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Success Versus Failure With Clover

EVERY practical farmer knows that good stands and luxuriant growth of clover are basic essentials of permanent soil fertility and profitable yields of other crops. Clover plays an important part in the crop rotation on every successful Michigan farm, but on many farms the failure of the clover crop has come to be altogether too common, and on far too many farms the good clover seeding and luxuriant crop of hay or pasture is the exception rather than the rule.

The cause of the failure of clover seedings is a question upon which farmers will not agree nearly as well as they will upon the universal need and value of clover upon their farms. Quite generally the failure of the clover crop is ascribed to a midsummer drouth, an untimely freeze, a hard winter, or other conditions which are beyond the farmer's control. In a very much larger proportion of cases, however, the real cause of the failure of the clover crop is to be found in the condition of the soil rather than the state of the weather.

While the great value of the clover crop in maintaining soil fertility has long been known, the real reason for its especial value as a soil improver is a matter of comparatively recent discovery, although now familiar to every farmer. Not only the fertilizing value of the clover crop, but the securing of a successful stand of clover and a good growth of the plants is dependent upon the presence of root nodules which are formed by bacteria, an elementary species of plant life for which clover is the host plant. It has become a matter of common knowledge to every farmer that where these bacteria are present, as evidenced by the little nodules on the clover roots, they convert free nitrogen from the air circulating in the soil, absorbed for their own life processes, into a stable and valuable plant food for the use of the plant on which they make their home, and through that plant leave a residue of this important element of plant food in available form for the use of succeeding crops.

Acid Soils vs. Clover.

It has quite recently been established that these essential bacteria grow

An Object Lesson Showing Beneficial Results From Applying Marl to Correct Soil Acidity

and thrive only when soil conditions are such as to favor their propagation and development. The first essential of their growth has been determined to be an alkaline or at least a neutral soil condition. Upon soils which have been tilled for many years, from which much of the mineral salts, particularly lime, have been leached or exhausted by plant growth, a condition has developed which for the want of a better term is generally designated as soil acidity. It has also been found that

found quite as effectual in overcoming this difficulty as in the preparation of the soil for the successful growing of alfalfa. With scarcely an exception, the farmers of Michigan who have become convinced of this fact, and have used lime in any form as a soil amendment, have had such satisfactory results that their neighbors have been interested observers, and the use of lime upon the older lands, and particularly lands with good natural drainage has rapidly increased in recent years, and



Fig. 1. An Excellent Seeding of Clover on a Light Sandy Field to which Marl was Applied, on the Farm of S. A. Foster, of Ingham County.

by the addition of lime in almost any of its numerous forms, the soil could be amended in a manner which restored the condition favorable to the development of these nitrogen-fixing bacteria which are so essential to the success of clover and all other legumes, and that as a result good stands of clover could again be secured as easily as was the case when the land was first brought under cultivation.

On very many Michigan soils this treatment has been found to be an absolute requirement for the successful growing of alfalfa, and in a great majority of the cases where the failure of clover seedings is a frequent occurrence, similar treatment has been

promises to become a general practice, to the great advantage of Michigan agriculture.

Utilize Nature's Gift.

Fortunately Nature has placed right at hand one of the very best forms of lime for use as a soil amendment in the marl deposits which are so numerous in many localities of this state. In many cases the moving of the marl is a problem of more or less difficult solution, but in other and more favored localities it is readily available at or near the surface in locations where it can be readily shoveled directly into a wagon or spreader and hauled onto the land. Wherever this has been tried upon soils needing such amendment,

the results have been at once apparent, and in many cases most startling.

One such case is shown in the accompanying illustrations from a series of experiments with marl which have been carried on on the farm of Mr. S. A. Foster, of Ingham county, in cooperation with the Michigan Agricultural College. On the experiment plots shown in the accompanying illustration, marl was used alone and in combination with manure, acid phosphate and rock phosphate. The soil in these plots is a very fine grained and deep sand upon which it had become very difficult to get good seedings of clover. In Figs. 2 and 3 the marked difference between the check plot and those which had received an application of marl is very apparent. Fig. 1 shows a view of similar soil on which an excellent and uniform stand of clover is now growing after a liberal application of marl. In these experiments finely ground marl gave slightly better results than the raw marl, while both gave a much better growth of grain than did the check plot. The plot on which ground marl was used gave a total product of straw and grain which amounted to 3,234 pounds. The plot on which raw marl was used gave a total yield of 2,920.5 pounds, while the check plot to which no application was made gave a total yield of 2,324.5 pounds. It will thus be seen that the crop with which the clover was seeded was very greatly benefited by the application of the marl, while the difference in the stand of clover is very marked, as revealed by the accompanying illustrations.

Object Lessons Are Convincing.

In conducting a demonstration of this kind adjacent to a public highway, Mr. Foster will undoubtedly direct the general attention of the farmers in his community, and of the casual traveler, to the value of marl as a soil amendment in a manner which will greatly stimulate its use in that locality. Similar object lessons will serve a similar purpose in other sections of the state, not alone where marl is used, but where ground limestone or other forms of lime are used for a similar purpose.

(Continued on page 352).



Fig. 2. Check-plot and Marled Plot in Mr. Foster's Experiments.



Fig. 3. Looking Across the Experiment Plots. Check Plot in Foreground.

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DETROIT, OCTOBER 20, 1917



CURRENT COMMENT.

Buy Liberty Bonds Now.

Some of the boys from your neighborhood have been called to the ranks of the national army, others are liable to call for future contingents of that army which is being raised to defend the principles of liberty. If they are to be well fed, well clothed, well equipped and well prepared in every way for the early winning of the war, the government must have the financial aid of every loyal citizen. Indeed, if the second Liberty Loan is oversubscribed as was the first, the governments of the central powers will no longer be able to deceive their people into believing that the citizens of America are not loyally supporting their government in this conflict. It is believed in official circles that peace feelers are being thrown out by the central powers with a view of discouraging popular subscriptions to this great loan in the belief that the war is about over, but there is no one thing that will shorten the war so effectually as the liberal purchase of Liberty Bonds in small as well as large denominations by the people of every class in the entire country.

All the factory workers have subscribed liberally, and big business is expected to do its share even to the using of its credit at the banks as a means of securing the necessary funds. There is just as much reason why country people should subscribe to this loan as why the workers or capitalists of the cities should subscribe.

In fact, even if it were not for the patriotic consideration involved, every farmer who has even a small amount of free capital to invest would find it to his advantage to buy these Liberty bonds. They are the safest possible investment; they bear four per cent interest and are free from all taxes to the purchaser of small income; they can be deposited in your banker's safe and used as collateral for the loaning of needed funds in any case of emergency. Savings cannot be invested to better advantage than in this second issue of Liberty Bonds, nor can the citizen who is able to purchase even a single bond of the smallest denomination who does not subscribe, make a

legitimate claim to principles of patriotism.

Do not wait for some more patriotic citizen to solicit your subscription, but go to your banker at once for as many bonds and of as large denomination as your means will permit. Only two per cent of the purchase price need be paid with the application. Further payments of eighteen per cent will become due on November 14, forty per cent on December 15, and forty per cent on January 15, 1918. Subscribe for all the bonds you can. Do it now.

Michigan Crop Conditions.

Notwithstanding the early frost and consequent damage to the crops in some sections of the state, the general condition of Michigan crops as reported by the Bureau of Estimates of the United States Department of Agriculture for October 1 is approximately normal for this season of the year. The composite condition of all crops in Michigan is given as 99.5 per cent of the average for October 1. This is a decline of 6.4 per cent from the September 1 estimate, which may be fairly taken to represent the damage done by the untimely frost which damaged crops in some sections. This per cent is probably in excess of the actual loss, since the crop correspondents' estimates were made at the time when the frost damage showed up at its worst, and there was a general inclination to make an exaggerated estimate of the damage actually done.

Corn that was badly frosted mostly went into the silo soon after the damage occurred, which reduced the loss to a minimum. Fortunately, Michigan farmers were well equipped to minimize the loss to the corn crop in this manner, on account of the large number of silos which have been erected in the state. A recent federal estimate places Michigan as third of all the states in the Union in the number of silos in use, the total number for Michigan being estimated at 33,000.

That damage to other crops was also exaggerated in the early estimates is indicated by the comparatively small decline in crop conditions as compared with the September 1 estimate and the satisfactory showing made by Michigan's average of 99.5 per cent of normal, as compared to 102.4 per cent in the United States. The largely increased income for Michigan farmers is indicated by the index figures of price levels for the principal crops as shown by the October report. On October 1 the index figures of prices was about 69.3 per cent higher than a year ago, 116.1 per cent higher than two years ago, and 104.1 per cent higher than the average of the last nine years on October 1. On September 15 the index figure for prices of meat animals was about 52.7 per cent higher than a year ago, 88.9 per cent higher than two years ago and 81.2 per cent higher than the average of the last seven years on September 15. Altogether, indicated crop conditions in Michigan are a matter of congratulation to the farmers of the state and the consumers of the country.

Gather the Scrap Metal.

The United States Geological Survey Department of the Interior in a recently published bulletin calls the attention of the farmers of the country to the shortage in the supply of iron and steel which the country must have in increasing amounts if the war is to be won, and to the fact that the saving and marketing of all scrap metal by the farmers of the country will help to meet the present serious deficiency. While most farmers finally save and market the scrap metal which accumulates on their farms, yet this is generally done spasmodically rather than systematically.

