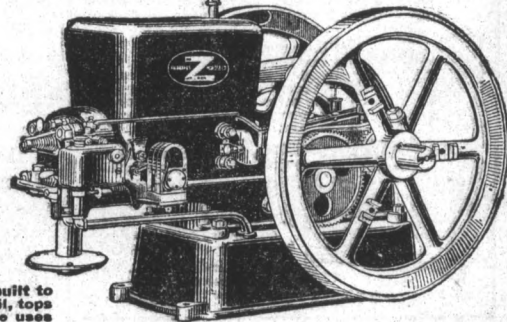
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Woman and Her Needs At Home and Elsewhere

Personal vs. Patriotic Interests

WE have been frequently told during the past year that Americans are not awake to the meaning of the war. Officials have complained; public writers have charged, and speakers have shouted it at us—we are not alive to the situation. We do not realize the seriousness of the situation, we are not alive to the real meaning of the conflict. So we have been told—are still being told.

Until recently I rather resented the accusation. With everyone buying Liberty Bonds, donating to the Red Cross and army Y. M. C. A.; with every hamlet supporting a Red Cross unit where already overworked women went day in and day out to sew and roll bandages; with knitting littering every table, and Belgian baby layettes being turned out by countless women and girls, and with our American homes giving up their most cherished possessions—their sons—it seemed to me we knew pretty well that we were at war—and why.

But lately I've wondered, too, if we really do understand deep in the hearts of us just what it's all about. And the thing that made me wonder was very simple. I found myself the other day, when the evening paper came, turning first, not to the war news which might give me a clue to the fate of democracy, but to the advertisements to look for bargains in boys' union suits. Just then it seemed more vital to me to know if I'd have to pay double for the four suits I have to buy, than to know if the U.boat peril was decreasing and if the allies were getting sufficient wheat.

Even after the great drive began I found that I could turn from the fact that more than 100,000 human beings were being slaughtered daily to see if Georgette waists were in the limits of a pocket-book depleted by Liberty Bonds and war prices.

These little mental digressions have made me wonder if I, if Americans really are awake to the gravity of the situation. Do we really feel that the our fight? That if the British and our fight? That is the British and French line breaks it is a triumph for the hosts of darkness? Or do we still think it is merely a struggle between European nations and we are simply "paying our debt to Lafayette and France."

Is our calm way of going about doing "business as usual" born of a faith that "right is might, since God is God, and right the day must win." Is it the supreme confidence that we are going to win ultimately, whatever our temporary reverses, because truth and justice must prevail? Or is it a happy-go-lucky trust in the dogged determination of our British and French defenders, plus a cocky feeling that Uncle Sam can "lick the world?"

Whatever it may be, that keeps us smug and contented, isn't it time we woke up? With men dying by the hundreds of thousands to keep us safe isn't it time we quite complaining because we have to eat "brown bread and common doin's" when we prefer "white bread and chicken fixin's?" Isn't it time we quit groaning because we can't get veal for the chop suey and are forced to the indignity of eating turnips, and gave our minds to praying for the success of our armies instead of fretting over our privations. As a matter of fact, we Americans

have suffered no privations as yet. If we win the war with no more than the trifling discomforts of the past year we shall have had nothing of which to complain.

DEBORAH.

Which?

By X. Y. Z.

A certain housewife once I knew Praised loudly for her neatness; The township you might travel thru, And stop at every house in view, And find not one as spic-and-span As was the house of Mary Ann In its supposed completeness.

Her range shone brightly ever more, Polished three times daily, The ebon gloss it always wore Seemed just in from village store Of hardware merchant Bailey. Oh, yes, the range of Mary Ann Looked as neat, as spic-and-span As for some function ga-la; But, ah, her dishcloth I must say, (I fear I am too telly), Always had a curious way Of being rather smelly.

Another fad had Mary Ann And followed it with rigor; Daily with her broom and pan At it she rushed with vigor. Up and down the rooms she went, To thoro job her back she bent, Cutting lively figure; The dust flew high, the dust flew low, It fell where'er it listed, And when it knew not where to go On nearest object rested. It might be on a loaf of bread On table quite uncovered, It might be on the baby's head O'er which it lightly hovered, It might be on a dairy pan With foamy bubbles heaping, It mattered not to Mary Ann Ahead she went with sweeping; Later with her feather fan She made another clearance: The dust again took to the wing, Settling on most anything, But still the rooms of Mary Ann Somehow made neat appearance. Her sense of neatness was so great (Or was it just mere order?) That long before the clock struck eight Great joy it did afford her To tear the covers from each bed— Not for the sake of airing— But to replace at once instead, Wrinkles smoothed from ev'ry spread, Her cleanliness declaring. I might sing on of her career, But think I'll change the record here:

And now another type of dame: (Cut out Ann and call her Mary), Appearance only not her aim. Some disorder no great shame, But—she was sanitary. With lusty strokes she never strove To make a mirror of her stove— Indeed 'twas sometimes tarnished; And only once a week 'twas true, Broom and dustpan came to view, And rooms were swept and garnished. Yet puzzling odors never trailed Behind the dishcloth she assailed, (No microbes there were hiding); And cupboards all you might explore And find no mold, no germs galore In corners dark abiding.

One more disgraceful thing I write: Beds were aired sometimes till night, And neighbors said behind the door A real neat look her rooms ne'er wore, And she was slack—oh, very! But now between yourself and me Which were better she should be "Neat" or "sanitary?"

DIRECTIONS FOR SERVING.

Be sure that hot dishes are served hot and cold dishes cold. Dishes from which portions are to be taken should be passed to the left. Dishes containing only individual portions are placed at the right with the right hand. When a course is removed, take first

all large dishes containing food, then all soiled china, glass, and silver, then clean glass, silver and china, and all things pertaining only to that course. Never pile dishes on one another. One may be removed in each hand or small pieces may be set beside one another on a tray. Take the plates and other dishes from the right side.

Crumbs are removed before the dessert course and between other courses if necessary. A clean napkin and plate are satisfactory for this purpose.

Glasses should be kept filled, butter, bread, and rolls always supplied without being asked for, and other things at hand as needed.

Remove every soiled dish from the table as soon as the purpose which it has served is over. Move noiselessly and avoid all clatter of dishes.

In serving, begin with hostess or guest of honor, and pass to the other guests in order.—Department of Home Economics, Ohio State University.

SOMETHING TO READ RIGHT NOW.

BY LULU G. PARKER.

The Woman's Defense Committee is urging women to make use of the bulletins which are issued by the United States Department of Agriculture, with special reference to those relating to food substitution, conservation, diet, etc. The list which is put out by the woman's committee, is a good one, but there are a number of other bulletins and books which should be in every farm home library at this time. Besides these mentioned the woman with a hobby will usually find something among Uncle Sam's bulletins of special interest to her, no matter whether her hobby be poultry, bees, babies, or what not. And what woman does not have a hobby nowadays.

One busy farm woman has a small book-case full of these bulletins which she has been collecting for years. They are sewed into books by subjects, and during the winter at least, there is scarcely a day that she or some member of her family does not get help from this bulletin library. Some of her most used bulletins, aside from those upon her especial hobby, are:

The Medical Handbook, price fifty cents. Send the money to the Superintendent of Documents, Government Printing Office, Washington, D. C. This is a brief, simply written doctor book for use of people living remote from a physician.

Home Care of the Child. (Prenatal and Infant Care). Two bulletins supplied by the Children's Bureau of the United States Department of Labor. These discuss the care of the child through the second year. A post-card request to the Children's Bureau at Washington will get these.

Daily Meals of School Children, price ten cents. Describes inexpensive lunches, gives relative food values, methods of using foods, etc. Send money to Superintendent of Documents asking for United States Bureau of Education Bulletin No. 3, 1909.

The woman's committee list follows:

These are all bulletins of the United States Department of Agriculture and will be sent free on request by that Department, Washington, D. C.

808 How to Select Food, part 1, what the body needs.

817 How to Select Foods, part 2, cereal foods.

824 How to Select Foods, part 3, foods rich in protein.

469 Fats and their Economical Use in the Home.

295 Potatoes and Other Root Crops as Food.

85 Fish as Food.

298 Food Value of Corn and Corn Products.

565 Corn Meal and Ways of Using it.

712 School Lunches.

717 Food for Young Children.

653 Honey and its Use in the Home.

413 Care of Milk and its Use in the Home.

861 Removal of Stains from Clothing and Other Textiles.

CHILDREN FIRST.

"The results of underfeeding or indiscriminate food substitution in childhood are startlingly shown abroad as a result of the war, and are beginning to be evident in our own great cities. Milk has no substitute in the diet of the child." These and other unqualified statements of the importance of guarding the milk supply to prevent the physical deterioration of American children during the war are scattered through the latest report issued by the Children's Bureau of the United States Department of Labor and entitled, "Milk, the Indispensable Food for Children."

This report has special interest in connection with the campaign to save 100,000 lives of babies and little children during the second year of the war. It says in part: "The nourishment of our children is the first duty of the nation. Since milk and milk products are a vital necessity for children, for nursing mothers, and for the sick and wounded, the public should be made to realize that the children's need for dairy products should be assured."

England and Italy have regulated the sale of cream and curtailed the use of butter, in order that their child population might receive the more adequate and economical nourishment offered by whole milk. Germany, early in the war, provided that the adult civilian population might have milk only after the needs of children, mothers, invalids and the army were met.

"Never before in the history of civilization has it been so urgent a matter that every child should have breast milk for as long a time as possible, in order that every child that survives birth may have the best chance for life and health."

"For children under two other than those breast fed, and for older children, cows' milk is an absolute necessity if disease and death are to be kept within bounds and if the coming generation is to survive and to sustain the national standards. 'Children first' should be part of the national food slogan."

BUCKWHEAT MUFFINS.

Dear Deborah.—In these war days when we are all asked to substitute, most, if not all of us women are glad to get hold of recipes that do not demand any of the products we are asked to save. I have kept at a certain muffin recipe until I think it truly is reduced to its lowest terms, as it is wheatless, eggless, sugarless, and shorteningless. I can hear you laugh and say, "Well, surely there is something made from nothing." But it isn't quite that bad. The muffins are made of buckwheat, and are really very nice. We all like them in our home, and use them a great deal on wheatless days. I am rather surprised that I don't find buckwheat used in our war-time recipe books, but I don't. My most simple recipe is as follows:

Buckwheat Muffins.—Two cups buckwheat one teaspoon of salt, two teaspoons of baking powder, one and a half cups of milk. Sift dry ingredients and add milk. This makes eight large muffins.

One may use any or all of the ingredients I have left out, but it is not necessary. Molasses may be used by

those who like the molasses flavor and want the muffins slightly sweetened.

I find, too, that buckwheat can be used very nicely in making gingerbread. The recipe I have calls for two cups of flour. I use one each of flour and buckwheat, and cannot see any difference. No doubt it could be used in any spice cake.—Mrs. M. L. J.

REGISTRATION OF WOMEN BEGINS APRIL 27.

Registration of Michigan women for war service will begin Saturday, April 27. This date has been set aside for the registration in a proclamation issued by Governor Sleeper. He has called upon "all loyal women of the state of sixteen years of age and over, to go to the places designated in their several communities and there register for the services they are able to tender their country, or for special training to meet the needs of war."

In his proclamation the governor says: "The women of our state and nation have their part to play in the winning of the war and right nobly have they responded to all the calls that have been made upon them."

"Taking a lesson from the experience of our Allies in war, the government and the Michigan war preparedness board do hereby design and set aside Saturday, April 27, as the date on which this registration shall begin."

Facts About Registration.

Here are a few facts as issued by the Women's Committee of the National Council of Defense, Michigan Division:

Registration is voluntary; women will not be drafted into government service.

Women will not be taken from their homes for government service unless they definitely offer themselves for such service.

Women should register for what they are doing now and what they have been trained to do, whether or not they can give any extra service at the moment.

Registration along industrial lines is not intended to remove women from their present positions, nor to permit them to be exploited by unauthorized appeals for "war service."

If a woman registers for service at this time, and when called later finds herself unable by changed conditions to respond to the call, no punishment or criticism will fall upon her, nor will she be compelled to serve.

Registration is intended for women loyal to America, whether or not they are naturalized citizens, and should not be forced on unwilling or disloyal women.

Why Register?

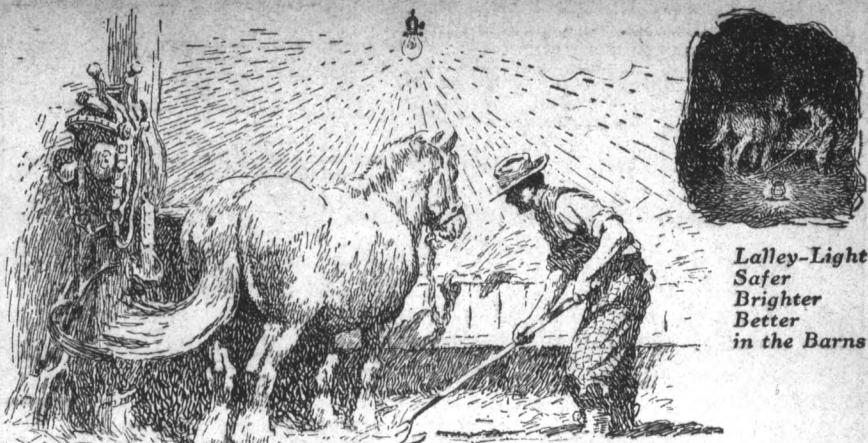
Because this is a government census. Because the United States—which already has taken a million men out of industrial, professional and civic life and with succeeding drafts will take millions more—will have emergencies to meet, and when they come will need to have a record of women willing to do the work required, either as paid or volunteer workers.

Because our boys are fighting for us in the trenches, we should fight for them at home.

SHORT CUTS TO HOUSEKEEPING.