Under present conditions the price of scrap metal is much higher than any price which farmers have been ac-

customed to receive, and it will not only be preferable to gather up the scrap metal closely, but it will be a patriotic act as well, since there will be a saving, not only in the increased material available, but in the amount of coke required to reduce this scrap, as compared with the reduction of iron ore.

As proof of the importance of this source of metal, the bulletin above mentioned points out that according to census returns of 1910 there were about \$1,265,000,000 worth of agricultural machinery on American farms. It is estimated that farm implements, not including stoves or small tools, valued at \$165,000,000 are sold annually. A considerable cost of manufacturing this farm machinery lies in the metals used, which often include not only iron and steel, but small parts of brass, copper or babbit metal which is now exceedingly high in price.

The bulletin suggests that farmers sell their junk cooperatively through the Grange, Farmers' Club or other community organization through which means they can ascertain the best market, and make cooperative shipments, which plan will probably yield them a much higher return than the usual haphazard method of disposing of scrap iron to the junk man. From a patriotic as well as an economic standpoint, this suggestion should be acted upon by the farmers of every community.

Live Stock Movements.

Every Michigan farmer should be interested in the live stock problem which confronts them and the country. Recently published statistics show that there was a considerable increase in the movements of cattle to the forty-six principal live stock markets of the country during the first eight months of 1917 as compared with a similar period of 1916. In August of the present year the increase over August of last year was approximately 200,000 head. During the same month there was a decrease in receipts of hogs at the same markets as compared with last year of nearly 900,000 head, and a decrease in sheep of more than 400,000 head.

An analysis of the causes for the increased shipment of cattle to market indicates that it is in part due to an effort to market the animals because of the high prices which they have brought, and at the same time avoid the necessity of purchasing feeds at greatly increased prices. The severe drouths in the southwestern sections of the country have also contributed to the heavy marketward movement of cattle. Many dairy cows have also been marketed because of the high prices of feed and the tendency to keep only high-producing cows under present conditions.

A similar marketward trend of sheep and hogs occurred last year in response to high prices and the lessened volume of receipts this year is deemed rather a return to normal conditions than a heavy falling off in the supply. The fact, however, that heavy shipments of all classes of live stock have occurred during the past two years is the best possible evidence that live stock production is well established in Michigan and her sister states, and will remain one of the most profitable farm industries for many years to come. Michigan farmers can make no mistake in developing the live stock possibilities of their farms along the lines to which they are best adapted.

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—Storms finally checked the recent British drive in the Ypres district on the western front, the field of operations becoming so muddy that it was impossible to move the artillery. The advance has been steady and consistent and has secured for the Allies a considerable portion of the ridge running to the south and east of Ypres. These newly-won

positions have been consolidated. Large German forces are concentrated to the northeast of Ypres apparently expecting offensive movements in that quarter. Big guns are doing most of the fighting about Verdun and also on the Italian and Macedonian fronts.—German troops have landed on the island of Oesel which commands a portion of the entrance to the Gulf of Finland and the watercourse leading to Petrograd. Troops in the Kronstadt Fort are suspected as being disloyal and if they should play into the hands of the enemy it would greatly increase the danger to Petrograd.—Indications are that the revolt on German battleships last week has been completely stamped out, many of the mutineers having been shot.

National.

Seven persons were killed when the automobile in which they were riding was hit by a Michigan Central flyer twelve miles north of Detroit Sunday afternoon.

On account of the Liberty Loan campaign which is now on in full blast, Food Administrator Hoover has postponed "food pledge week" from October 21-27 to the week of October 28 to November 4, at the request of President Wilson. Plans have been made by the administration to have 500,000 workers throughout the country to take pledges from the people on food conservation.

Under the new war revenue income tax law the government is placing the responsibility of making returns upon the persons, firms or corporations affected by the law. The law requires that schedules be submitted promptly.

The post office department has issued a notice to all postmasters to advance the postage rate on letters, post cards, etc., in accordance with the provisions of the new war revenue measure. The rate on first-class matter will advance to three cents per ounce, drop letters to two cents an ounce or fraction thereof, and post cards and private mailing cards to two cents.

The proposed increase in freight rates from one to 13 cents per hundred pounds from upper Michigan, Wisconsin, Minnesota, North and South Dakota and Iowa to the principal potato markets of the country has been held up by the interstate commerce commission until February 7 pending investigation. The new schedules were to have become effective October 10.

Bituminous coal miners of the central competitive field won in the wage dispute with operators at the recent conference held in Washington. The operators agreed to the increased wage providing the selling price allowed by the government is sufficient to cover cost. It is understood that the terms reached in this conference will also apply to the remaining bituminous coal districts of the country.

After October 16 all publications in this country printed in a foreign language must secure a license from the federal government. Any publication not taking out a license will be obliged to file with the postmaster before offering for circulation by mail or otherwise, true translations of all articles respecting the government of the United States or any other belligerent nation.

The fifty-seventh annual state Sunday school convention for Michigan will be held in Detroit, November 6-8. Features of the convention will be a concert given by a chorus of 1000 voices, a great patriotic meeting, and a free automobile ride for the delegates. Programs can be obtained from Michigan Sunday School Association, Albion, Mich.

LAND CLEARING DEMONSTRATION.

Arrangements have been completed for a public land clearing demonstration on the G. R. & I. Demonstration Farm No. 1, two miles north of Howard City, on Friday, October 26.

Cooperating in this demonstration will be the Extension, Farm Mechanics and Forestry Departments of M. A. C., the Western Michigan Development Bureau and a number of manufacturers of stump pulling machinery and explosives used in land clearing work.

The field demonstration will continue throughout the day, while at night several thousand feet of moving picture film will be exhibited in the local theatre, showing every phase of land clearing work. Lectures will be given during both day and evening programs by experienced men and educators, including Prof. F. M. White, of the Engineering Department of the University of Wisconsin, who has had charge of three land clearing demonstrations in that state during the past two years. The local Red Cross organization will serve a hot lunch on the demonstration grounds, and trains from both directions will stop at the demonstration farm to receive and discharge passengers.

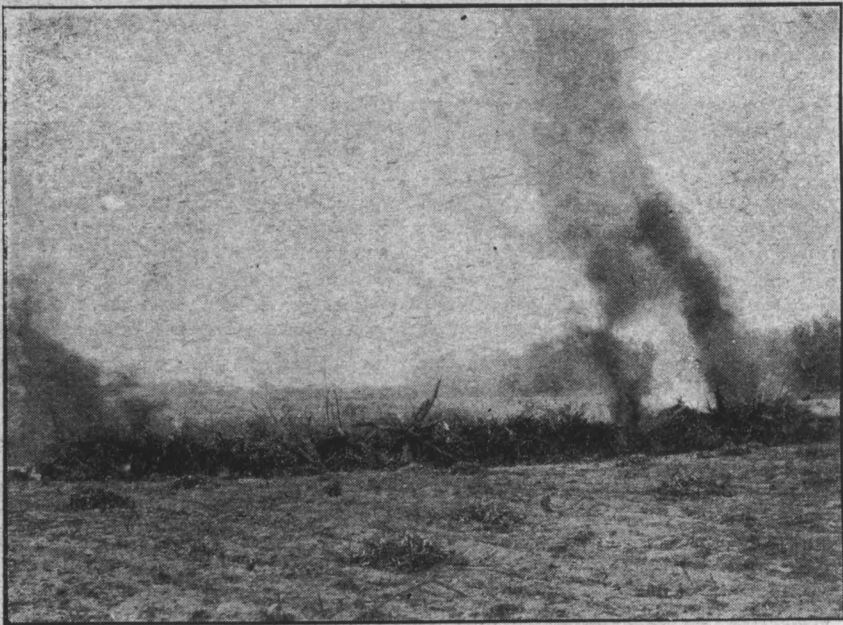
The Cost of Growing Wheat

By EDWARD HUTCHINS

WHAT does it cost to grow wheat? This is an important question just at present. For on a proper and general understanding of it depend largely the mutual interests and comity of relationship between the large body of wheat producers and the larger body of wheat consumers. And at present these two bodies do not seem to be in entire agreement on the subject. Some farmers think that the price of \$2.20 per bushel as fixed by the government is not high enough and some of those not engaged in this industry seem to think that this figure is quite liberal and ample. Such a paper as the Grand Rapids Press, one of the larger dailies of Michigan, recently had this to say editorially: "Farmers who have investigated the question agree that the estimate of ninety-nine cents a bushel as the cost of producing wheat under the prevailing charges for labor, seed and farming equipment is as near correct as possible. This means a profit of \$1.21 on each bushel sold at the government price." This may perhaps represent the general apprehension of the matter. If these figures were correct the

ment price this would bring him \$30.80 for his acre of wheat.

In this estimate of production cost no allowance is made for the pay of a superintendent, which any manufacturer would include. Nor is any charge made for team labor, but only the keeping of the team, together with interest and depreciation. The cost of keeping a team a year is considerably in excess of \$200, and about sixty acres is the limit of land a team can properly work under ordinary farming conditions. It would seem to be a fair way to divide the keeping cost among the acres, and \$3.50 per acre would not be an unreasonable charge. The value of team, harness and tools to grow wheat probably amounts to \$600, and a charge of ten per cent for depreciation and overhead expenses would seem to be reasonable, which would amount to \$60, or \$1.00 per acre on a sixty-acre farm. If a man works a smaller farm the charge per acre for team keep, interest and depreciation would be larger. Of course, land values are not alike in different localities and this, too, would affect the interest charge, but land values are increasing.



An Economic Problem that Must be Solved.

It is almost criminal to allow this waste of stumps. This is one of the big problems to be discussed at the Land Clearing, Wood Preserving and Drainage demonstration to be held Friday, October 26, 1917, at Grand Rapids & Indiana Railway Co., Demonstration Farm No. 1, Howard City, Michigan.

farmers would rank along with the steel magnates whose prices the government has cut from forty to seventy per cent. It is important therefore, that a clear understanding of the cost of producing this cereal should exist.

The writer hereof has tried to estimate the cost of growing wheat as any business man would figure the expense of his business. The following items all have to go into the charges for wheat production. There may be some slight differences of opinion regarding some of the figures, but probably not enough to materially affect the results.

Cost of Producing and Marketing an Acre of Wheat.

Team	\$ 3.50
Man labor preparing ground.....	2.00
One and a half bushels of seed, cleaned and treated.....	3.50
Seeding	.50
250 lbs. fertilizer at \$33 per ton..	4.13
Cutting	1.25
Shocking	.50
Stacking or hauling to barn....	.50
Twine	.75
Threshing	1.25
Marketing	1.00
Overhead expenses and depreciation	1.00
Six per cent on land and equipment valued at \$150.....	9.00
Taxes	1.25
	\$30.13
Add 10 per cent profit.....	3.01
Total	\$33.14

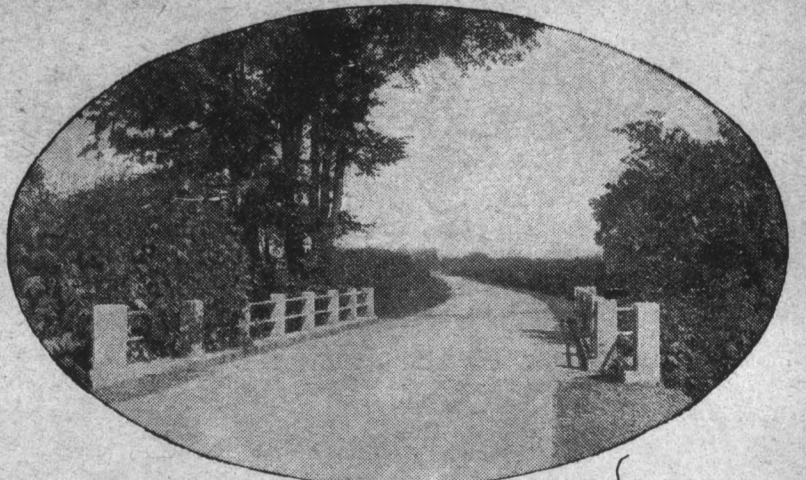
The average yield of wheat in Michigan is about fourteen bushels per acre, and if the farmer realized the govern-

and an estimate of \$150 per acre for land, together with team and equipment, would not seem to be out of the way.

But after making all necessary allowances for possible changes in conditions and for differences in opinion as to the amounts charged against the different items, I cannot see how the results can be so changed as to give the average farmer growing the average crop any large profit. The farmer who does his own work receives barely the wages of an ordinary hired hand without any added compensation for his skill or for pay as superintendent. And such a man who hires the work done only barely received interest on the value of his farm without anything over for improvements or occasional repairs.

If the findings of such a conference of farmers as the Press editorial indicates were published it would no doubt be of great interest to farmers generally. Wheat growers universally would be greatly interested in learning just how ninety-nine cents per bushel can be made to cover the costs mentioned.

The Food Administration has secured Mr. Henry Wolfer, formerly head of the Minnesota State Binder Twine Works, to undertake at once a complete investigation of the sisal and hemp industry and its distribution with view to action in the reduction of price. The price has been forced up 500 per cent since the war began.



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WAR has suddenly forced the farm to take rank with the packing house, the munitions plant, the steel mill and other industries, as a factor of supreme importance in the service of this country.

No manufacturer in these modern days, when time counts for so much, would think of establishing a factory out in the country without first determining the length of the haul and then reducing hauling time and cost of hauling power to the lowest point possible by removing the obstacles of bad roads. Supplies from the farm to millions of consumers at home and to our troops abroad must first travel over the country road.

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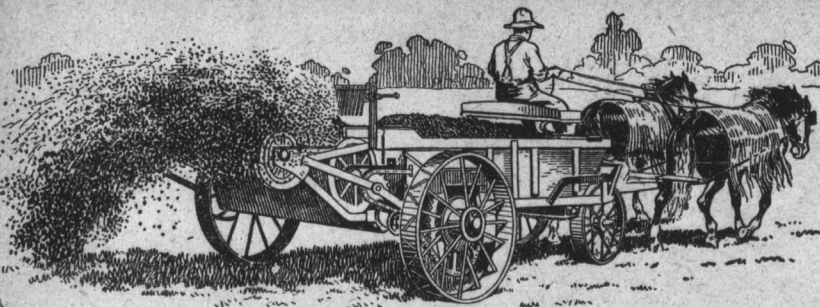
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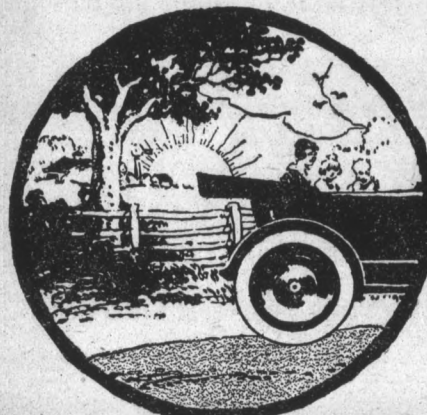
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What Does It Cost To Sell?

By J. HUGH McKENNEY

THE progressive business firm of today that has something to sell to the public, be it codfish, ginger ham or grain binders, sets aside a certain percentage of its receipts to be applied to the cost of selling. Sometimes, in the case of a manufacturer who puts out an article requiring vigorous sales work, his selling cost may be as high as his manufacturing cost. Thus, in many lines the price ultimately paid by the consumer is split into three equal parts, one covering manufacturing cost, another profits, book-keeping charges and the like, and the third, cost of advertising, selling, trade promotion, etc. Even with the most staple goods there must be an outlay for selling because the more staple the goods the greater the competition. Getting customers, holding them and creating good will are indispensable items in modern business operations. Banks, railroads, insurance companies, etc., all spend something for sales work.

In this respect farming seems to differ greatly from every other big industry. Ask the average farmer what he charges for selling expenses in the operation of his farm, and in practically every case his answer will be of a negative character. When he has goods to dispose of they are bought, not sold. The science of salesmanship does not enter into the transaction. As a consequence, he suffers from disadvantages that other business men have overcome by taking thought about the market.

Marketing for the farmer as a whole is exceedingly diversified. The method that is eminently suited to the conditions of one will not always fill so well the requirements of another. For instance, one man who has eggs to sell finds the parcel post and a list of direct customers the marketing solution for him. The fruit farmer may utilize a growers' association as a means of finding an outlet for his produce. The breeder, the dairyman and the grain grower all have different problems, each calling for different methods of solution.

Suppose, then, a stock raiser took a ten dollar bill out of his pocket and said, "This is my first appropriation

for selling expenses, and I'm going to invest it in better marketing." What could he get for ten dollars? Probably the best value would be market information. This amount invested in a trip to one of the large stock yards where he could see shipments graded and sold would give him some new ideas of selling his product. By his personal investigation he will see who handles the stuff, who buys it, what others are offering, and so on. Such a plan, of course, holds good in other lines. The information secured will always indicate new plans that may be followed up. Better marketing is likely to mean an improvement in quality. All through the business world today, goods are gradually coming to be sorted into grades and sold in attractive packages. To this rule farming is no exception.

Take potatoes as an illustration. I made the discovery only recently that a concern in Idaho takes potatoes of the best flavor from a noted potato soil, grades them so they are absolutely uniform in size, wraps them in paper, selling them like fruit to the New York hotels at fancy prices. Furthermore, these potatoes are selected for baking, and do not give good results when boiled. The hotel steward will pay almost any price for such a potato, because the baked tuber goes to the guest in its own jacket and the hotel gets ten or fifteen cents for it. No doubt the time will come when grocers, generally, will handle a fancy brand of potatoes grown for flavor, graded for sweetness, and sold to the consumer with the name of the producer stamped on the bag. Nor is it unlikely that other staples will be handled similarly. There is a growing evidence that the consumer is looking for quality. As a matter of fact, the whole tendency in buying nowadays is to associate quality with the producer, and to go back for more goods branded with his name when something satisfactory is found. That is the way we buy crackers or breakfast food. The farmer's products are no different in this respect.

Again the market information gathering. (Continued on page 354).

Potato Dealers Organized

AT a meeting held at Grand Rapids, October 5, and attended by seventy-five potato dealers, representing ninety per cent of the state's carload movement of potatoes, a Michigan Potato Shippers' Association was organized.

The meeting was called by E. P. Miller of the United States Food Administration. Mr. Miller being one of the largest potato dealers in the United States realizes the importance of the dealers getting together and working together for the benefit not only of themselves but of the growers and consumers as well. He expects to organize the dealers in all of the states which are considered important potato producing states, where such organizations do not already exist.