In preparing mush for frying, I always put in a tablespoonful of sugar while it is boiling; when sliced it will brown much more quickly and I think the taste is much improved.—M. A. P.

When children come home with shoes thoroughly soaked, remove at once, fill with sawdust or bran and set in a moderately warm place but not on stove or over register. After several hours the bran will have absorbed the moisture and the shoe will retain its shape. Rub in any good oil, wipe off with a heavy cloth and polish. The bran should be left in until the shoe is dry.—L. M. T.



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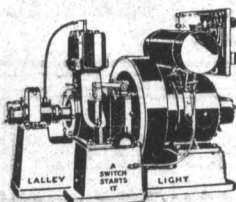
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No. 2448—A Popular, Seasonable Style. Cut in four sizes: Small, 32-34; medium, 36-38; large, 40-42, and extra large, 44-46 inches, bust meas-

ure. A medium size requires 3¾ yards of 36-inch material. Price, 10c.

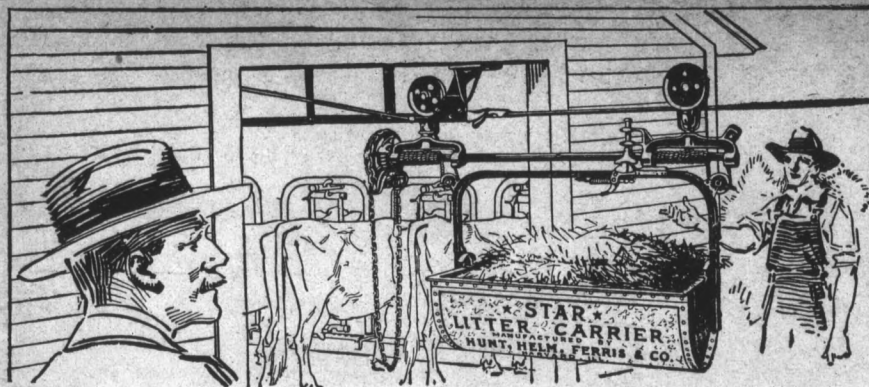
No. 2439—A Good Sport's Suit. Cut in four sizes, 14, 16, 18 and 20 years. Size 16 requires 4¾ yards of 44-inch material. The skirt measures about 1¾ yards at the foot. Price, 10c.

No. 2420—Girls' Dress. Cut in four sizes, 4, 6, 8 and 10 years. Size eight requires three yards of 36-inch material. Price, 10c.

No. 2371-2370—Ladies' Costume. The waist, No. 2371, cut in seven sizes, 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 will require 3¼ yards of 36-inch material. The skirt requires 3½ yards of 45-inch material for a 24-inch size. It is cut in seven sizes, 22, 24, 26, 28, 30, 32 and 34 inches waist measure. The skirt measures about 2½ yards at the foot. Two separate patterns 10c for each pattern.

No. 2357—Ladies' Apron. Cut in four sizes: Small 32-34; medium 36-38; large 40-42; extra large 44-46 inches bust measure. Size medium requires 5¼ yards of 36-inch material. Price 10 cents.

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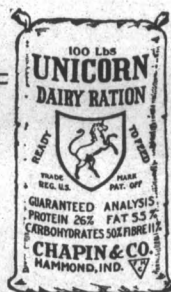
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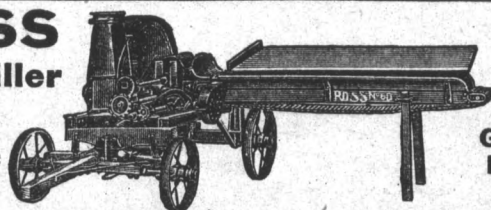


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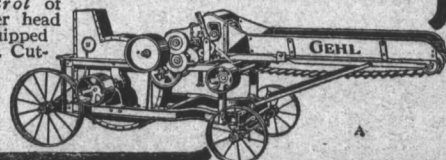
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111 S. Water Street WEST BEND, WIS.



Feeding Value of Skim Milk

H. W. NORTON, of our experiment station, furnishes a standard by means of which a farmer can quickly determine the maximum amount it is wise to pay for skim-milk.

On beginning this work, Mr. Norton first ascertained the amount of food in skim-milk compared with the amount in such grains as corn, rye, wheat, oats and barley. Thus, by summarizing the results of feeding experiments with skim-milk conducted by many experiment stations, he learned that where pigs are fed a ration of cereal grains alone (such as corn, rye, wheat and barley), each pig consumes an average of about 486.5 pounds of grain for every one hundred pounds of gain in weight.

Going further, and summarizing the results of other experiments, he ascertained that where pigs are fed cereal grains, with skim-milk as a supplement, each pig consumes 266.9 pounds of grain and 785.1 pounds of skim-milk, on the average for every one hundred pounds he gains in weight. In other words, while a pig requires 486.5 pounds of grain for every one hundred pounds gain where grain is his only feed he needs only 266.9 pounds of grain when skim-milk is fed with this grain as a supplement, from which it is seen that the 785.1 pounds of skim-milk mentioned above replace 219.6 pounds of grain in this ration, making one hundred pounds of skim-milk, when used in this way, equal to twenty-eight pounds of grain.

Knowing the grain value of skim-milk the determination of its money value when it is to be fed as a supplement to corn or other cereals in the ration, is relatively simple. The accompanying table gives comparative prices for grain and skim-milk. The list shows that when the prices of cereal grains range from \$50 to \$80 per ton, as has been true during the winter of 1917-1918, skim-milk is worth from seventy cents to \$1.20 per hundred weight in value as a supplementary feed.

At the same time, Mr. Norton figured out the value of skim-milk in terms of tankage, oil meal, middlings and soy bean meal—which are commonly used in the ration, like skim-milk, to combine with the cereal grains. In this, as in the foregoing, he first determined the food value of these products in terms of grains, and from this common basis he next ascertained their value in terms of skim-milk.

A summary of the results follow: When fed as supplements, 39.6 pounds of tankage, on the average, replaced 100 pounds of grain; ninety-five pounds of middlings replaced 100 pounds of grain; 38.2 pounds of oil meal replaced 100 pounds of grain; 33.3 pounds of soy bean meal replaced 100 pounds of grain, and 357.5 pounds of skim-milk replaced 100 pounds of grain.

Comparing these values with the replacement value of skim-milk when used as a supplement to corn and other cereal grains, it was found that one pound of tankage is equivalent to nine pounds of skim-milk; one pound of middlings is equivalent to 3.7 pounds of skim-milk, and one pound of oil meal is equivalent to 9.3 pounds of skim-milk.

In other words, if 100 pounds of tankage is worth \$2.00, 100 pounds of skim-milk is worth twenty-two cents; if tankage is worth \$2.25, skim-milk is worth twenty-five cents; if tankage is worth \$2.50, skim-milk is worth twenty-eight cents; if tankage is worth \$2.75, skim-milk is worth thirty-one cents; if tankage is worth \$3.00, skim-milk is worth thirty-three cents; if tankage is worth \$3.25, skim-milk is worth thirty-six cents; if tankage is worth \$3.50, skim-milk is worth thirty-nine cents; if tankage is worth \$3.75, skim-milk is worth forty-two cents; if tankage is worth \$4.00, skim-milk is worth forty-five cents; if tankage is worth \$4.25, skim-milk is worth forty-seven cents; if tankage is worth \$4.50, skim-milk is worth fifty cents.

In like manner, if 100 pounds of middlings is worth \$1.00, skim-milk is worth twenty-seven cents; if middlings cost \$1.25, skim-milk is worth thirty-three cents; if middlings cost \$1.50, skim-milk is worth thirty-nine cents; if middlings cost \$1.75, skim-milk is worth forty-five cents; if middlings cost \$2.00, skim-milk is worth fifty-one cents; if middlings cost \$2.25, skim-milk is worth fifty-seven cents; if middlings cost \$2.50, skim-milk is worth sixty-three cents; if middlings cost \$2.75, skim-milk is worth sixty-nine cents; if middlings cost \$3.00, skim-milk is worth seventy-five cents; if middlings cost \$3.25, skim-milk is worth eighty-one cents; if middlings cost \$3.50, skim-milk is worth eighty-seven cents; if middlings cost \$3.75, skim-milk is worth ninety-three cents; if middlings cost \$4.00, skim-milk is worth ninety-nine cents; if middlings cost \$4.25, skim-milk is worth one hundred five cents; if middlings cost \$4.50, skim-milk is worth one hundred eleven cents.

Similarly, if 100 pounds of oil meal cost \$1.50, skim-milk is worth sixteen cents; if oil meal costs \$1.75, skim-milk is worth nineteen cents; if oil meal costs \$2.00, skim-milk is worth twenty-two cents; if oil meal costs \$2.25, skim-milk is worth twenty-five cents; if oil meal costs \$2.50, skim-milk is worth twenty-eight cents; if oil meal costs \$2.75, skim-milk is worth thirty-one cents; if oil meal costs \$3.00, skim-milk is worth thirty-four cents; if oil meal costs \$3.25, skim-milk is worth thirty-seven cents; if oil meal costs \$3.50, skim-milk is worth forty cents; if oil meal costs \$3.75, skim-milk is worth forty-three cents; if oil meal costs \$4.00, skim-milk is worth forty-six cents; if oil meal costs \$4.25, skim-milk is worth forty-nine cents; if oil meal costs \$4.50, skim-milk is worth fifty-two cents.

GRAIN VS. SKIM-MILK.

When 100 Lbs. of Grain Costs	Then 100 Lbs. of Skim milk is Worth
\$1.00	\$0.28
1.25	0.35
1.50	0.42
1.75	0.49
2.00	0.56
2.25	0.63
2.50	0.70
2.75	0.77
3.00	0.84
3.25	0.91
3.50	0.98
3.75	1.05
4.00	1.12
4.25	1.19

skim-milk is worth thirty-two cents; if oil meal costs \$3.25, skim-milk is worth thirty-four cents; and if oil meal costs \$3.50, skim-milk is worth thirty-seven cents.

Finally, if 100 pounds of soy bean meal costs \$2.00, skim-milk is worth nineteen cents; if soy bean meal costs \$2.25, skim-milk is worth twenty-one cents; if soy bean meal costs \$2.50, skim-milk is worth twenty-three cents; if soy bean meal costs \$2.75, skim-milk is worth twenty-six cents; if soy bean meal costs \$3.00, skim-milk is worth twenty-eight cents; if soy bean meal costs \$3.25, skim-milk is worth thirty cents; if soy bean meal costs \$3.50, skim-milk is worth thirty-two cents; if soy bean meal costs \$3.75, skim-milk is worth thirty-five cents; if soy bean meal costs \$4.00, skim-milk is worth thirty-seven cents; if soy bean meal costs \$4.25, skim-milk is worth thirty-nine cents; if soy bean meal costs \$4.50, skim-milk is worth forty-one cents; if soy bean meal costs \$4.75, skim-milk is worth forty-three cents; and if soy bean meal costs \$5.00, skim-milk is worth forty-six cents.

Reference to this table, which shows the relative values of the different nitrogenous supplements commonly used with farm-grown rations, should enable the feeder to decide which of these feeds it will be most profitable to employ as a supplement at prices prevailing at any time.

Skim-milk, tankage and middlings are commonly used and are very palatable to the pigs in combination with grain feeds. Oil meal, however, while it shows a very high value in comparison with the others, is less desirable since it is not palatable and will not be eaten so readily.

Copies of the bulletin from which

this summary is taken can be procured by writing to the Experiment Station, East Lansing.

SOY BEANS WITH ENSILAGE CORN.

You have had considerable experience raising soy beans with corn for silage. Will you please give me explicit directions as to the variety and amount to plant? Should the seed be mixed with the corn and planted at the same time? Should the bean seed be inoculated? Do both plants come up about the same time? How much bean seed to the acre? I plant my silage corn three feet in checks. Do you plant less corn to the acre where you use soy beans with the corn?

Montcalm Co. L. A. SIPLE.

It is better to plant the soy beans at the same time you do the ensilage corn if you do so satisfactorily. Some manufacturers of corn planters nowadays have seed plates that fit into the fertilizer attachment of the corn planter so that a man can use the fertilizer attachment to plant beans at the same time that he plants corn. With this arrangement you can plant the beans and the corn in hills just as well as in drills. I am of the opinion, however, that you will have better success if you plant in drills because the seeds will not be bunched as much.

The trouble in mixing the soy beans and the seed corn together is that the beans are small and quite smooth and they gradually work to the bottom of the hopper and run out first so that you get an uneven distribution of the beans and the corn. If only a small amount of seed is put into the hopper at a time, say a quart, and then replenished when necessary, this separation of the beans from the corn is largely overcome.

If one chooses to plant corn with a grain drill, planting two rows at a time, he can arrange the feed hopper by putting in partitions so that he can plant the corn and beans in the drills at the same time quite successfully.

Plant the same amount of seed corn with the beans that you would without. The bean being a plant of entirely different nature than corn, will under favorable conditions, grow quite successfully. Six or eight quarts of beans per acre would be about right. There isn't much danger of getting the beans too thick.

Soy beans should always be inoculated because in our Michigan soils they have never been grown to any extent, and consequently the soil doesn't contain the nitrogen-gathering bacteria which live on the soy bean plant. One object in growing soy beans with corn is to get the soy beans to gather nitrogen from the atmosphere to be used by the corn plant. The theory is that one will not only get some beans which are richer in protein than corn to make better silage, but that the soy beans will actually furnish some nitrogen for the corn plant itself, enabling it to provide us with more protein than corn would when grown without the beans.

A medium or late variety is more adapted for planting with ensilage corn than a real early variety. The early variety is apt to get so ripe that the seeds or beans will become hard, the pods shatter and many of the beans are lost. The late variety does not get so ripe. If you could select a variety that just has the pods nicely formed when the corn is ready to harvest, you would realize most from your crop. Last year, we used Late Yellow soy beans planted with Evergreen sweet corn and they matured sufficiently to make very choice ensilage.

COLON C. LILLIE.

GERMANS DESTROY FRENCH SUGAR MILLS.

Sugar production in France has fallen to less than twenty-five per cent of the pre-war output. When German troops retreated from occupied portions of France they took pains to de-

stroy virtually all of the sugar mills that would otherwise have assisted the French in maintaining their sugar stocks. That first wave of Teuton invasion was stopped in France after the Germans had established a battle line that cut off 203 of the 213 sugar mills, as well as much land that had produced sugar beets. In some of the German retreats the mills were left in such shape as to permit their operation.

CAN HE BUY A LIBERTY BOND?

Am enclosing a price card issued by a local concern covering eggs and butter-fat and quoting prices on various feeds. Will you advise me what food stuffs I can select from this list to feed my hens and dairy cows, with hay at \$28 per ton, so as to be able to market the eggs and butter-fat, at the prices quoted, with a profit that will enable me to buy a Liberty Bond? Also advise if the prices quoted for the wheat products are in accordance with the prices fixed by the United States government.

Wexford Co.

N. A. T.

The question of making a profit in dairying depends on the man, the cost of feed and on the kind of cows he has got. If a man has high-class cows, economical producers, and knows how to feed them he probably can make a profit even at the price for food given in the card enclosed with the letter.

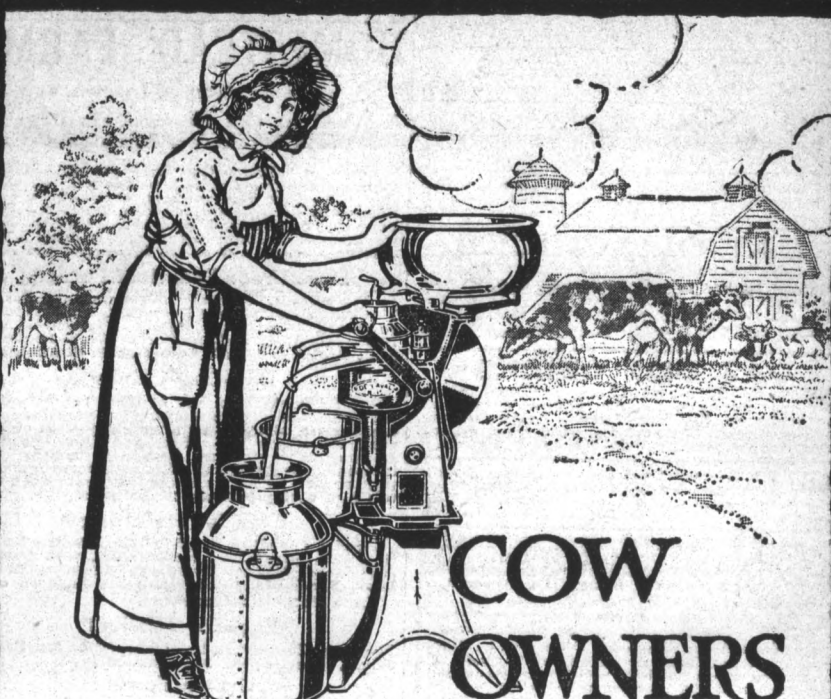
Many people have kept cows when feeds were the lowest priced in history and they could not make a profit. A dairy cow is in a sense a machine for consuming the feed which a farmer produces on his farm or which he purchases in the open market for converting that feed into milk and butter. If she is a poor machine, lacking capacity and doesn't convert the feed economically, a profit cannot be made; but if you have a good machine it will take high-priced feeds and convert them into butter-fat at a profit. The price of butter-fat is given at 47 cents. I can remember when we used to get not over 15 or 18 cents for butter-fat, then possibly we could buy wheat bran for 50 and 75 cents per 100 pounds, and middlings about the same, and corn meal for not to exceed \$20 per ton. The prices given here, of course, are very much higher but not so much higher in proportion to the price of butter-fat as one would at first think.

The same holds true with regard to hens. Some people have hens that produce 200 eggs in a year each. Hens ought to produce about 100 eggs or more in a year, say 10 dozen in a year. At 32 cents per dozen that would be \$3.20, proceeds from one hen in a year, and while feed is exceedingly high, you can't get a hen to eat any more than that amount of feed in a year when bought at present prices. However, there are the other expenses to consider, all of which are certain to take practically all of the income, and perhaps more.

I should think that the prices quoted on wheat bran and wheat middlings are too high according to government regulation of these products. Of course the government hasn't undertaken the control of any other feed prices, only products from wheat because they fixed the price of wheat. As I understand it, the miller is not allowed to charge for wheat bran over 38 per cent of what he pays for wheat. If the price of wheat is \$2.20 per bushel that would be equivalent to \$3.66 per 100 pounds or \$73.32 per ton for the wheat, and 38 per cent would be \$27.28 per ton, but, of course, the miller sells it to a dealer, perhaps a jobber, the jobber sells it to a retailer, the retailer sells it to the farmer and everyone of them makes a profit and many of them get big profits, too. There is no question but what it costs too much.

I am of the opinion that a man will have to have cows above the average and hens above the average in order to make any profit under such circumstances as you state.

COLON C. LILLIE.



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- longer wear
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- better value,

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Choice Chicks April and May heavy breeds and Leghorns \$2 for 9. Eggs per setting \$1.50; per 108 \$7.50. Crescent Egg Company, Allegan, Mich.

Chicks and eggs, standard bred stock, Leghorns, Minorcas, Polish, Rocks, Reds, Orpingtons, Wyandottes, Campines, Houdans, Polish, Scotch Greys, Tyrone Poultry Farm, Fenton, Mich.

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of quality guaranteed to 1,500 miles. Eggs for Hatching at low prices. Bar, Rocks, S. C. W. Leghorns, S. C. and R. C. Reds, W. Wyandottes, Buff and W. Orpingtons. Chile catalog free. GOSHEN POULTRY FARMS, R-19 Goshen, Indiana

DAY OLD CHICKS

250,000 for 1918. \$10 per 100 and up. Purebred. Hatched right. Strong guarantee. 10 leading varieties. Hatching eggs. Big brooder offer. Western Branch, Augusta, Kansas. Free catalog. Stamps appreciated. Hubers Reliable Hatchery, 333 W. Fremont St., Fostoria, O.

EGGS for hatching from free range farm stock of pure bred Dutton's Strain White Wyandottes bred pure 15 yrs. \$7.50 per hundred. VANO FARM, R. 1, Box 124, Hartford, Mich.



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A real heavy laying strain, trapnested 17 years, records from 200 to 264 eggs. Get our special summer prices on yearling hens, breeding males, eggs for hatching, 8-week-old pullets and day-old chicks. We ship C. O. D. and guarantee results. Catalog gives prices; describes stock; tells all about our farm and methods; results you can get by breeding this strain. Send for your copy now—it is free. GEORGE D. FERRIS 984 Union, Grand Rapids, Mich.

Chicks that Live \$13 per 100 S. C. W. Leghorns MY SPECIALTY SNOWFLAKE POULTRY FARM, R. 1, Grand Rapids, Mich.

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Hatching Eggs from our Barred Plymouth Rocks \$1.50 per setting \$3 per 100. S. C. White Leghorns \$1 per setting \$5 per 100. Custom hatching 3c per egg. RUSSELL POULTRY RANCH, Petersburg, Mich.

IMPROVE YOUR POULTRY My Bred-to-Lay Young's Strain S. C. White Leghorn and Ancona chicks are great money-makers. 100,000 strong, husky chicks @ \$11 up per 100. Chicks sent by mail. Arrival and satisfaction guaranteed. Prompt shipment. Get my catalogue at once. W. VAN APPELDORN, R. 7, Holland, Mich.

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SILVER Golden and White Wyandottes. A few good Golden and White cockerels, to spare at \$3. Eggs \$1.50, \$2.50, \$3.50, \$4.50. C. W. Browning, R. 2, Portland, Mich.

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White China Br. Leghorn eggs \$1.50 per 15, Pekin Duck \$1.50 for 11. Best of stock. Mrs. CLAUDIA BETTS, Hillsdale, Mich.

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

M. B. Leghorn cockerels. Also Berkshire, both sex. Stamps appreciated. Chase Stock Farm, R. 1, Marlette, Mich.

GOOSE eggs 25 cents each. R. C. Br. Leghorn eggs \$1.50 per 15, Pekin Duck \$1.50 for 11. Best of stock. Mrs. CLAUDIA BETTS, Hillsdale, Mich.

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POULTRY

HOMESTEAD FARMS

A Federation of Interests

A Word to the Farmer Poultrymen and Women of Michigan.

In almost every issue of the Farmer you will find something new in this space, and we ask you, therefore, please to glance each week at what we have to say. Homestead Farms is working out a practical federation of the business and social interests of the poultry farmers of Bloomingdale and vicinity, which is to be a benefit also to the farmers of the state.

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In Pure Breed Practical Poultry we have: Barred, White and Buff Plymouth Rocks; R. C. and S. C. Limited Rhode Island Reds; White Wyandottes; S. C. Black Minorcas; S. C. and R. C. White Leghorns; S. C. Brown and Buff Leghorns; S. C. Anconas.

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Day-Old Chicks from any of these breeds providing three weeks' time is given for hatching. We can furnish almost an unlimited number of Barred Rocks, Rhode Island Reds, and White Leghorns. Do you want vigorous, naturally healthy free farm-range poultry stock? We invite correspondence with poultry farmers who are looking for stock that will give eggs plentifully next winter.

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Eggs from our Pure Breed Practical Poultry for setting, or in quantities for incubators, with fertility guaranteed. We can furnish any number of Barred Rock, Rhode Island Red, and White Leghorn eggs. White Pekin Duck eggs.

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Plymouth Rock eggs in any quantity for Broiler chicks. Special price and guarantee.

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We have yet for sale: 3 Barred Plymouth Rock cockerels; 15 Single Comb Rhode Island Red Pullets with cockerel; 5 R. O. Rhode Island Red Pullets; 3 S. C. White Leghorn Cockerels; 1 White Pekin Drake; 1 Gray Toulouse Gander.

If you are a poultry-farmer that wants practical farm poultry stock, will you please write to us for our circular which briefly describes the poultry we offer you.

We have already a fine correspondence with the poultry farmers of Michigan, but we want to hear from you; we want to place some of our Pure Breed Practical Poultry on your farm.

HOMESTEAD FARMS, Bloomingdale, Mich.

Baby Chicks from Standard and Brown Leghorns. Good laying stock. \$13 per 100. Safe arrival guaranteed. Catalogue free. Book your order now for spring delivery. Wolverine Hatchery, Box 202, Zeeland, Mich.

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Barron English 240 egg strain White Leghorns; heavy winter layers, large size birds. Hatching eggs \$6 per 100. Chicks \$13 per 100. Guarantee satisfaction. Services Leghorn Farms and Hatchery, Box 4, Zeeland, Mich.

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BABY Chicks. Bred-to-Lay S. C. White Leghorns Bred to Lay year's price, \$12 per 100. No catalog or circular. Order direct from this adv. Cash in full with order. Hatch every Tuesday, beginning April 2. Sunny-brook Poultry Farms, C. G. Burroughs, Prop., Hillsdale, Mich.

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FLEMINGS

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No cold storage. No solutions. Indorsed by over one thousand egg producers and commercial institutions throughout the United States in the past four years. Send today for absolute proofs to BEARD & HOUSE, State Distributors for Mich. 616 & 617 Chamber of Commerce Bldg., Detroit, Mich. County Agents Wanted.

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Sugar is scarce. Honey is in great demand. High prices prevail. Make your bees produce more than ever before. Send for our catalog for prices on Bee Hives, Section Boxes, Comb Foundation, Smokers, etc. Beginner's complete outfit furnished with or without bees.

BERRY BASKETS

There is a scarcity of berry baskets and we advise prompt action. Let us know your exact requirements and we will quote you prices on standard quart baskets and 16-qt. crates. We can make immediate shipments at present.

M. H. HUNT & SON, Box 525, Lansing, Mich.

Managing the Incubator

THE incubator should be placed at the start is worth considerable in a room where the temperature will show no serious variations day or night. A dry cellar is probably the best location on the farm but an incubator used in a cellar should be as nearly fireproof as possible. A sheet of metal on the ceiling over the incubator will be further protection against fire. Then two or three buckets of water in the cellar will be a practical form of insurance. It pays to look over the insurance policy or consult the agent and find out whether permission can be obtained to run an incubator in the house without making the insurance void. An incubator can be run in the house for many years with-



Properly Managed Incubator Produces Healthy Chickens.

out a fire and most of the machines are quite well protected against this risk but it pays to take no chances.

If the machine is to be used in a room, it should be placed as far from the stove as possible and also away from draughts. Air currents passing through a room will interfere with the regulation of the incubator and cause much worry and trouble in bringing out a successful hatch.

After assembling an incubator it should be leveled with a spirit level. A dish of water will assist the poultryman in placing the machine level but the spirit level is better. A machine on a slant will seldom do efficient work, as one end of the egg chamber will be warmer than the others.

Test the machine before placing the eggs on the trays and look for leaks in the hot water pipes. Note that the thermostat is in proper working order and find out if you can hold the temperature at 103 degrees for at least one day before placing the eggs in the machine. It is much better to know that the machine is right before risking the eggs. A successful hatch right

Ingham Co. R. G. KIRBY.

Bees on the Farm

FEW American meals are complete without some sweet. I doubt if any of us can remember when we have been limited to the purchase of two pounds of sugar as now. Honey is a natural sweet which can be had in abundance by many who have two or three stands of bees. It would indeed be interesting to know how many thousands of pounds of it could be collected by bees from the great multitude of wild flowers and fruit blossoms.