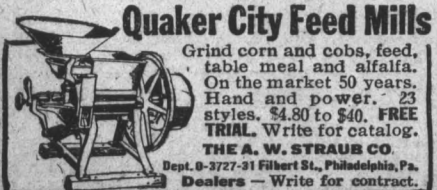
The fact that so large and representative a number of dealers were present at the meeting at Grand Rapids is most significant, especially when you understand that these men were unanimous in their support of the things advocated by the Food Administration. Some of these things are fully covered in the resolutions which were adopted. Mr. F. W. Hinyan, of Loveland-Hinyan Company, Grand Rapids, presided at the meeting. In his opening remarks he called attention to the waste in the present system of marketing. According to the figures which he had obtained, on an average at least ten pounds of waste occurs in each sack shipped.

Mr. Miller explained fully the desires of the Food Administration in connection with the handling of the potato crop. He is anxious for the coordination and cooperation of all interested forces. It is the desire of the Food Administration that speculation be prevented; that waste be reduced to a minimum; that growers receive fair returns for their 1917 crop so that they may be encouraged to plant freely in 1918 to insure a good potato production even under possible adverse growing conditions. The Food Administration has no authority to set prices on any crop except wheat. They have no intention of interfering with the regulation. (Continued on page 365).

SUCCESS VS. FAILURE WITH CLOVER.

(Continued from first page).

Such demonstrations along the highway, to which attention is called by conspicuous sign boards, as is the case with Mr. Foster's experiments, will do much toward increasing the use of lime upon the large proportion of Michigan soils which sorely need it, to the end that better seedings and more luxuriant growth of clover may be secured, the waning fertility of the soil restored and the prosperity of its owners proportionately increased. Object lessons of this kind are far more valuable than written words in pointing out important agricultural facts.



Quaker City Feed Mills

Grind corn and cobs, feed, table meal and alfalfa. On the market 50 years. Hand and power. 23 styles. \$4.80 to \$40. FREE TRIAL. Write for catalog. THE A. W. STRAUS CO. Dept. 8-3727-31 Filbert St., Philadelphia, Pa. Dealers—Write for contract.

We want to Buy **BARLEY** Send us Samples

YOUNG-RANDOLPH SEED CO., Owosso, Mich. Mention The Michigan Farmer When Writing Advertisers

SELF-OILING WINDMILL

With INCLOSED MOTOR Keeping OUT DUST and RAIN—Keeping IN OIL. SPLASH OILING SYSTEM. Constantly Flooding Every Bearing With Oil. Makes It Pump In The Lightest Breeze And Prevents Wear. OIL SUPPLY REPLENISHED ONLY ONCE A YEAR. DOUBLE GEARS—Each Carrying Half the Load. Every feature desirable in a windmill in the AUTO-OILED AERMOTOR. Gasoline Engines—Pumps—Tanks. Water Supply Goods—Steel Frame Saws. WHITE AERMOTOR CO. 2500 12TH ST., CHICAGO

Labor-Saving Plans

A Cheap Method of Threshing.

I recently witnessed a labor-saving practice on the farm of Dorr D. Buell, Otsego county, Mich., that was not only interesting, but made one feel as he does when he views an invention: "Why didn't I think of that?" Mr. Buell, by foresight, had arranged to have the threshing outfit arrive at such a time that he need not even shock his thirty-acre field of Rosen rye but, setting the threshing outfit in the center of the field, loaded the bundles from the ground, where they were dropped by the self-binder, and threshed from the load.

The separator was run by a gasoline engine. The straw was dropped directly onto the table of a baler run by Mr. Buell's tractor. The baled straw was hauled direct to the barn, where it could be under cover—a practice that should be more common. When the threshing was finished there was not enough straw scattered around to bed a horse overnight.

The total number of men employed in the complete operation of loading, hauling, threshing, baling, hauling away bagged grain and baled straw, was no more than is usually assembled for the ordinary threshing alone.

Ingenious Water-heating Device.

While conducting farmers' institute at Spencer, Kalkaska county, I saw the most common-sense plan of taking the chill off the water in the stock tank, that has yet come under my observation.

The big farmer of that region is Mr. Spencer. It must be a source of gratification to himself and wife to contemplate their highly organized home and splendidly equipped farm, with tractor, when they remember coming to that spot when it was an untouched forest.

Of the many things in the equipment that bespoke the man of initiative, energy and self-reliance, none impressed me more than Mr. Spencer's plan of avoiding the danger of having a fire around the barn for the purpose of giving stock water of the right temperature, and the constant care of replenishing that fire.

In his basement, by the furnace, is an unusually large range boiler, which might be called "hotel size." As there is a constant fire in the furnace from fall to spring, so there is always very hot water in the range boiler meantime.

When Mr. Spencer is fixing the furnace fire, morning or night, and his recent trip to the barn to do chores has brought to his observation that the water in the stock tank is too cold, he has merely to turn a valve in the outlet pipe from the range boiler when he begins to fix the fire; and, by the time he is through his cellar chores, enough hot water has flowed from the basement of his house to the stock tank at his barn to keep the water in the latter from freezing, and to make it very agreeable to stock, even in the coldest weather. The tank is covered and is a long tank, half in the barn and half in the barnyard.

When an animal desires to drink, it must step on a platform in order to get sufficiently close to the tank. The animal's weight depresses the platform, pulling down on a wire rope that passes over an iron pulley and connects with the lid of the tank, raising it while the animal stands there.

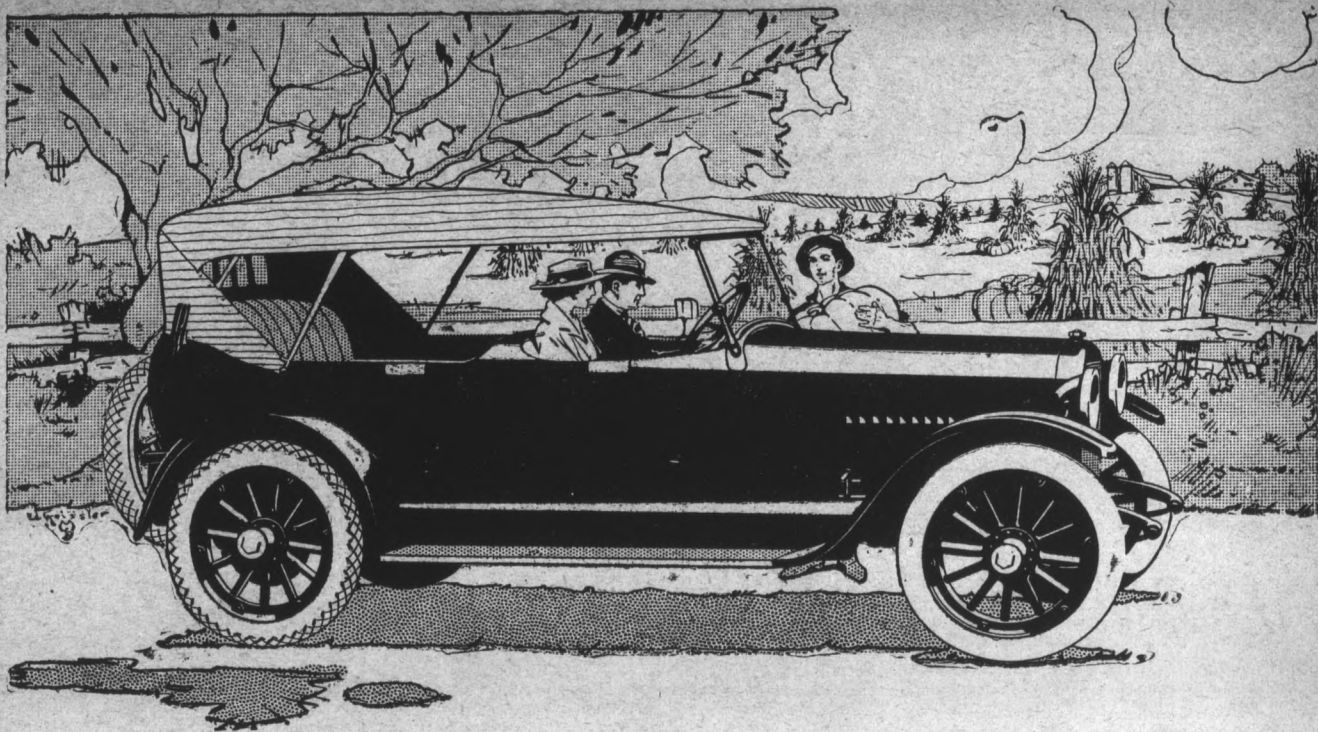
This device is duplicated on both the barn and the barnyard side of the tank.

Stock soon learn to operate the lifting device without fear.

Otsego Co. R. D. BAILEY.

His Ad in the Michigan Farmer Sold Them.

"We have sold more than \$500 worth of sheep through our little three-line ad in the Michigan Farmer. Thanking you for the customers your paper has found for our rams, we remain, Armstrong Bros., Fowlerville, Mich."



PAIGE
The Most Beautiful Car in America

The True Meaning of Economy

Webster defines Economy as the "wise, careful administration of our affairs." Please note that word, *wise*. Also note that there is no reference to cheapness or frugality.

In this definition, you will find the proof that Webster was not merely a master of the English language, but a philosopher as well.

The cheap expenditures are never the wise ones. The near-wool clothing, the "marked down" shoes and the cut price harvesting machinery cost less to be sure—in the beginning.

But cheap clothing shrinks to boy's size in the first spring showers. The cheap shoes "wear out" after a few months of service and the cheap harvesting machinery fails you at the critical moments. So—in the long run—your cheap purchases become shockingly expensive.