A single hive in a good season will yield nearly enough honey for the average-sized family, and in the course of two years this can be increased to three or four stands with no additional expense except the cost of the hives and foundation material on which the bees build their comb. Along with our other farm work we have kept from four to twelve stands of bees and have always had plenty for table use and some to sell. The bees help to fertilize the blossoms of the fruit trees and berry bushes.

Some have the impression that bees require the attention of an expert apiarist. Sufficient knowledge for a beginning can be obtained from a good bee book, and if a start is made with one stand of bees a great deal of valuable experience can be gained the first year. There is usually one man in a community who has honey bees to sell. The cost of bees is not large. A good stand may be purchased for from \$1.50 to \$2.50, or with the hive from \$4.00 to \$7.00. A talk with the man from whom they are purchased will divulge some of the secrets of handling them if he has studied the work a little. If one wishes only comb honey all the additional equipment needed will be a bee veil, a pair of gloves and a smoker, which cost about \$2.00. We extract most of our honey, finding it to be more profitable, but this requires the use of a honey extractor which one with only one or two hives might not find as profitable unless they expected to make an increase in the number of stands. A greater yield of honey can be secured when it is extracted. Personally, I prefer it to the comb honey; it can be canned in glass or tin jars and kept for years. If it sugars it can be heated slowly by setting the jars in warm water for a few hours.

A stand can be secured at any time, but if it is gotten in May or June the bees will store up sufficient for their brood and make some surplus honey by early autumn. Given two coats of lead paint a hive will be made weather and water-proof and last many years. Do not paint the inside, but see that it is thoroughly cleaned before using.



Every Orchard and Garden should have bees. We can start you. Sections, Foundations, Bee Veils, smokers, a complete line of supplies for bee keepers, ready for immediate shipment. 40-page catalog free. Bees Wax Wanted. A. G. WOODMAN CO., Dept. M. F., Grand Rapids, Michigan.

Something for the Boys and Girls

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

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

THE MICHIGAN FARMER, Detroit, Mich.

Place the hives under a tree if possible and away from the house and road where they will not be disturbed. Stock sometimes knock them over.

If a thrifty stand of bees is purchased early in the spring or early summer months it will be well to be prepared to take care of new swarms during June and July. One or two extra hives will be needed. If anyone about the farm is handy with tools he can make the hives, patterning them after a standard made hive, but they can be bought about as cheaply from a manufacturer and will be perfect in all details.

The life and habits of a bee are an interesting and fascinating study, well worth anyone's time if they enjoy the wonders of nature and wish to spend a few pleasurable nights with a good book on the subject. They really require very little attention when one has but a few stands and they keep the pantry shelf stocked with jars of a delicious sweet. Honey makes delicious candies and cakes and can be to be incubated during the hatching season.

Indiana.

J. L. JUSTICE.

HENS VS. INCUBATOR.

At present prices of feed it costs about five cents a week to feed a hen. It requires about twelve weeks for a hen to hatch and rear her brood to the age of "weaning." This means a cost of sixty cents per fifteen eggs for the hen's time in hatching and raising, to say nothing of the profit she might have made had she been left in the laying flock.

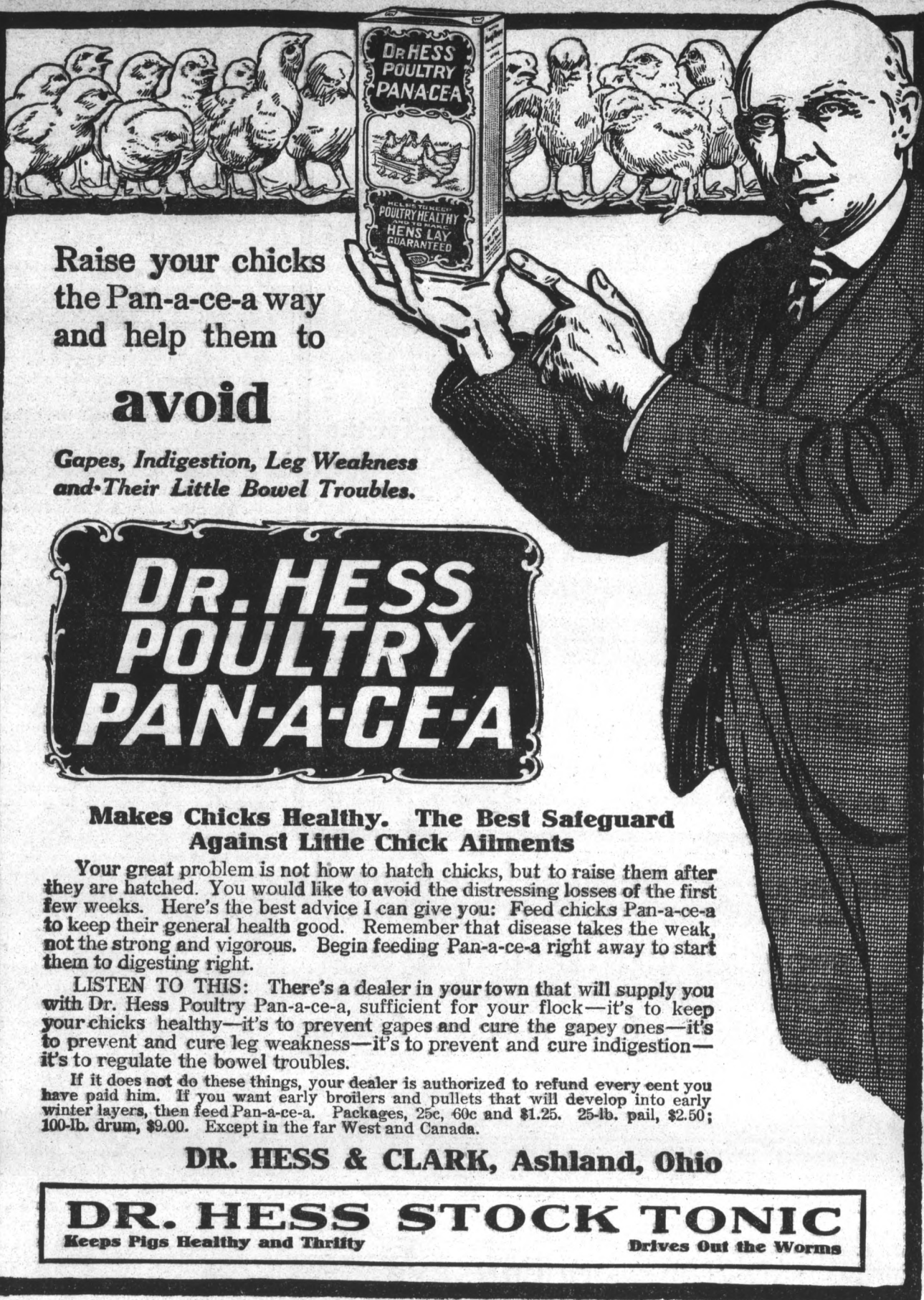
It requires ten hens to hatch one hundred and fifty eggs, which at sixty cents for each hen means \$6 for a "one-hundred-fifty egg hatch." It requires about fourteen gallons of oil at a cost of \$1.70 to "incubator hatch" and "brooder rear" the chicks from one hundred and fifty eggs. This leaves \$4.30 as interest on the investment for an incubator and brooder, even if the incubator were set but once during the season, and it can be set three or four times.

A hen can be set only when the hen is ready; an incubator, when the eggs are ready. This fact alone means early and profitable chicks. It would seem that an incubator and brooder would be a profitable investment wherever one hundred and fifty or more eggs are used in cooking and other methods of food preparation.

CARE AND FEEDING IMPORTANT FOR BABY CHICKS.

On the first day baby chicks should receive no feed, and the mother hen should receive only corn and water. Sour milk may be given the chicks the second day, but no grain and grit or sand should be placed where they can find it. From the third to seventh day, scratch feed may be fed five times daily, giving each time all they will clean up in thirty minutes. Sour milk also may be fed abundantly in this period and green feeds also may be used. After the seventh day, grain feed should be continued with dry mash, composed of two pounds of bran, two pounds of shorts and two and a half pounds of sifted meat scraps. Feed the mash in a trough twice a day for a few days, gradually increasing until it is before them at all times. After the chicks are on full mash feed, reduce the grain ration to three times a day, continue milk, and make the chicks scratch for grain. After the second month, both grain and mash may be fed from a self-feeder, if chicks have plenty of range.

Prevent crowding, prevent chilling of baby chicks, keep them dry and provide plenty of exercise. This in a sentence, tells what is to be done in the care of these youngsters.



Raise your chicks the Pan-a-ce-a way and help them to avoid

Gapes, Indigestion, Leg Weakness and Their Little Bowel Troubles.

DR. HESS POULTRY PAN-A-CE-A

Makes Chicks Healthy. The Best Safeguard Against Little Chick Ailments

Your great problem is not how to hatch chicks, but to raise them after they are hatched. You would like to avoid the distressing losses of the first few weeks. Here's the best advice I can give you: Feed chicks Pan-a-ce-a to keep their general health good. Remember that disease takes the weak, not the strong and vigorous. Begin feeding Pan-a-ce-a right away to start them to digesting right.

LISTEN TO THIS: There's a dealer in your town that will supply you with Dr. Hess Poultry Pan-a-ce-a, sufficient for your flock—it's to keep your chicks healthy—it's to prevent gapes and cure the gapey ones—it's to prevent and cure leg weakness—it's to prevent and cure indigestion—it's to regulate the bowel troubles.

If it does not do these things, your dealer is authorized to refund every cent you have paid him. If you want early broilers and pullets that will develop into early winter layers, then feed Pan-a-ce-a. Packages, 25c, 60c and \$1.25. 25-lb. pail, \$2.50; 100-lb. drum, \$9.00. Except in the far West and Canada.

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Keeps Pigs Healthy and Thrifty Drives Out the Worms

Dr. Hess Instant Louse Killer Kills Lice

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Double Fibre Board Case. Copper Tank. Nursery. Self Regulated. With \$5.25 Hot Water 140-Chick Brooder—both only \$12.95.

Freight Paid East of Rockford. Shipped on express. Guaranteed. My Special Offers provide ways to make extra money. Order Now, or write for Free book, "Hatching Facts."—It tells all. Jim Rohan, Pres. Belle City Incubator Co., Box 14, Racine, Wis.

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Community Clubs

Form a Michigan Farmer Community Club in your neighborhood. It means a saving for you and your neighbors on Michigan Farmer subscriptions. These clubs are easy to form because there are a lot of people in your neighborhood who are interested in the Michigan Farmer and want to take it. Those who are now subscribers will also want to take advantage of these club rates when renewing their subscriptions.

Community Club Rates.

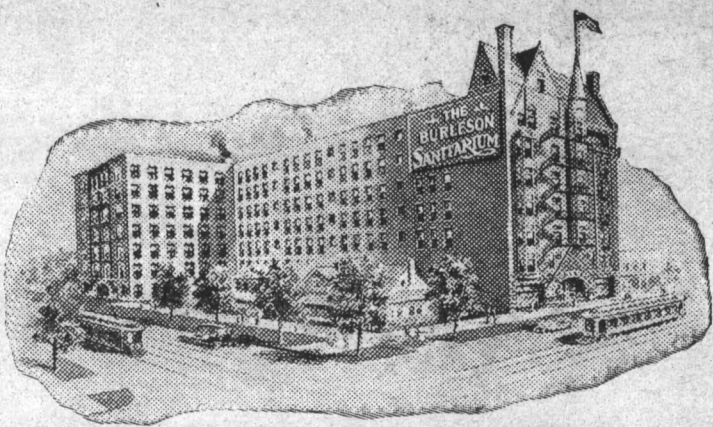
2 yearly subscriptions.....\$1.50	5 yearly subscriptions.....3.00
3 yearly subscriptions.....2.00	8 yearly subscriptions.....4.25
	10 yearly subscriptions.....5.00

All Community Club orders must be sent direct to the Community Club.

The Michigan Farmer
Detroit, Michigan

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The Farmers of Michigan Lose Annually More Than \$2,500,000.00 Worth of Live Stock

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The animals are destroyed and their cash value lost not only to the farmer but to the community, the State. This amazing sum of money can be saved to the farmers and the State if they (the farmers) will but avail themselves of

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Colon C. Lillie, Pres. and Sup. of Agts.,
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We Offer a Few Special Bargains
In S. C. White Leghorn cockerels, Rambouillet rams, Hampshire pigs (either sex) and Holstein bulls. A good chance for a small investment to reap the benefit of a large expenditure of capital and years of expert breeding.

Flanders Farm, Orchard Lake, Mich.

CATTLE.

ABERDEEN ANGUS

For Sale—Three high-class bulls of the "Blackbird Families" ages 17 to 23 months. All sons of Black Monarch 3rd three times Grand Champion Bull at Michigan State Fair. Write

SIDNEY SMITH, Supt.
W. E. SCRIPPS, Prop.

Wildwood Farms, Orion, Mich.

WOODCOTE ANGUS

Trojan-Ericas and Blackbirds only Breeders of the dam and former owners of the sire (our herd bull) of the Grand Champion Bull at the International Chicago Fair 1917.

WOODCOTE STOCK FARM, Ionia, Mich.

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

Registered Guernseys

A fine 3 year old heifer and her heifer calf—right in every way \$50. F. O. B. your town.

J. M. WILLIAMS, North Adams Mich.

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

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

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

For Sale Registered Guernsey bull calves May Rose breeding.
JOHN EBELS, R. 2, Holland, Mich.

For Guernsey bulls of the best blood lines. Write
WALLACE BROS., Bay Shore, Mich.

CLUNY STOCK FARM

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

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

A Good Note accepted in payment of finely bred registered Holstein bull calves. Quality of the best, and at prices within reach of all. Write.
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Parham's Pedigree Stock Farm offers Reg. Holstein cattle, Chester White Swine, extra bargains in calves and fall pigs. Bulls half price.
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A Few Fine Bulls For Sale

Bigelows Holstein Farms, Breedsville, Mich.

I Always Have Holsteins To Sell

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

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3--HOLSTEIN BULLS--3
Ready for service at Long Beach Farm, Augusta, Mich.

Grange.

STATE GRANGE OFFICERS.

Master—John C. Ketcham, Hastings.
Overseer—C. H. Bramble, Tecumseh.
Lecturer—Dora H. Stockman, Lansing.

Secretary—Jennie Buell, Ann Arbor.
Treasurer—Frank Coward, Bronson.
Executive Committee.—Jas. Helme, Adrian; Geo B. Horton, Fruit Ridge; J. W. Hutchins, Hanover; W. F. Taylor.

INCREASING GRANGE MEMBERSHIP.

(Continued from last week).

Our local organization must join with a county unit. Our county organization must be linked with the state, and our state unit must be a part of a strong national body before we can truly represent the agriculture of America. The Grange accomplishes all of this exactly in proportion to the extent to which the average man and woman on the farm get into it and do their individual parts. There is not a single activity in agriculture, from the management of silos to the buying and selling of the necessities of life, from the practice of domestic science in our homes, to the school, where our boys and girls learn how to fill their places in the world, or from the management of a farmers' bank to matters of legislative importance that touch the lives of the people in the country that may not be discussed in Grange, and it may as truly be said that not a single reform has been brought about within the last forty years in which the Grange has not played a prominent part.

With these things in view it is up to every local organization to plan to increase its membership. If the real truth about the Grange could but get into the minds of the individual members the result would be easy. We ought to make this matter of increasing membership an important part of our next program. It can be done. There is no question about that. It is simply for us to decide how to do it and then go at it. In some Granges the work will proceed quietly and steadily and growth will come about naturally without any particular noise or excitement. In others the contest idea will prevail. The increase will be larger and the problem of holding and interesting the new members will be much like that of conserving a church after the crusade band has gone to the next field, but it can be done. It is being done. A membership contest is, on the whole, a good thing, and I can think of nothing that would do more to bring about the result that the State Master so earnestly desires.

In our opinion every Grange should discuss this matter of a membership contest and should adopt the idea unless there is some good local reason for not doing so. We ought to make this matter of increased membership our first business. There was never a time when the farmers needed to keep so close together as now. In the Grange the county agent will find a medium through which he can accomplish most if that Grange is large enough to truly represent the community. Where community interest is broken either by conflicting organizations or by the lack of any society that adequately represents community life, agriculture suffers and the forces that make for better conditions in the country are powerless to do their best.

The Grange is here. It is established in some sort of way in most rural communities. It should be everywhere but even then it will not have really come into its own until practically every good farmer shall have joined in this movement to make the country a better place in which to live.

W. F. TAYLOR.

Farmers' Clubs

CLUB DISCUSSIONS.

Hold Interesting Meeting.—Pleasant weather and the beginning of spring work was responsible for a relatively small attendance at the Kimball-Wales Farmers' Club March meeting. A most bountiful dinner was served at noon at the home of Mr. Charles Stevenson, after which the company adjourned to Mr. A. E. Stevenson's for the afternoon. The program was carried out as announced, with the exception of the talk concerning farm implements by Mr. Isbester. As Mr. Isbester was not present his topic was postponed until the next meeting. The musical program by Mrs. Ryan, Ruth White and several little people under the training of Mrs. Abbey was especially good and much enjoyed. Mr. Lewis' talk on "Soil Fertility and Drainage," brought out a number of valuable points and was discussed by several of the members. "Farm Work for Women through the Establishment of a Girls' Camp," was presented by Miss Waldron, county home demonstration agent, and caused some amusing as well as serious discussion. There is a possibility that such a camp of high school girls may be established on the Stevenson Farm, though no definite plans are made as yet. An interchange of war time recipes by the ladies then developed many important and instructive items in regard to cooking under new conditions. The question of buying lap boards and paper plates for the greater convenience of the Club dinners was then discussed, and the matter referred to a committee with power to act. A rousing talk on the "Third Liberty Loan" by A. E. Stevenson, in which he urged the people to be ready with their subscriptions when the committee visited them, closed a most interesting meeting.

Wells-Dayton Farmers' Club held its regular monthly meeting at the home of Mr. and Mrs. Fred Janks. After the bounteous dinner was served under the direction of Chef Mrs. G. Spencer, and a social hour, the meeting was called to order by the president. The Club sang "Michigan, My Michigan." Mr. Stokes gave a reading on "The Backyard Farmer," which was thoroughly enjoyed. Mrs. Daily's paper on "Economic Conditions," pointed out some current problems and was followed with a song by the Club, "The Cross and the Flag," after which Mr. Janks put the members in touch with the world by his well-selected items in "Review of Events." The "Essential Points that go to Make Farming a Success," by Walter Kelley, showed much thoughtful preparation and provoked discussion. The question box brought up many topics of interest. The Club closed with singing "My Bonnie," and will meet with Mr. and Mrs. Arthur Harmon in April.—Della Hunt, Cor. Secretary.

The Brockway Farmers' Club met at the Brockway Town Hall, Thursday, March 28. After about fifty members and their families had partaken of the usual Club dinner, the meeting was called to order by President Wallace Adams. After several talks by local people on subjects of interest to farmers, Mr. Wm. Cavanaugh addressed the Club. Among the things of importance that he discussed, Mr. Cavanaugh explained the great need of training our boys and girls for public speaking. Many of our best Club workers and prominent people in other organizations are handicapped by the inability to impress others with the importance of the things in which they are particularly interested. County Agricultural agent C. L. Brody, met with the Club and presented matters of immediate importance to the farmers, such as seed corn, spring wheat, etc. Mr. Brody also talked at considerable length upon the great need of conserving wheat, and also for making the most of what bids fair at present to be a poor wheat crop. The subject of price fixing was most earnestly discussed by W. B. Darling, Henry Johnson, Thos. Rapley, Mrs. Thos. Carless, and others, and the conclusion was reached that while some things did not appear on the surface at least to be exactly fair to the farmer, Brockway farmers would do all in their power, not only in matters concerning wheat, but in any and all ways that could further the interests of our army and our allies in the great struggle in which we are engaged. Club adjourned to meet in April at a place to be announced later.

A man who gets nettled or nervous or is constantly grumbling never gets ahead in a business house.—Knowlson.

Veterinary.

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

Nervousness.—I have a three-year-old cow that freshened January 26; since then she had been seemingly in good health and gradually increased in milk yield, but has developed a disagreeable habit. Almost immediately when I commence to milk she seems to be inclined to urinate and I would like to know if she can be corrected of this habit. W. A., White Cloud, Mich.—Feeding her while you milk and treating her kindly will perhaps have the effect of correcting this habit, which is doubtless due to nervousness. I would suggest that you place a piece of chain or a light weight over the loin when you first approach her and leave it on until after she has been milked.

Mange.—I would like to know what can be done for my sheep whose skin in places, especially on the sides, is covered with scabs and the sheep are inclined to rub themselves, but upon examination I find no ticks, and I might add that they appear to be healthy and in good order. C. J. A., Owosso, Mich.—Apply one part liquor cresolis compositis "U. S. P." and twenty-four parts vaseline to sore parts of skin two or three times a week. You will find it difficult to affect a cure until your sheep are sheared.

Partial Paralysis.—I have two pigs which will weigh 125 pounds each that seem to have lost the use of their hind quarters. They have been fed milk, middlings, soft corn and some culled oats. I might add that these pigs have had practically no exercise all winter. Would you advise me to butcher them in their present condition? V. H. R., Kibbie, Mich.—Yes, you had better slaughter them as the flesh is now fit for food. I might add that their recovery would be doubtful.

Partial Loss of Power.—I have four-year-old Collie dog that seems to have only partial use of his hind quarters. When walking he wobbles and I am inclined to believe that he is weak in back, but he has a splendid appetite, and does not appear to be sick. J. F. B., Flat Rock, Mich.—Doubtless your dog suffers from functional disease of the spinal cord and may perhaps be benefited by giving him four grains of potassium iodide, 10 drops of fluid extract nuxvomica and 10 drops of Fowler's solution of arsenic at a dose two or three times a day. He should be kept warm and well fed.

Cat Has Sore Ears.—I have an Angora cat that has sores in her ears. I have employed several Vets. who have treated her for mange; have also applied Glover's mange cure with poor results. However, the disease does not seem to spread. Mrs. J. D. W., Lansing, Mich.—Your cat will perhaps never fully recover. However, you might apply iodine ointment occasionally—this you can obtain at any drug store.

Dislocation of Stifle.—Wind-puffs. I have a three-year-old colt that slipped and dislocated stifle joint; when put back to place it will not stay in its normal position. What can be done for this colt? I also have another horse that has chronic wind-galls which I would like to have removed. A. B. Hillman, Mich.—Clip hair off stifle and apply one part powdered cantharides and four parts fresh lard to stifle twice a month. Repeated blisters will doubtless help your colt. Chronic windpuffs are seldom curable. Try any of the commercial remedies that are guaranteed to cure this ailment, but remember the writer has never known of a remedy for hard, solidified bursal bunches. I have thought best in most cases to leave the bunches alone, unless they cause lameness.

Foot Soreness.—I recently bought a nine-year-old mare; she rested for five days then worked four days; is now lame and sore in fore feet. Had her shod but this failed to help; took shoes off, but she is no better. I am told she may be foundered. M. B. Centuria, Wis.—Stand her in wet clay for three hours daily, apply equal parts of turpentine, aqua ammonia and raw linseed oil to coronets on fore legs three times a week.

Functionless Udder.—My three-year-old heifer carried her calf nine and a half months and when she came fresh her bag was hard, but contained no milk, not at all feverish and nearly all the hair on udder and thighs dropped off. Her food supply has been corn stalks and some ground feed. H. H. S., Augusta, Mich.—Her udder is functionless, therefore she is worthless for dairy purposes and should be fattened for the butcher.

DISPERSION SALE of REGISTERED HOLSTEINS

on Monday, April 22, 1918, at 10 o'clock A. M.

60 head will be sold to the highest bidder, including 25 cows and 10 heifers bred to freshen in June. Among them are granddaughters of King of the Pontiacs, King Segis Pontiac, Johanna Hengerveld Lad, Pontiac Appalo and Judge Hengerveld DeKol. Three are Granddaughters of Pontiac de Nijlander. Sale at farm one mile west of Hendries corners, on Pontiac car line and two miles west of Royal Oak. Write for catalog. Will meet cars.

B. V. Kelly & S. H. Wood,
in the box.

J. H. McClure, Prop.,
Royal Oak, Mich.

CATTLE

HOMESTEAD FARMS

A Federation of Interests
Holsteins

A herd of 50 Holsteins headed by the bull, King Zema Elcarra Pontiac, son of King Segis Pontiac Alcarra, the \$50,000 Holstein Bull and full brother to Mable Segis Korndyke, 40.32 lbs. of butter in 7 days at four years old.

This herd is of the very highest class of Holsteins and are the kind that the practical farmer should have who wants stock that is sure to pay out. The following family is offered as a foundation for a high class practical herd: Dam, Tatty Topsey Dawn, 4 yrs. old, bred to King Zema Alcarra Pontiac and now due to freshen 1st daughter Pauline Sadie Dawn, 2 yrs. old, bred Nov. 7, 1917, to bull with 29 lb. dam; 2nd daughter 1 yr. old and full sister of 1st daughter. Let your photographs and full us send description of this family.

Heifer calves, bred heifers and cows. Please tell what you want and let us describe and send photograph of the individual such as we think you would like.

Young Bull, sired by King Zema Alcarra Pontiac; Grand sire King Segis Pontiac Alcarra, the \$50,000 bull. Dam is Genesee Wonder, direct descendant on both sides of her ancestry from De Kol 2nd, Butter Boy 3rd.

This young bull was born Jan. 30, 1918; is 95 per cent white, a straight upright animal. We will send you description and photograph. Other young and older bulls of high class.

A fine Holstein herd; animals of all ages to select from. Please let us hear from you.
HOMESTEAD FARMS, Bloomingdale, Mich.

8th Annual Sale 8th 80 Holstein-Friesian Cattle 80

To Be Held

April 25, 1918, at Howell, Mich.

by

The Howell Consignment Sale Co.

These Cattle are a high class of stock nearly all are from one to four years old, bred in the most noted families individually fine, and bred to bulls of the 30 lb. kind. Catalogue ready.

Mark B. Curdy, Sec'y.
Col. Perry, Auctioneer.

"Top-Notch" HOLSTEINS

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

McPherson Farms Co., Howell, Mich.

GRADE UP YOUR COWS BUILD UP YOUR BANK ACCOUNT

You can do it. Others are turning losses into profits by grading up.

A PURE BRED HOLSTEIN BULL is the short cut to greater profits

In a recent test daughters of a purebred Holstein bull increased milk yield 94 per cent; granddaughters 245 per cent over scrub dams. Let us tell you about it.

Write for free information



No obligation—we have nothing we want to sell you.

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

OAK Leaf Farm. Herd sire Lenawee Pontiac Calamity King offer Registered Holstein bull calves from A. R. O. cows and sired by sire whose dam holds the milk and butter record in the state of Ind. 7 days milk 796.3, butter \$2.51—35.5 days milk 23782.3, butter 926.775.
E. H. GEARHART & SON, R. 4, Marcellus, Mich.

The Traverse Herd Great Values In Bulls

from A. R. O. Cows with records up to 30 lbs. Let us know your wants. We will send extended pedigrees and prices.

TRAVERSE CITY STATE HOSPITAL,
Traverse City, Michigan.