And so it is with a motor car.

There are many cars that sell for less money than the Paige. We could readily build them ourselves if we considered that policy the best one. But we don't.

We firmly believe that Self-Respect, Comfort and Enduring Satisfaction have an actual market value. So we build those things into our product.

We take just a little more time—just a little more care in selecting materials—just a little more pride in our work. And the result is a *real* motor car—not a makeshift or compromise.

Unless we are greatly mistaken, the Paige "Six-39" is just the kind of car that *you* want. It costs \$1330 and is worth every penny of the price.

If you are truly Economical—truly wise and careful—it will be the car of your choice.

Essex "Six-55" 7-passenger \$1775; Brooklands 4-passenger \$1795; Linwood "Six-39" 5-passenger \$1330; Glendale "Six-39" Chummy Roadster \$1330; Dartmoor "Six-39" 2 or 3-passenger \$1330. All Prices f. o. b. Detroit. No handsomer line of enclosed vehicles can be found on the market.

PAIGE-DETROIT MOTOR CAR COMPANY
220 McKinstry Aveune, Detroit, Michigan

More Drawbar Pull

-And Why



Crawler vs. Wheel

The Bates "Crawler" shown above has 8 lugs gripping the ground—fully 52 inches of traction. The wheel tractor has only one lug gripping the ground—less than a foot of traction. Make this test yourself. Hook one finger onto a wagon and pull with all your strength. Your finger will slip and the wagon fail to move. But use both hands with the same pull and the wagon moves easily. This proves the advantage of the Bates Steel Mule's "Crawler" over the round wheel drive—eight lugs supplying the grip instead of one—getting more pull from equal power.

The Bates Steel Mule

FULLY COVERED BY PATENTS

REG. U. S. PAT. OFF.

Saves One Man's Wages, Too

One man sitting on the implement behind the Bates Steel Mule operates both machines. It's no more trouble than driving a team and a whole lot more satisfactory. No second man is needed where the Steel Mule is used. You save one man's wages and board.

Does All Farm Jobs

The Steel Mule will pull any farm implement or wagon. Use it to plow, disc, drill, cultivate, harvest, mow, spread fertilizer or haul your crops to market. Or hitch it by belt to any farm machine.

Over 13 D. H. P. Burns Kerosene Order Now!

Get your machine at once and be prepared for spring work. Don't wait for the usual spring rush and be disappointed. See your dealer now!

Joliet Oil Tractor Co., 329 Benton St., Joliet, Ill.

GEO. A. EATON, Lansing, Mich., Distributor for Michigan The Most Powerful 3-Plow Tractor in the World



One Man Plows 10 Acres a Day.



One Man Discs 30 Acres a Day.



One Man Drills 50 Acres a Day.



One Man Cultivates 31 Acres a Day.

Farm Loans 5% Interest Rate

We want selected farm loans of \$2000 and up on improved farm lands in Michigan South of Township 17 North, interest rate only 5% per annum, payable semi-annually; the borrower paying a small brokerage when the loan is closed Ample funds.

The Guarantee Title and Mortgage Co.

Desk K, Farm Loan Dept., Flint, Michigan

Seeds Wanted

Soy Beans, Vetch, Vetch and Rye, Garden Peas, Garden Beans, Field Corn, Field Peas.

EDW. E. EVANS,
West Branch, Mich.

SOY BEANS WANTED

We are in the market for soy beans, also clover and timothy seed. Send samples and prices to O. M. Scott & Sons Co., 226 Main St., Marysville, O.

Farms and Farm Lands For Sale

100 Acre Farm \$2250.
5 cows, 3 horses, Hens and Gas engine, feed cutter, fanning mill, mower, horse rake 3 plows, harrows, roller, cultivator, potato digger, 3 wagons, cart, sleighs, harnesses, sleds, incubator, brooders, 30 cords dry stove wood and half interest in threshing machine thrown in by aged owner if taken soon. On good road in beautiful fertile valley, 50 apple trees, spring watered pasture, 30 bushel potatoes to the acre have been grown on this farm. 6 room house, telephone, barn 36x1, granary, hog house and 3 poultry houses. Less than half cash down and easy terms. See details on page 15, Strout's Catalogue, 321 Bargains. Copy mailed free. E. A. STROUT FARM AGENCY, Dept. 101 151 Nassau St., N. Y., N. Y.

The Best Farm Land In Central Michigan

Near good market cities. Clear title. Prices and terms right. Buy from the owners.

Stafford Brothers,
15 Merrill Bldg., Saginaw, West Side, Michigan

Do You Want a Farm

where largest profits are made? The South's great variety of crops and wonderful productive climate make it the most profitable farm section of America. It is the place for the lowest cost meat production and dairy farming. It grows the largest variety of forage crops. Good lands, in good localities, as low as \$15 to \$25 an acre. Let us show you locations that will give the highest profits. M. V. RICHARDS, Commissioner, Room 78, Southern Railway System, Washington, D.C.



Valuable Book Sent FREE By Makers of Red Seal Dry Batteries

Guaranteed - Ask Your Dealer
Give dealer's name and we will send you free book—"How to Run the Gas Engine—Simplified"—used as text book by State Agricultural Colleges and High Schools. Also get Free catalog of Everything Electrical for Home and Farm.
MANHATTAN ELECTRICAL SUPPLY CO., INC.
104 S. Fifth Ave., Chicago
New York: St. Louis: San Francisco:
Factories: Jersey City, St. Louis, Ravenna, Ohio

A Small California Farm earns more money with less work. Raise the crops you know about—alfalfa, wheat, barley, etc.—also oranges, grapes, olives and figs. Ideal for dairying, pigs and chickens. No cold weather; rich soil; low prices; easy terms; good roads; schools and churches. Enjoy life here. Newcomers welcome. Write for our San Joaquin Valley, also Dairying and Poultry Raising Illustrated folders, free. C. L. Seagraves, Industrial Commissioner, Santa Fe Ry., 1959 Ry. Exch. Chicago.

TO Centralize our farming operations will sell some of the detached farms we are working. These soils heavily fertilized through sheep feeding. Bearing orchard and berry lands in parcels to suit. Tell us kind of place wanted and will quote. No agents. **FREMONT CANNING CO.,** Fremont, Mich.

HAVE you a farm or property to sell? and will pay 2% after sale is made, or are you looking to buy a farm in any state? Write **GRASSEY FARM AGENCY,** 212 Lewis St., Lynn, Mass.

120 ACRE farm for sale. All fenced; half in cultivation; running water; excellent stock farm; one mile from good town on railroad in northeastern Michigan. Particulars write, Box C. 91, Michigan Farmer, Detroit, Mich.

for sale. 78 acres one half mile south of Unionville Mich. Buildings in first class condition. **ELMER ARMSTRONG,** R. 1, Unionville, Mich.

Rainy Lake Farm Lands, Clay loam soil, guaranteed fertile, on long time, small cash payment. Write **JNO. G. KRAUTH,** owner, Millersburg, Mich.

Fine Michigan Farms at reasonable prices and terms. Address **MARTIN H. HOLCOMB,** Grand Rapids, Mich.

FARM, 100 Acres, fine brick house, near good water, orchard. 2 barns & other buildings. **A. E. Cramton,** Vassar, Mich.

120 Acre Eaton Co. farm for sale. Good location, buildings and soil. Particulars write **FRED J. BRIGGS,** R. 2, Vermontville, Mich.

Five, fine Logan Co., Ohio Farms for sale: \$90 to \$250 Acres, prices \$90 to \$225. Splendid homes or fine investments. **John A. Parker,** Bellefontaine, Ohio.

Pits for Farm Storage

PLACING produce in pits has been considered only as a convenient makeshift for the protection of produce from freezing, in the absence of better storage facilities. But we find that pits cannot be surpassed as cold storage for small quantities of garden, farm, and orchard produce that we desire to keep through from fall until the end of spring. The conditions sought in such storage are uniform low temperature, sufficient moisture, exclusion of light and vermin, safety from fire.

Preparations for Pitting.

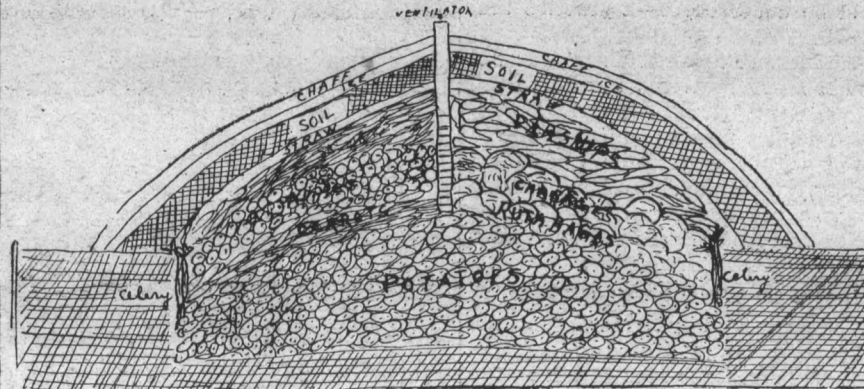
The pit must be located where it will have protection from spring sun and south winds. A good location is at the north of a building, a tight board fence, a hedge, or on a steep northern

Above the apples are placed salsify, and on the north, above the cabbage, are stored parsnips. Even should the salsify and parsnips freeze they would not be harmed, and the apples and cabbage will stand temperatures, in a pit, below freezing.

Down along the edge, well buried in soil, are placed partially blanched clumps of celery.