Stonyhurst Stock Farm

Bull born April 10th 1917. Dam a 13 lb. Junior 2 yr. dam of Maplecrest Korndyke Hengerveld whose dam and granddam both have yearly records of over 120 lbs. butter. Sire is King One whose dam has yearly record of 134.5 lbs. and her dam a yearly record at 11 years of over 1100 lbs. Bull is 3/4 white and as straight as a string. Priced cheap for immediate sale. Other good ones from \$75 up.
F. A. BARNETT & SONS, Rochester, Mich.

Holstein bull, nearly ready for service, large straight deep bodied, handsomely marked 3/4 white. His six nearest dams have A. R. O. records that average butter 7 days 24.13 milk 534 lbs. W. B. Reader, Howell, Mich.

The Pontiac Herd "Where the Champions come from"

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

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

\$225 takes your choice of heifers of a 30 lb bull due in May to a 23 lb. son of Johanna Korn, D. K. Terms if wanted.
M. L. McLAULIN, Redford, Michigan.

HOLSTEIN bull calves, eligible to registration, without papers, \$25 at 10 days of age, registered, \$50 to \$75.
Dewey C. Pierson, Hadley, Mich.

Registered Holstein bull calf, born Sept. 1917, dam daughter of 24 lb. cow, write for pedigree and price, F.O.B. your station.
E. E. STURGIS, R. 3, St. Johns, Mich.

Holstein calves, 25 heifers, & 2 bulls 15-18 lbs pure, 5 weeks old, beautifully marked, \$25 each, crated for shipment anywhere. Buy only the best.
EDGEWOOD FARMS, Whitewater, Wis.

Parkside Holstein bulls, 8 and 16 mo. Both sired by noted bull, 37 relatives are 30 lb. cows. Priced to sell.
J. E. TERRILL & SON, Charlotte, Mich.

HEREFORDS

10 bull calves for sale, Perfection Fairfax and Prince Donald breeding.

ALLEN BROS.,
PAW PAW, MICH.

Herefords Bob Fairfax 494027 at head of herd. 14 bulls for sale all ages either polled or horned.
EARL C. MCCARTY, Sec'y Mich. H. B. Ass'n, Bad Axe, Mich.

ONE 11 mo. old solid colored gr. son of Royal Majesty whose dam as a 3 yr. produced 406.24 lbs. of butter 1 yr. First check \$30.00 gets him, registered, transferred and delivered any point in Mich.
FRED BRENNAN Sec., Capac, Mich.

Choice Bulls ready for service. Also heifers for sale. Strong in the Blood of Royal Majesty. Come and see them or write for particulars.
THE WILDWOOD HERD,
Alvin Balden, Capac, Mich., Phone 143-6.

BROOKWATER FARM
2 Bulls
Ready for Service
Sired by better bred bulls and out of high testing dams.
The Producing Kind
with Jersey type and capacity. Prices reasonable. Also a few red gilts (Durocs) and boars.
Brookwater Farm,
J. Bruce Henderson, Mgr.
Ann Arbor, Mich.
R. 7.
REGISTER OF MERIT JERSEYS

To reduce herd of registered Jerseys we offer for sale a carload of cows & heifers. Herd free from Abortion & Tuberculosis.
H. C. & A. H. DONALDSON, Fenton, Mich.

JERSEY bull and bull calves for sale from R. of M. J. cows, also heifers and cows of all ages.
C. B. WEHNER, R. 6, Allegan, Mich.

FOR SALE Registered Jersey bull calves.
SMITH and PARKER, B. 4, Howell, Mich.

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

For Sale A fine, dark, solid color Jersey bull 16 mos. old. Double grandson of Royal Majesty and out of R. of M. cow.
C. & O. DEAKE, Ypsilanti, Mich.

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

BIDWELL SHORTHORNS

For Beef and Milk.

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

BIDWELL STOCK FARM,
Box B, Tecumseh, Mich.

Shorthorns—Dairy or beef bred. Breeding stock all ages for sale at farmers prices. C. W. Orum, Secy. Cent. Mich. Shorthorn Breeders' Ass'n, McBride, Mich.

Richland Farm Shorthorns.

IMP. Lorne in service. Grand Champion Bull of Mich. Special offer on 14 head of Shorthorns. Cows with calves at foot, heifers two years old and heifers one year old. Also a number of bull calves. We invite correspondence and inspection.

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

Francisco Farm Shorthorns

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

Fair Lawns Shorthorns

Yearling bulls by Canada's best sires: Missie Augusta 65678 and Imp. Newton Frier 528120.
LAURENCE P. OTTO, Charlotte, Mich.

Shorthorns. Registered heifers & cows heavy in calf to Master Sultan; few young females; farmers prices; milking strain.
HOBBIETON FARMS, Hart, Mich.

Shorthorns—Two bulls, 15 and 16 mo. By a grandson of Cyrus Clay.
COLLAR BROS., R. 2, Conklin, Mich.

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

Shorthorns Maxwilton Monarch 2nd. 38732 half brother to 5 Grand Champions in service.
JOHN SCHMIDT, R. 5, Reed City, Mich.

SON of Harthorh Welfare heads our herd of milk-Sing Shorthorns comprising Chiffley of Clay bred cows, young bulls ready for sale and service, write us
Liddel Bros., R. 2, Clinton, Mich., Macon Phone.

Grand Traverse Shorthorn Asso. Reg. stock for sale.
M. E. DUCKLES, Sec., Traverse City, Mich.

1867-1918 Maple Ridge Herd of Shorthorns Yearling heifers and bull calves for sale.
J. E. TANSWELL, Mason, Mich.

Shorthorns Four very desirable heifers 17 to 21 months old, and bull 8 mo. All roans. Price \$1000.
S. E. BOOTH, Morrice, Mich.

For Sale Reg. Shorthorn bull 6 mos. old Red, Rich bred one, \$200.
J. M. HICKS & SONS, R. 2, Williamston, Mich.

SHORTHORN: 1 bull 6 months old, 1 heifer 14 mos. Sold Registered in buyer's name, \$100 if taken soon.
H. W. MANN, Danville, Mich.

SHORTHORNS—20 bulls 2 to 18 mos., mostly from S. Dorthy's Sultan 483045, a grandson of Whitehall Sultan, also a few cows. C. Carlson, LeRoy, Mich.

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

Scotch Shorthorns for sale, 5 bulls ready for service.
John Lessiter's Sons, Orion, Mich., R. F. D.

Red Polls One yearling bull. Also bull calves by Lincoln Lad 2nd. For prices and description, write
Wells Parish & Sons, R. 3, West Olive, Mich.

Polled Durham Cattle 9 yearling bulls for sale.
J. A. DeGARMO, Muir, Mich.

Red Polled Cattle

best of breeding, Yorkshire pigs. E. S. Carr, Homer, Mich.

Cattle For Sale

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

HOGS.

DUBOIS Orion Chief Perfection No. 68945, and Jennings Pilot Wonder No. 73373. Two outstanding boars of big type and excellent quality. All selected large type smooth-sows. Thrifty, smooth, large-boned spring gilts from these herd boars and choice sows at very reasonable prices. The Jennings Farms, Bailey, Mich.

GREY TOWER FARM

Now offers for sale a few choice Holstein bull calves, from high testing dams, with good A. R. O. records, at farmers' prices, write us about them and our

Durocs & Berkshires

M. D. KITCHEN Mgr., Grass Lake, Mich.

Dobson's Durocs surplus stock all sold. Nothing doing till spring.
ORLO L. DOBSON, Quincy, Mich.

DUROCS

You want more size, feeding qualities. Fall boars ready for service. A few sows bred for June farrowing. NEWTON BARNHART, St. Johns, Mich.

Duroc Jerseys—boars of the large heavy boned type. Prize winning stock, prices reasonable, type and breeding considered, also gilts bred to Junior Champion boar for spring farrow. F. J. Drott, R. 1, Monroe, Mich.

DUROC JERSEYS

E. D. HEYDENBERG, Wayland, Mich.

Choice Duroc Jersey Gilts For Sale.
CAREY U. EDMONDS, Hastings, Mich.

Additional Stock Ads. on Page 511

Markets.

GRAINS AND SEEDS

April 9, 1918.

WHEAT.—The federal crop correspondents estimated the prospective yield of winter wheat at 560,000,000 bushels, which is 140,000,000 bushels more than the 1917 crop, and about 20,000,000 bushels greater than the average for 1911-1915. Cash wheat is very scarce, and the majority of mills are anxious about supplies. Farmers are now interested in field work and have little time for grain marketing. One year ago No. 2 red wheat was quoted locally at \$2.23 per bushel. The present prices are:

No. 2 red.....	\$2.17
No. 2 mixed.....	2.15
No. 2 white.....	2.15

CORN.—Our latest reports from the various grain markets show a general stiffening of corn prices. Values have generally been holding steady to higher, compared with last week. Receipts at elevators in the corn belt are not increasing, and from now on will probably decrease, while the demand is active and without doubt will continue so. Canada is anxious for corn both for seed purposes and for consumption. Our files show that corn was sold on the local market at \$1.41 per bushel a year ago. The latest Detroit quotations for cash corn are:

No. 3 corn.....	\$1.70
No. 3 yellow.....	1.75
No. 4 yellow.....	1.60
No. 5 yellow.....	1.35
No. 6 yellow.....	1.20

The Chicago market is strong with latest prices as follows:

No. 2 yellow.....	\$1.90@1.93
No. 3 yellow.....	1.65@1.73
No. 4 yellow.....	1.60@1.65

OATS.—Recent news from primary markets show that large quantities of oats have accumulated during the past week. There is also a feeling among dealers that farmers are holding a considerable quantity of this grain. Notwithstanding these opinions, prices have advanced about one cent during the week. Consumption of oats has never been as large as at present. The new crop is getting a good start. One year ago we quoted oats at 76½¢ for standard. The latest Detroit cash prices are:

Standard.....	.95
No. 3 white.....	.94½
No. 4 white.....	.93½

On the Chicago Exchange oats sold as follows:

No. 3 white.....	.92½@.93
Standard.....	.92½@.93½

RYE.—The federal crop report indicates 86,000,000 bushels for 1918, compared with 60,000,000 for last year, and 41,000,000 as an average for 1911-1915. The present market is a little easier, with prices for cash No. 2 as follows:

Detroit.....	\$2.78
Chicago.....	\$2.80@2.90

BEANS.—Bean prices continue to be rather disappointing as our market reports show no improvement in prices during the past week. There is, however, a firmer feeling in the trade, owing to the limited stocks in dealers' hands. Immediate and prompt shipment are quoted at \$11.50 per cwt. at Detroit. Chicago prices per cwt. are:

Hand-picked fancy.....	\$13@13.25
Red Kidney, fancy.....	14.00

SEEDS.—Market is active and the stocks are small.

Prime red clover.....	\$20.00
Alsike.....	15.25
Timothy.....	3.80

FLOUR AND FEEDS

FLOUR.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 pounds as follows:

Straight winter.....	\$11.00
Spring patent.....	11.30
Rye flour.....	14.00

FEEDS.—100-lb. sacks Jobbing lots:

Cracked corn.....	\$70.00
Coarse corn meal.....	70.00
Chopped Feed.....	56.00

HAY.—Market is easy and quiet. Prices in carlots at Detroit are:

No. 1 timothy.....	\$24.50@25
Standard timothy.....	23.50@24
Light mixed.....	23.50@24

Pittsburgh.—Our correspondent advises us that receipts are heavy; market stocked with poor hay, which depresses the value of good hay. All purchasers are awaiting lower prices.

No. 1 timothy.....	\$28.50@29.00
No. 2 timothy.....	24.00@25.00
No. 1 light mixed.....	24.50@25.50
No. 1 clover mxd.....	27.00@28.00
No. 1 clover.....	26.00@27.00

DAIRY PRODUCTS

BUTTER.—Butter is steady and supplies ample.

Fresh cream'y firsts.....39@39½

Fresh cream'y extras40@40½

Chicago.—Market lower but the demand for fresh is improving.

Creamery extras.....40

Extra firsts.....39@39½

Packing stock.....30@31

CHEESE.—Michigan flats 21½@22; brick 25c; Michigan daisies 22c; domestic Swiss 35@40c; limburger 28½@29½c per pound.

DRESSED CALVES.—Fancy at 21@22c; choice 20c; common 19c.

DRESSED HOGS.—Best 21@22c per pound.

POULTRY PRODUCTS

POULTRY.—(Live).—Poultry is in demand and market is firm.

Spring chickens.....34@35

Old roosters.....24

Ducks.....34@35

Fat geese.....30

Turkeys.....34@35

Chicago.—(Live).—The demand for young stock is good; others are not wanted.

Fowls.....23@31

Ducks.....31

Geese.....28

EGGS.—Receipts are heavy and the prices lower. Dealers expect buying for storage will soon begin. Fresh firsts 32@33c.

Chicago.—While demand is good, there is a surplus and prices are lower.

Fresh Mich. firsts.....31

Ordinary firsts.....30@31

Misc., (cases inc.)...30@31

VEGETABLES

(Quotations furnished by the U. S. Department of Agriculture, Bureau of Markets, Detroit, Office).

POTATOES.—Wires from all the important potato markets east of the Rocky Mountains show that another week has passed without any general improvement in the potato situation. Except in a few instances, the markets are ruling from steady to weak. Generally speaking, prices rule about 10c below those of last week. There were 26 cars on the Detroit market Tuesday morning. Below is given the condition of trade and the jobbing prices paid per cwt. for round whites U. S. Grade No. 1 at the markets mentioned:

Detroit (steady).....\$1.10@1.20

Cleveland (steady) 1.25@1.35

Buffalo (slow).....1.50@1.55

New York (mod.)...1.80@2.00

Wash. (stronger)...1.75@1.83

Pittsburgh (fair)...1.35@1.40

Cincinnati (weak)...1.20@1.25

Indianapolis (weak) 1.30

Chicago (stronger) 1.05@1.10

Farmers are receiving from their wagons at sidetrack at country points in Michigan from 60@90c per cwt. In Wisconsin prices to producers are 60@70c; and for bulk, ungraded to starch factories 45@50c; in New York state \$1.10@1.25; no sales are reported from Maine. The area planted in Florida to Irish potatoes this year is estimated at 32,730 acres compared with 19,344 acres in 1917.

WOOL

Seaboard agents tell us that the wool trade is growing stronger and stronger even in the face of the regular shearing season of the country. Fleeces are practically sold out. Buyers are not going to the producing states, we understand, as in former years, since they do not know what attitude the government will take regarding the distribution of the new crop of wool. Producers, however, must look well to their own interests and accept with caution advances from unscrupulous buyers who intimate lower prices through alleged government regulations. The year should bring to the wool growers record prices to cover the season's record cost of production.

DETROIT CITY MARKET

Our representative found a larger market than he did last week, with potatoes selling at 60@75c per bushel; parsnips \$1; cabbage 1.25@1.50; turnips 75c@1; carrots 60c; apples of inferior quality, mostly Ben Davis, sold at 75c@1.25; lettuce \$1; rhubarb \$1 per dozen; eggs 40c.

GRAND RAPIDS

The potato market continues weak and the movement slow, though carlot shipments from the state are now about equal to the movement from

Maine, Wisconsin and Minnesota. The bureau of markets reports bulk potatoes, No. 1, selling at 60@80c, the top figure being quoted on the Greenville market. A. M. Smith, of Lake City, president of the State Potato Growers' Association, has gone to Washington to see what can be done about a better supply of cars and about a bigger business with the army cantonments. The egg market continues at 33@34c. Apples range from \$1.50@2.25; onions 50@75c per cwt; cabbage \$3@4 per cwt; hothouse lettuce 10c per pound.

LIVE STOCK

BUFFALO.

April 8, 1918.

Cattle. Receipts 125 cars; market 25@40c higher; best shipping steers \$14@14.65; fair to good \$13@13.50; yearlings \$13@13.50; best handy steers \$12@12.50; fair to good \$10.75@11.50; handy steers and heifers mixed \$11.25@11.75; light butcher steers \$10.75@11.25; western heifers \$11.25@12.50; best fat cows \$11@12; butchers' cows \$9@10; canners \$5.25@6.25; cutters \$6.75@7.25; grazing cows \$6.50@7.50; fancy bulls \$10.75@11.25; butchering bulls \$8.75@9.75; common bulls \$8.25@8.75; feeding steers \$8@10; stockers \$8@9; milkers and springs \$75@150.

Hogs. Receipts 70 cars; market 25c lower; heavy \$18.25@18.40; yorkers \$18.50; pigs and lights \$18@18.25.

Sheep and Lambs. Receipts 25 cars; market strong; wool lambs \$20@20.75; clipped lambs \$17@18; yearlings \$17@18.75; wethers \$16.50@17; ewes \$15@15.50.

Calves. Receipts 3,500; market 15c lower; tops \$17; fed calves \$7@7.50.

CHICAGO.

April 8, 1918.

Our special representative at the Chicago Stock Yards reports:

Cattle. Receipts. Monday, this week.....25,000
Total, last week.....58,891
Total, preceding week.....67,288
Total, week year ago.....39,446

Cattle averaged 75c higher last week because of greatly reduced receipts, and the best sold at a further advance of 15c today. The bulk of the steers sold last week at \$13@15, with the late extreme range at \$10.50@15.50, while there were several sales today at \$15.55@15.65. A new high mark was reached the other day when a load of Angus feeders averaging 1,050 lbs. brought \$13.90, with stockers and feeders selling mostly at \$9@11.50. Prime veal calves advanced to \$17, but sold off to \$16 today. The best beefs are selling at the highest prices ever known in April, and no good steers are sold below \$14.25. Canner and cutter cows sell at \$7@7.95 and butchering cows and heifers at \$8@13.50, and no weighty steers go below \$14.50. A year ago steers brought \$8.65@13.15, and three years ago they sold at \$5.60@8.90.

Hogs. Receipts. Monday, this week.....68,000
Total, last week.....161,355
Total, previous week.....228,702
Total, week year ago.....120,741

Last week's market was higher because of the great falling off in receipts, with good buying orders, and on Saturday sales were at \$16.45@17.95, aside from small lots of rough packers at lower figures, while pigs brought \$13@16.75, feeding pigs going as high as \$17. A week earlier the best hogs brought \$17.50. Today's liberal supply caused an average break of about 20c, the top being \$17.75. Hogs received last week averaged 241 pounds. Light hogs top the market, with prime heavy lots at a discount of about 40c from top figures.

Sheep and Lambs. Receipts.

Monday, this week.....13,000
Total, last week.....43,170
Total, preceding week.....57,204
Total week, year ago.....75,063

Lambs advanced mostly \$1 per 100 pounds last week, with top figures the highest on record, and today there was a small further advance in woolled lambs and a sharp rise in prime clipped lots, the best woolled killers bringing \$20.65 and the best clipped \$17.85, while prime ewe breeding lambs brought \$21 and prime shearing lambs \$20.25. Wyoming woolled ewes are bringing \$16.65, breaking the record, as do shorn Michigan yearlings at \$16.50.

MICHIGAN CROP REPORT.

Wheat.—The condition of wheat on April 1 in the state was 70, in the southern counties 64, in the central counties 71, in the northern counties 79 and in the upper peninsula 95. The

condition one year ago was in the state 82, in the southern counties 78, in the central counties 81, in the northern counties 92 and in the upper peninsula 98.

Rye.—The average condition of rye in the state is 77, in the southern counties 73, in the central counties 78, in the northern counties 83 and in the upper peninsula 96. One year ago the condition in the state and central counties was 86, in the southern counties 81, in the northern counties 95 and in the upper peninsula 99.

Fruit.—The following table shows the prospect for an average crop of the various kinds of fruit in the state and the different sections.

		Sou. Cen. Nor. Up.			
	State.	Co's	Co's	Co's	Pen.
Apples.....	77	75	82	76	98
Pears.....	74	73	77	72	82
Peaches.....	21	18	30	16	..
Plums.....	71	70	78	66	85
Cherries.....	82	82	83	81	99
Small fruit....	79	78	82	79	95

Cutter's

Germ Free

Blackleg Filtrate

and

Blackleg Tissue

Aggressin

*The New, Safe
and Efficient Agents
for Protecting Calves
from Blackleg.*

Cutter's Blackleg Filtrate positively protects against Blackleg.

Cutter's Blackleg Aggressin, made directly from animal tissues, affords even greater protection and is recommended for Pure Breds.

Neither the Filtrate nor the Aggressin can possibly produce Blackleg in even the most susceptible animals since both are germ free.

Both have given 100% protection wherever used.

Prices—
10 dose pkge. Filtrate.....\$2.00
50 " " " ".....8.00
100 " " " ".....15.00
10 dose pkge. Tissue Aggressin.....4.00

N. B.—Cutter's Filtrate (a "cultural product" aggressin) is full 5 c.c. to the dose, as we believe that smaller doses, whether concentrated or not, afford less protection.

Write for booklet telling what germ free vaccines are and wherein "cultural product" Aggressin differ from Cutter's Aggressin made from animal tissues.

While these new "germ free vaccines" have advantages that should be known to every stock raiser, we see no reason for a quick change to them by stock raisers who have had satisfactory results from the use of

CUTTER'S BLACKLEG PILLS

*"California's Favorite"
for nearly 20 years*

Year in and Year Out they have given better satisfaction than any other vaccine made, and as far as price and convenience of administration are concerned, they have all the advantage.

Prices:
10 dose pkge. Single pills \$1.00
50 " " " ".....4.00
10 dose pkge. Double Pills 1.50
50 " " " ".....6.00
Cutter's Pill Injector.....1.50

Insist on Cutter products. If unobtainable, order direct. We pay shipping charges.

The Cutter Laboratory, Berkeley, Calif.
(U. S. LICENSED)

"The Laboratory That Knows How"

The Cutter Laboratory of Illinois, Chicago
Eastern Agent

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 MARKETS.

Thursday's Market.

April 11, 1918.

Cattle.

Receipts 1881. Market strong at last week's prices on all grades.

Best heavy steers \$12.50@14; best handy weight butcher steers \$11@12; mixed steers and heifers \$10@11; handy light butchers \$9.50@10.50; light butchers \$8.50@9; best cows \$9@10; butcher cows \$8@8.50; cutters \$7.25@7.50; canners \$6.50@7; best heavy bulls \$9.50@10; bologna bulls \$8.25@8.75; stock bulls \$7.50@8; feeders \$9@10; stockers \$7@9; milkers and springers \$6@10.

Bishop, B. & H. sold Newton P. Co. 3 steers av 1340 at \$13.10, 2 cows av 1000 at \$8.50, 2 do av 785 at \$7, 2 steers av 950 at \$10.25, do wgh 680 at \$8.25; to Converse 10 cutters av 769 at \$7.25, 6 do av 793 at \$7.25, 5 do av 800 at \$7.25, 3 do av 1040 at \$7.25; to Hyman 2 steers av 560 at \$9, 1 cow wgh 1100 at \$8; to Sullivan P. Co. 6 do av 896 at \$8.25, 4 do av 840 at \$8, 3 do av 1170 at \$8.50, 2 bulls av 1335 at \$8.65; to Parker, W. & Co. 19 steers av 974 at \$11.50, 19 do av 947 at \$11.75, 10 do av 1047 at \$11, 20 do av 822 at \$10; to Hammond, S. & Co. 15 steers av 960 at \$11.25, 22 do av 924 at \$11, 15 do av 828 at \$10.75; to Walk 2 do av 950 at \$10.50, 6 do av 903 at \$10, 1 bull wgh 1880 at \$9; to Kamman B. Co. 10 steers av 1012 at \$12; to Ratner 1 bull wgh 1460 at \$10; to Thompson 1 do wgh 1280 at \$8; to Rattkowsky 4 cows av 875 at \$8.25; to Converse 4 cutters av 922 at \$7, 7 do av 671 at \$7, 7 do av 817 at \$7; to Bresnahan & K. 27 butchers av 602 at \$8; to Ratner 14 steers av 930 at \$11, 1 do wgh 950 at \$10.50; to Newton P. Co. 22 do av 1080 at \$12.75, 3 cows av 943 at \$8.25, 9 do av 825 at \$7, 1 bull wgh 1060 at \$8.25, 2 do av 1090 at \$9, 3 cows av 757 at \$7.

Erwin, S. & J. sold Hammond, S. & Co. 17 steers av 1143 at \$12.35; to Bray 11 canners av 950 at \$7, 1 do wgh 1250 at \$6.85, 5 cows av 1114 at \$9.25, 4 do av 932 at \$8; to Thompson 1 bull wgh 920 at \$8.50, 13 steers av 1119 at \$11.75, 15 do av 957 at \$11.25, 1 bull wgh 1770 at \$11.25; to Newton P. Co. 1 do wgh 1040 at \$8.50, 1 do wgh 850 at \$10; to Rattkowsky 1 heifer wgh 550 at \$8.50; to Newton P. Co. 4 steers av 935 at \$12, 1 do wgh 970 at \$10, 8 do av 906 at \$10, 6 do av 1163 at \$12.25, 2 do av 775 at \$8; to Thompson 1 do wgh 590 at \$10, 3 do av 953 at \$11.35, 3 do av 717 at \$10, 1 bull wgh 680 at \$8; to Bray 17 steers av 745 at \$10.50, 3 cows av 900 at \$8.50, 4 do av 950 at \$7.25, 20 do av 977 at \$11.50, 7 do av 720 at \$9.50, 1 bull wgh 1580 at \$9; to Newton P. Co. 5 steers av 1064 at \$11.25, 8 do av 1056 at \$12.30, 1 bull wgh 900 at \$10, 7 steers av 1010 at \$12.75, 14 do av 781 at \$10; to Hirschman 18 do av 844 at \$11.75; to Mason B. Co. 8 do av 744 at \$10.85; to Thompson 2 do av 985 at \$11.35; to Newton P. Co. 1 bull wgh 1250 at \$8.75; to Kamman B. Co. 2 cows av 1170 at \$9.75.

Veal Calves.

Receipts 956. Market 50c@1 lower than last week. Best \$15.50@16; culls \$11@13; heavy \$8@10.

Sandel, S. B. & G. sold Mich. B. Co. 35 av 125 at \$16; to Fineman 7 av 170 at \$17, 14 av 130 at \$13.50; to Rattkowsky 13 av 130 at \$16.50, 2 av 245 at \$9, 2 av 160 at \$17, 1 wgh 115 at \$13; to Rattkowsky 3 av 107 at \$13.50, 2 av 135 at \$10, 4 av 140 at \$15; to Dobrowsky 5 av 120 at \$13, 10 av 145 at \$16; to Garber 4 av 150 at \$17; to Rattkowsky 2 av 235 at \$10, 4 av 140 at \$15, 1 wgh 180 at \$13; to Thompson 3 av 175 at \$17; to Fineman 14 av 140 at \$15.75; to Sullivan P. Co. 14 av 135 at \$15.50, 18 av 145 at \$16; to Rattkowsky 3 av 160 at \$16, 3 av 140 at \$16; to Dowbrowsky 5 av 155 at \$16.