To Ventilate Pit.

To secure ventilation, which is important, use a ventilator, preferably of boards about five feet long, six inches by eight inches. On the eight-inch side let solid boards come down only about half way, and below the solid side, place laths across, with spaces. Place the ventilator, lath end down, into the pile of potatoes. Pack the



Practical Pit for Storing Fruits and Vegetables on the Farm.

slope. The drainage must be good. We excavate not over two feet. The method of packing the pit is of prime importance. It should be done just before the final freeze up. The produce that is to go into the pit has been harvested and is either lying covered in the fields or has been drawn near where the pit is to be, and covered in piles. It is carefully sorted; diseased, specked and all over-mature produce is rejected. Potatoes must be kept safe from frost so in they go first, and they form the bottom and center of the pile. Carrots are almost equally sensitive to cold so we put in a quantity of them to the south and on top of the pile of potatoes. To the north go the rutabagas. On top of the rutabagas are placed the cabbage, heads down, while on top of the carrots go a good quantity of the best-keeping apples.

other vegetables and fruit up about it. There must be a screen to fit over the top of the ventilator to keep out the vermin.

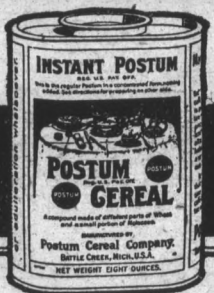
We cover the pit first with coarse straw, hay, or leaves, then with a foot of soil. If a few inches of snow comes before the soil has frozen through, simply cover the snow with chaff, but if the snow does not come in time, a good coating of manure will have to be put on. Whenever there is a good coating of snow, we add chaff to hold it there. The last thing in the winter it is well to use a coating of coarse material to shed rain. The temperature may be watched by use of a thermometer used through the ventilator, placing the thermometer on the potatoes. As soon as severe freezing sets in, stuff the ventilator with straw.

Pit-stored Products Fine for Spring Use.

In the late spring there is a scarcity of prime, crisp vegetables and fruits. The old stocks stored in cellars have wilted and decayed. The parsnips and salsify from the field have spoiled by new growth starting. The new things have not come yet. This is the time for which you stored that pit. Open it up; there will lie parsnips and salsify that have not felt the quickening touch of spring; they were encased in a cone of ice. Pick up a carrot. It readily snaps in two. It is crisp, as are the rutabagas and celery. The cabbage and apples are just prime and not an eye of the potatoes has peeped. No hint of spring got through those layers of snow insulated with chaff. There will be choice surprise gift baskets for your friends, a generous amount for some favored dealer, and abundance for your own family. After it is taken from the pit place the produce in the coolest, darkest corner of the cellar. You will be surprised how you can bring the very choicest of the treasures of autumn into the first of the summer in prime condition.

Saginaw Co. S. C. ROBINSON.

After-harvest work in the orchard consists of gathering up baskets, ladders, etc., and placing them under cover. Limbs, broken during picking, should also be cut off or bolted up, and don't forget the cider—every apple is worth saving this year.



THERE'S NO DOUBT ABOUT POSTUM AS A HEALTH IMPROVEMENT OVER COFFEE

Weaning the Colt

TO keep the colt growing without interruption during weaning time and afterward is a most important consideration in producing horses profitably. A good horseman aims to replace the milk that the colt has been accustomed to secure from its mother. He tries also to reduce the worrying and fretting of the colt to a minimum. To wean a colt appears to be a simple matter. It is simple as many do it; yet the very low degree of success that is shown on many farms by their unthrifty colts is evidence that there is something wrong or that there is something lacking. Often in a few weeks during weaning time the youngster changes from the growing, sleek, milk-fat colt to a stiffhaired and unthrifty, stunted individual. The colt if properly cared for, need lose but little of his flesh, bloom and spirit.

Grain to be Fed.

Grain must be used as the milk is taken away. It is necessary that the colt have been taught to eat grain before weaning is attempted. Oats have always been preferred by horsemen for young colts. They are undoubtedly superior to any other single grain. The colt likes a mixture or a variety of grains and will thrive best on such a ration. He relishes corn and it may well be fed as part of the grain ration. It may be said that corn contains a rather high percentage of fat. True, it does and so does milk, which is as nearly ideal food as nature can make. Corn should not be fed alone, nor in too great quantities. Bran is a splendid feed and contains material for bone and muscle. A mixture of oats sixty per cent, corn thirty per cent, and bran ten per cent, makes a ration that will enable any colt to grow rapidly. A handful of oil meal may be profitably added. Then he will be more likely to eat enough to almost make up for the lack of milk.

Hay should be provided in plenty. Doubtless alfalfa or clover is the most desirable for young growing colts. Both grain and hay should be of the very best quality. If it is at all possible to furnish succulent grass for the colt it should be done. This is a big factor in preventing any check in the growth of the youngster.

Company of Other Colts.

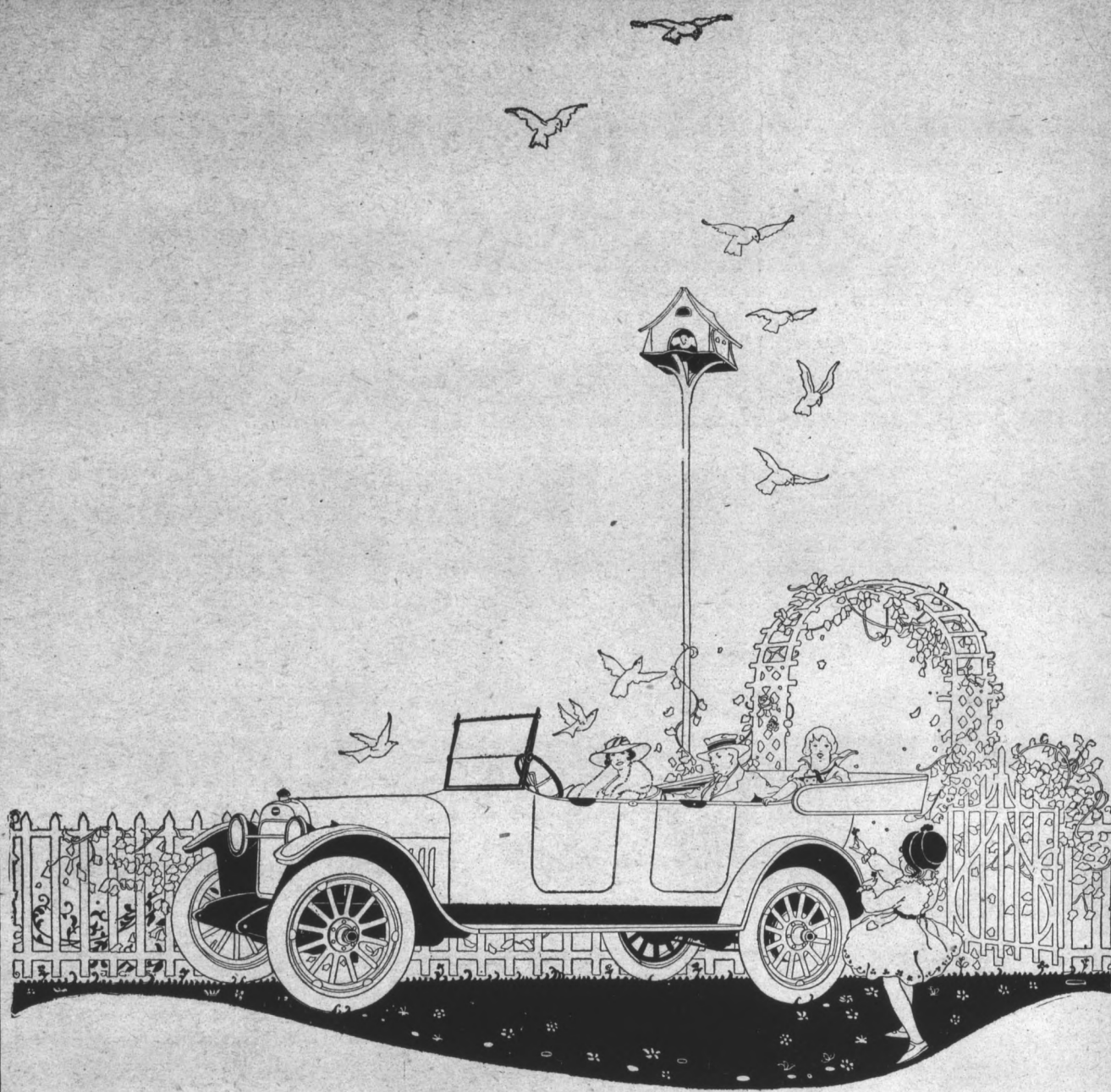
Naturally the colt will miss the company of his dam. If he has been accustomed to stay in the stable or yard while the mother is out at work there will be less fretting on that account. If the youngster has followed the dam constantly and has never been kept separated from her, he should be broken gradually to stay away from her if it is at all convenient to do so.

If there are several colts on the farm it is best to wean all of them at the same time. The youngsters love company and if there are two or more of them together, they will fret and worry much less.

The stall or pen where the youngster is confined should be such that he cannot injure himself. The door and fence should be high enough so that he will not try to jump out. Nothing but a clean and comfortable place, with plenty of sunshine and proper ventilation should be used for the colt during weaning time. It should be made possible for the colt to exercise freely every day.

Management of the Dam.