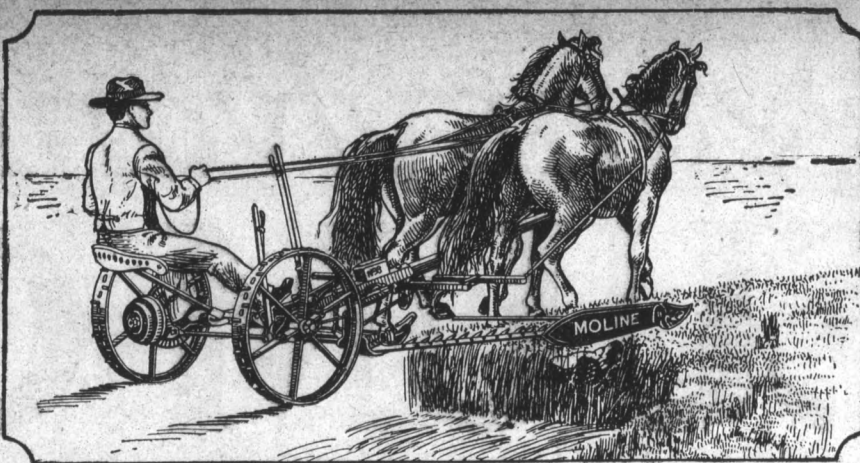
Sheep and Lambs.

Receipts 1091. Market strong; quotations are for clipped stock. Best lambs \$16.50@16.60; fair lambs \$15@15.50; light to common lambs \$11@13; fair to good sheep \$10@12; culls and common \$7@9.

Erwin, S. & J. sold Sullivan P. Co. 21 lambs av 65 at \$15.50, 161 do av 75 at \$16.25, 12 do av 82 at \$16.50, 4 wool lambs av 108 at \$19, 17 do av 80 at \$19, 129 sheep av 90 at \$13; to Hammond, S. & Co. 63 lambs av 75 at \$16.60; to Nagle P. Co. 59 do av 70 at \$16.25, 6 do av 52 at \$11.

Hogs.

Receipts 4064. Market 10@15c higher; mixed grades \$17.75@17.90; a few extra at \$18; good pigs \$17.25@17.50.



Use the Moline Mower for Tough Heavy Cutting

On the rear of the Moline Mower you will notice a bell shaped gear. When this gear gets into motion it has the same effect on the sickle as a fly wheel on any machine and carries the mower through heavy and difficult cutting where other mowers fail. You can always depend on the Moline.

This is the same principle that was used on the old Adriance Buckeye Mower 60 years ago, and you won't find it on any other mower on the market. In fact, this mower is the old original Buckeye, now called the Moline Mower, and is greatly improved. Every user of a Moline Mower profits by these years of service and knows his Moline Mower will not fail him in a "pinch."

MOLINE LINE

Corn Planters, Cotton Planters, Cultivators, Corn Binders, Grain Binders, Grain Drills, Harrows, Hay Loaders, Hay Rakes, Lime Sowers, Listers, Manure Spreaders, Mowers, Plows (chilled and steel), Reapers, Scales, Seeders, Stalk Cutters, Tractors, Farm Trucks, Wagons and Stephens Salient Six Automobiles.

Other features such as, one-piece main frame; cold rolled steel axle and shaft; pawls and ratchets in plain view; coupling frame hinges which will not bind; five-inch driving wheels, extra heavy cutting parts; removable wearing plates; alignment device for the cutter bar; spring draft; forward acting foot lever and many other distinctive features, carry the Moline Mower through tough cutting year after year.

It will be worth a whole lot to you to have a Moline Mower at work on your farm. Remember when you get a Moline Mower you get the product of one of the oldest and most reliable concerns in the business. This means that you can always get repairs for a Moline Mower.

Your Moline dealer will be glad to show you the Moline Mower or if there is no Moline dealer in your locality write us for full information. Address Dept. 42.

MOLINE PLOW CO. ILLINOIS
MANUFACTURERS OF QUALITY FARM IMPLEMENTS SINCE 1865

SEED CORN

No necessity of farmers going short of good seed corn for this spring's planting as we have for distribution a quantity of good early Yellow Dent seed corn of good germination and suitable for planting in Western Michigan.

We are handling this corn for the state without net profit to ourselves and are authorized to sell it at five dollars per bushel.

\$5.00 PER BUSHEL

of 70 Lbs. Ears

Sacks extra at 25c each and put up one bu. to the bag

Order Early as the Supply is Limited

Orders Will be Filled in the Order in Which they are Received.

NO CHARGE FOR CARTAGE.

Alfred J. Brown Seed Company,
Distributors, Grand Rapids, Mich.

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Wet Beans

We Buy Them. Send Exact Sample In Tin Can. Cull Beans For Sale.

W. L. IRELAND & CO., Grand Ledge, Mich.

EGGS

Production well started, general quality, fine. For a few months it will be hard to get any premium. Will do best we can although may have to stop paying premiums until loss of season sets in. Keep shipments coming.

AMERICAN BUTTER & CHEESE COMPANY, Detroit, Mich.

HAY

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Daniel McCaffrey's Sons,

623-625 Wabash Bldg., Pittsburgh, Pa.

HOGS

Duroc fall boars sired by Orimison Critic T., Satisfaction and Brookwater Principal, priced right. Bred sows all sold. M. C. TAYLOR, Milan, Mich.

Durocs Can spare two or three bred daughters of Joe Orion 2nd and the \$5000 boar. A. FLEMING, Lake, Mich.

Duroc Jerseys Why don't you order a pig and raise an extra good boar or gilts for yourself. E. E. OALKINS, Ann Arbor, Mich.

DUROCS service boars, bred sows, fall pigs. Express paid. J. E. BANGHART, E. Lansing, Mich.

Duroc Jerseys: Sept. boar pigs for sale at farmers' prices. J. D. CRANE & SON, Plainwell, Mich.

Chester Gilts bred for March farrow early fall pigs both sexes from best blood lines. F. W. ALEXANDER, Vassar, Mich.

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. & Chester White Swine. Strictly Big Type with quality. Bred sows & gilts are all sold, two boars fit for service good ones. Also have a few fall pigs left, either sex. I will ship O. I. C. D. NEWMAN'S STOCK FARM, R. 1, Marlette, 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

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

O. I. C.'s 2 choice May boars & Sept. & Oct. pigs sired by First Premium boar Mich. State Fair 1917. Clover Leaf Stock Farm, R. 1, Monroe, Mich.

O. I. C.'s big type, one yearling sow and gilts to farrow in Apr. and May. Aug. and Sept. boar pigs. G. P. ANDREWS, Dansville, Michigan.

O. I. C.'s all sold except some fall gilts. Order your spring pigs now. C. J. THOMPSON, Rockford, Mich.

O. I. C.'s Last spring gilts bred for next spring farrow also last fall pigs either sex and not akin. Good growthy stock 1/2 mile west of Depot, Citizens phone 124. Otto B. Schulze, Nashville, Mich.

O. I. C. For sale fall gilts and a few gilts bred for June farrow. F. C. BURGESS, Mason, Mich. R. F. D.

FOR SALE

Smooth Jumbo a grandson of Peter Mow's old boar Smooth Jumbo a 600 lb. yearling. A top notcher fit to head any herd. Also some nice bred gilts at \$50. If you get one you will have to hurry. J. C. BUTLER, Portland, Michigan.

Large Type P. C. no public sale this year; 50 sows and 10 gilts all queens of the breed go at private treaty. W. J. HAGELSHAW, Augusta, Mich.

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

Big Type P. C. bred for March & April farrow sired by Peter's Jumbo & Grand Superba and 2 or 3 yearling sows at bargain prices. C. E. Garnant, Eaton Rapids, Mich.

Large Type P. C.

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

LEONARD'S Bred sows all sold, fall pigs, orders booked for spring pigs at weaning time. Shipped C. O. D. E. R. LEONARD, St. Louis, Mich.

P. C. Sows For Sale. Bred for April farrow. Prices reasonable. A. A. WOOD & SON, Saline, Mich.

Large Type P. C. fall gilts, sire 800 lb. yearling to be bred to 1000 lb. 2 year old for July & Aug. 2 extra good fall boars. W. M. J. CLARKE, R. 7, Mason, Mich.

BIG TYPE POLAND CHINAS. Booking orders for G. W. HOLTON, R. 11, Kalamazoo, Mich.

Large Strain, P. C. A few gilts left bred for June farrow and 2 nice boars ready for service at farmers prices. H. O. SWARTZ, Shoolcraft, Mich.

BIG TYPE Poland Chinas: Bred sows all sold. Have a few fall pigs. Prices right. L. W. BARNES & SON, Byron, Mich.

Yorkshire Gilts Bred for spring farrowing. Bacon is high in price. Yorkshires make bacon; buy Yorkshires. Waterman & Waterman, Packard Road, Ann Arbor, Mich.

Hampshire Boars at a bargain. Booking orders for Spring pigs. JOHN W. SNYDER, R. 4, St. Johns, Mich.

HORSES

REGISTERED PERCHERON Mares and Stallions priced to sell. Inspection invited. L. C. HUNT, EATON RAPIDS, MICH.

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 Black Reg. Percheron Stallion 4 yrs. weight 1900. Sound and a show horse. a bargain if taken soon. BIRD & MUNSON, St. John, Mich.

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

For Sale Three Percheron Stallions and three Percheron mares at farmers' prices. E. J. ALDRICH, Tekonsha, Mich. Bell Phone.

Percheron Stallions and mares of reasonable prices; inspection invited. F. L. KING & SON, Charlotte, Mich.

For Sale 1 registered 4 year old Clydesdale mare also a 3 yr. old Reg. Clydesdale Stallion. D. T. KNIGHT, R. 1, Marlette, Mich.

For Sale Registered Percheron mare four years old, heavy in foal. Color dark gray. Weight about 1400. ALFRED ALLEN, Mason, Mich.

Two Large young Jennets cheap, and some Shetland Ponies and several good fox hounds. W. E. LEOKY, Holmesville, Ohio

Belgian Stallions. Priced to sell. State Licensed. Send for photos. CHAS. M. SEELEY, Three Rivers, Mich.

SHEEP

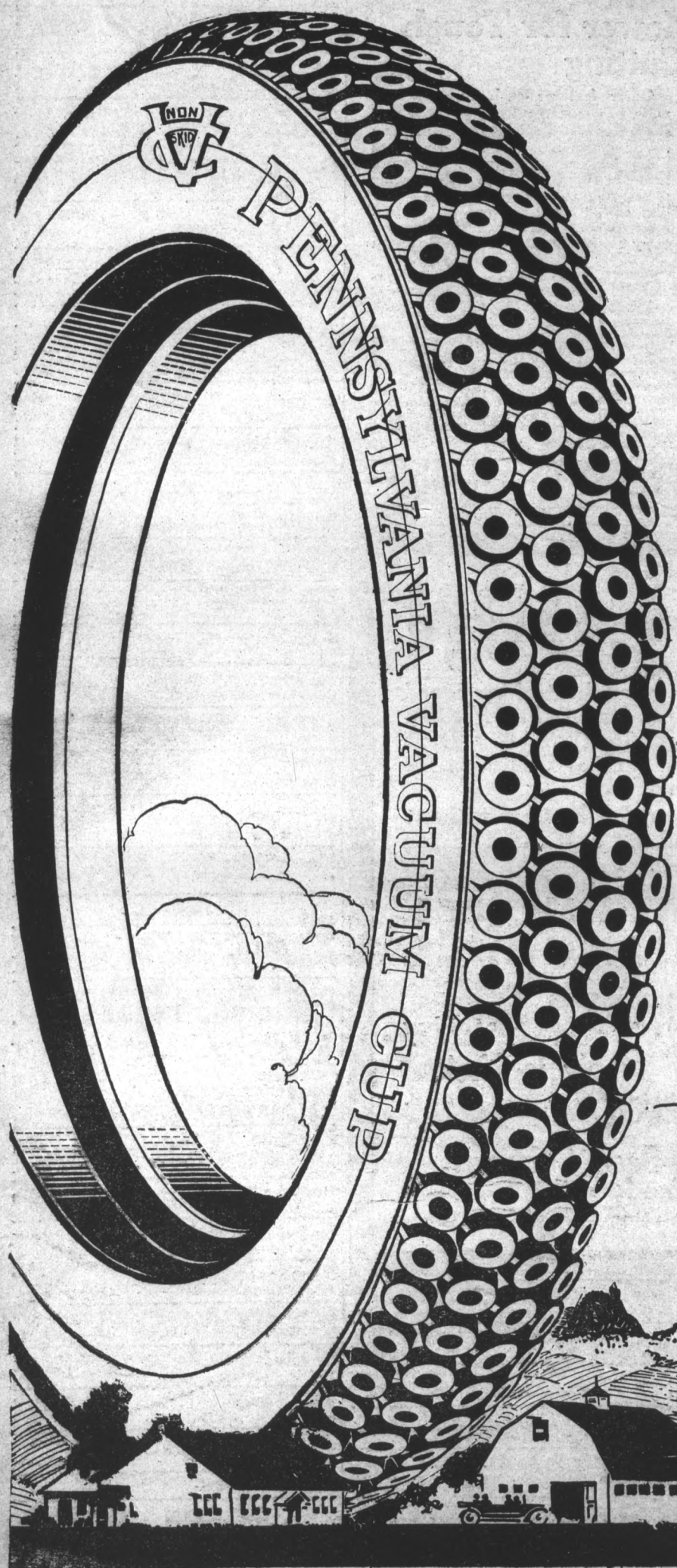
KOPE-KON FARMS.

Coldwater, Mich.

Hampshires & Shropshires. It's a wise man who orders his ram for August delivery now.

About July 1 we will offer for sale choice Shropshire Rams. ARMSTRONG BROS., R. 3, Fowlerville, Mich.

Pennsylvania **VACUUM CUP TIRES**



IT is in the country, on roads that bite and grind, that the extra tough tread of Vacuum Cup Tires shows to greatest advantage.

The quality and the superconstruction offer the greatest resistance to wear.

Long after ordinary tires become useless, Vacuum Cup Tires roll on and on, piling up a mileage total that truly represents the national spirit of economy and thrift.

And this spirit is all the more emphasized by the moderate cost of Vacuum Cup Tires. They cost approximately the same as ordinary 3,500 mile tires and much less than any other make carrying anything like equal mileage assurance.

Despite their low cost, Vacuum Cup Tires are *guaranteed* — per warranty tag — for

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