Just before weaning it is best to change the dam from succulent pasture to dry feed. If she is being fed grain the amount should be reduced to a minimum. This will have a tendency to reduce the milk flow. The colt should then be allowed to suckle only two or three times per day instead of being with the mother all the time or at least over night. It may be necessary to milk out the mare occasionally for a few days, in the case of large milk producers and where there is a tendency for the udder to swell. Hav-



WE BUILT THIS CAR FOR YOU

WE take it that the average American buys his motor car to use—for himself and his family to enjoy, at a cost within reason.

We have built this new Oakland Sensible Six to this idea, and we believe it more faithfully expresses it than any other car on the market.

It is not a racing car, in the sense that comfort is sacrificed to speed, nor is it a show car, in the sense that efficiency is sacrificed to size.

It is simply a very well-made, competent and comfortable automobile—a *sensible* car.

The overhead-valve motor in this new Oakland is sim-

ple and compact; it delivers at 2600 r. p. m., 44 horsepower, or one full working horsepower for every 48 pounds of car weight.

It is exceedingly economical of fuel, and in relation to the weight of the car is perhaps the strongest in the world.

The body of the car is very roomy and of exceptionally solid construction; it is swung on specially graded springs of great comfort, and is upholstered in genuine leather.

We know that the present market cannot equal Oakland value except at a considerable advance in cost.

Oakland Motor Car Company
PONTIAC, MICH.

The light weight and even power of the Oakland Sensible Six makes it extremely easy on tires

Touring Car . . . \$ 990
Roadster . . . 990
Coupe . . . 1490
Sedan . . . 1190
Roadster Coupe . 1150

F. O. B. Pontiac, Mich.

OAKLAND SENSIBLE SIX

ing done these things it will be comparatively simple and easy to keep the colt away from the mother entirely without injury or handicap to either the dam or her foal.

Having made the change slowly and gradually the youngster will not miss the milk greatly. He will eat grain and hay, will take exercise and will grow without any setback. If he is kept healthy, thrifty and growthy, the very best of results will follow.

Purdue Ex. Sta. H. E. McCARTNEY.

FEEDERS' PROBLEMS.

Fall-sown Crops for Hog Pasture.

I have about an acre inclosed for hog pasture. This has been well manured and plowed and I should like to know what to plant to get the best pasture for the coming year. Would you advise me to sow rye this fall or rape in the spring, or is there something better?

Emmett Co.

SUBSCRIBER.

No better crop can be sown for early hog pasture next spring than rye seeded as soon as it can be gotten in. Then the ground can be seeded to clover in the rye, and some late pasture provided, also good pasture for the following season. Rape could be sown on this ground early in the spring and would make good midsummer pasture. It could be turned into about six weeks after sowing if weather conditions were favorable, and would make good pasture for two or three months thereafter. There are many forage crops which can be satisfactorily used for this purpose, but in a case like this the rye would afford an opportunity to get the land seeded to clover, which would also provide pasture for the following season.

Feeding Frosted Corn from Shock.

I have ten acres of corn that was just in the milk when the frost came. Would you think it safe to feed this to cattle and sheep this winter, (from shock), or would it be better to let the hogs eat the corn, and cattle clean up the fodder? If not, what would you advise? I have no silo.

Gratiot Co.

H. L. H.

There will be no danger in feeding frosted corn from the shock to either cattle or sheep at least, provided some other forage is given them in the ration, as clover or alfalfa hay. Some trouble is experienced from pasturing stalk fields in portions of the corn belt where the general practice is to husk the corn from the standing stalks, then pasture same during the winter, but the frosted corn fodder fed from the shock will be in very much better condition to feed than where the fodder is subjected to repeated heavy freezes, as is the case with standing corn.

Barley as a Hog Feed.

I have 19 August pigs to get ready for market as soon as I can. What would you advise me to feed, barley, ground, at \$2.25 per cwt., or wheat and oats ground together, wheat \$2.07, oats 50c per bushel, feeding in a self-feeder?

Gratiot Co.

A. W. F.

Barley is an excellent feed, but for best results should be fed in combination with other feeds such as middlings, where available for growing pigs. Barley at \$2.25 per cwt., or \$45 per ton, would be a much cheaper ration when combined with middlings than would wheat and oats ground together.

Sound wheat should not be fed to pigs under present conditions from either an economic or patriotic standpoint, since all the available supply will be needed for human consumption, and the pigs can be grown as well on coarser and cheaper feeds.

Barley should always be ground for pigs, and would be better fed in combination with other feeds in a self-feeder, since it is not as palatable as a mixed ration.

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JOURNAL
ESTABLISHED 1843.

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MECHANICAL

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

THE deer season is here. We are polishing our 30, 32, 303 or whatever happens to be our favorite exterminator, and are looking eagerly forward to the flash of white tails and a pressure on the trigger of "the only gun for deer."

I think that I may, with modesty claim that what I have to say herein will be valuable at least to those who intend to pit their wits against those of the deer. I feel justified in laying claim to membership in that clan known as "born hunters." Not only deer, but hundreds of other animals have fallen before my gun.

The most valuable aid to the capture of any wild animal is a knowledge of the habits and traits of that animal. With that fact in mind, I shall endeavor

Hunting the Deer

By G. F. DeLaMATER

or to help the would-be deer slayer by pointing out a few of the most important facts to be borne in mind while on the hunting trip.

First, rather than the sagacity of which the deer is usually supposed to be possessed, he is a slave to instinct. Of course, there are exceptions to all rules, but the exception in this case is rare and is usually to be found in an old buck who has had several seasons' experience.

Here are three fundamental facts for the deer hunter to keep in mind.

Nature has provided the deer with a

very acute sense of smell, very keen ears, and odors are blown with the wind. It but follows that when the deer lies down for the day he will lie where he can smell the hunter before he is himself seen. He accomplishes this by walking for some distance in the direction that the wind is blowing before lying down. Then he is enabled to smell the hunter long before the latter approaches his immediate vicinity. As soon as the deer is certain that the hunter is on his trail he jumps and is gone like the wind.

The success of the hunter who never

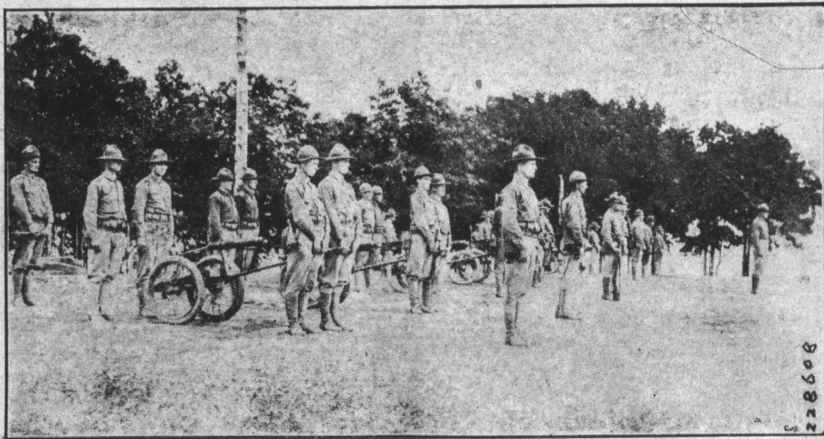
fails to bag his deer is explained by the fact that he takes advantage of this trait. The deer is almost oblivious to approach from any other direction, so long as the hunter is not walking directly toward him. To prove this contention, I have located a deer in a thicket and then, walking to the leeward of him in a course that would take me past him at a distance of two or three hundred yards, I have fired my gun several times in passing and the deer still kept to his bed; but as soon as I entered the thicket on his track—making no noise at all—he jumped and was gone. I have done this many times, and find that it will work out about nine times out of ten.

Having learned this much, the course is obvious. When you start out in the

WORLD EVENTS IN PICTURES



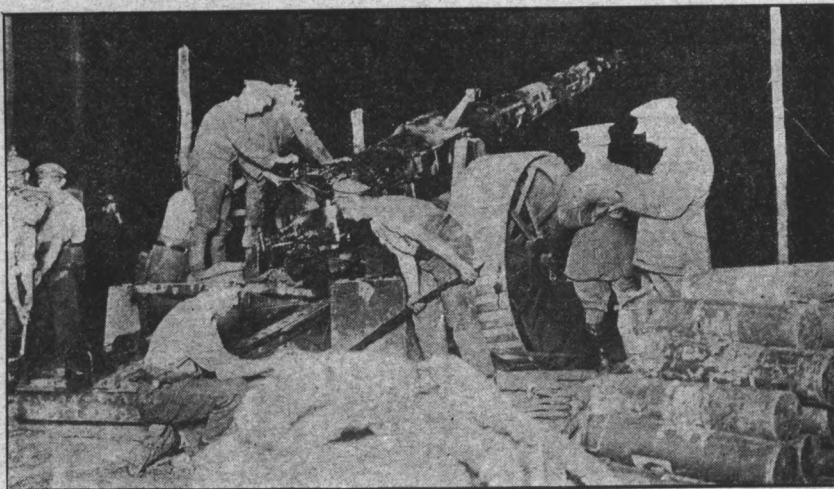
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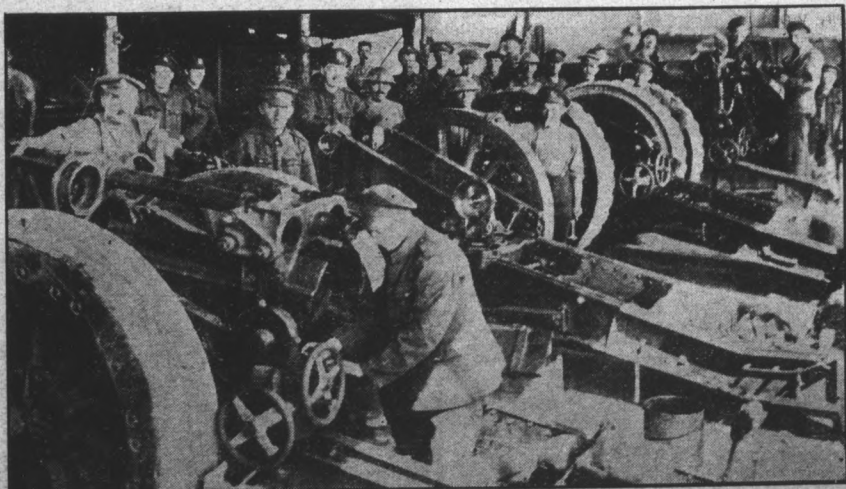
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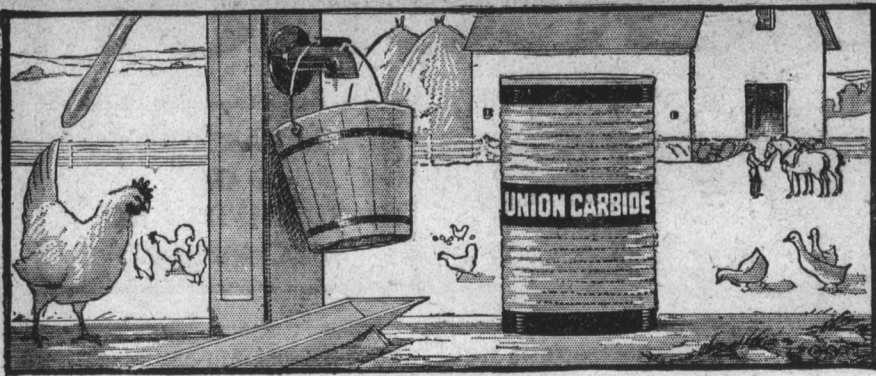


Showing Russians in Retreat Before German Cavalry in Riga Sector.



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morning, if the deer tracks are plentiful, always take a track that is going in the direction toward which the wind is blowing; on approaching a place wherein the deer is likely to lay, make a wide detour and approach from the opposite direction; then beat back and forth—crosswise to the wind—until you either jump your deer or find his track going farther on, in which case the performance must be repeated. By proceeding in this manner you are almost certain to get a shot at close range. I have a brother who has killed more deer than I, and we have killed many of them while lying in their beds; this requires much skill and practice for a deer will not knowingly let a hunter get so close to him as that.

To aid those who haven't had very much experience in hunting deer, I will endeavor to describe the places where he is most apt to lie. In open country the deer loves to feed in the most exposed places where he usually finds grass to suit his taste. After a fire he feeds on the tender shoots and sprouts of the "burning." In this sort of country there is apt to be thickets and "jam piles" where the brush is dry and it is next to impossible for the hunter to approach silently. This is the sort of cover that the deer delights to lie in. In a thickly wooded country he will stop in dense thickets, swamps,

sloughs or any place hard to approach. When "jumped," the deer will go straight down the wind if the hunter approaches on his track; if he comes from the opposite direction the deer will take his back track and follow it for some distance. I have noted many exceptions, but still this is the best rule to follow. If the hunter follows a deer after he has been "jumped," he will keep going in the general direction of the wind until he either finds water or tires the hunter out. By taking advantage of this trait, two men can work together and get the deer; this is hard work and I never make a practice of it unless I am after an especially fine head.

When I am giving a friend a shot at a deer I follow one of two courses. If I am reasonably certain as to just where the deer will lay, I leave my friend on the track a quarter of a mile or so back from where I expect to find the deer, and go around and drive him back. If I am not certain as to where I will find my deer, I take my friend ahead and leave him at what looks like the best vantage point and I go back and take the track through. I do most of my hunting alone, however; and my advice would be to do it this way, for there is a certain satisfaction in the thought that you went after your deer and got him alone.

For the Hallowe'en Party

By ADDIE FARRAR

A NOVEL decoration for a table is a small cornstalk sheaf, one about three feet high with a few of the ears attached. Take an empty peach basket and turn it upside down on the table, and around this tie the cornstalks so that the support is entirely hidden and the stalks form a pyramid. Around the base place small pumpkins, apples, pears, grapes, gourds filled with nuts, yellow cucumbers, red and green peppers and grapes. This is better for a centerpiece for a very large table or for the church Hallowe'en supper.

Another plan is to use a huge, hollowed-out pumpkin for a centerpiece and fill it with shining red apples and other fruits or, better yet, if you have an old black iron kettle place it in the middle of the table, hanging it from a tripod, and fill it to overflowing with fruits and autumn vegetables. Beside it, stand a witch, either a doll dressed up or one made of paper, and place around it a lot of little papiermache cats, that cost five cents each in the ten-cent stores.

From black paper cut cat faces, and make candle shades of them, and use them for decorating the table in any way you can. Small witches, which may be used for favors or to hold the place cards, are easily made of clothes pins and paper. Paint the head of the pin white and then mark a witch's face on it with black ink or paint. Dress the witch in the usual costume of red and black and white, using crepe paper, and cut out a small witch cap of either black or white paper and paste on the head. Make her a little broom of a few bits of wheat or cornstalk, and if you care to go to the expense you can stand a tiny boughten black cat of papiermache by her side.

It is also a novel idea to place beside each plate, a blank card on which you have previously written the name of your guest in a weak solution of sulphate of copper and then rubbed over with a little ammonia. This, later, when flame or heat comes near it, makes the name appear in beautiful hues. On the other side of the card write a silly prophecy or a verse you think suitable to the guest—a sort of fortune verse—using a mixture of sulphuric acid, one part to twenty drops of water, being sure to write with a quill pen. When dry, this writing is in-

visible, but when exposed to heat it appears vividly. Have one of your household gowned as a witch, who appears in time to answer your announcement that you have engaged a witch to read, through her magic the blank cards, and tell to each person present their fortune. The witch appears with her magic lamp, and using all sorts of funny, muttered incantations, proceeds to hold the card near the lamp. Much to the amazement of the guests, the writing appears visible. When the card is handed back to the owner, it is again blank. This is very amusing for a part of the supper, and creates all sorts of fun.

At the end of the supper, which should be simple, and in keeping with the informality of Hallowe'en, a good menu consisting of white and brown bread, sandwiches, chicken salad, pumpkin pie, ginger bread, doughnuts, apples, nuts, cider, coffee, and if you like, olives and pickles, let all the guests stand and drink of "lamb's wool," an ancient ceremony, which will insure to each one, luck for the coming year. This beverage is made by bruising roasted apples and mixing with milk. Then cut the soul cake with much ceremony, and give each guest a piece. This is the cake in which has been baked a ring to denote marriage for the one who gets it—this marriage to take place within the year—a coin, to denote riches, a button for bad luck, and a thimble for bachelor or spinsterhood.

Before you part, dance to slow music, the magic circle to determine your luck. The dancers form a solemn circle, no one daring to laugh, and the music must be appropriate. Slowly circle with hands clasped in hands around one who stands in the middle, blindfolded. Each one in the circle wears a string around his neck, some having on their string English walnuts, which denote good luck, and other Brazil, which denotes very indifferent luck. As the circle moves around the one in the center gropes about and tries to touch a player. If the one he touches wears an English walnut then good luck will be his, if a Brazil nut, indifferent luck, and if he touches more than one player in his groping he will have bad luck. Each player is in turn blindfolded and tries his luck ere the circle breaks up.



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"Contraband" RANDALL PARRISH

"From what I've seen of Olson he'll do his share of the fighting," I answered, knowing the Swede to be hot-tempered, and touchy about his size. "However, one will have to carry it."

"It's all right, sir," said Olson quietly, "I'll hold the glim, but if that big duffer doesn't stand up to the job, I'll bust glass and all over his head."

We certainly made a thorough search of it. I doubt if a stray rat got by us without being seen, but from the after-cabin to the engine-room ladder we found no trace of Bascom; no indication even that he had ever passed that way. Beginning with the steward's pantry, we explored every nook and corner, flashing the light of the lantern into bunks, and behind sea-chests; clambering over boxes and barrels in the storeroom, even lifting the iron cover of the lazarette, and prowling about among the various articles stored below. The effort to locate Bascom's hiding place was absolutely vain—the cunning of the madman overcame our diligence and wit; he had disappeared as though swallowed by the sea, leaving not so much as a clue behind.

Beyond the hole leading to the engine-room below, our advances were blocked by a steel bulkhead, watertight, pierced by a single door, to be sure, but this was closed and locked securely. To the best of my knowledge this door had never been opened since the ship left Baltimore, and its mechanism had probably been operated from the demolished bridge. I could conceive of no way in which the crazed man could have proceeded further forward. From this point clear to the forepeak the cargo had been loaded almost chock with the main deck, and the hatches had not been lifted for a week; indeed they were battened down and it was likely the air was foul enough by this time to strangle any human being.

"Is there any communication between the forecabin and the hold, White?" I asked, staring helplessly at the steel barrier.

"No, sir; the forecabin is all above deck."

"How was this door manipulated? Do either of you know?"

"Well, I had charge o' loadin' the after-hold, sir," and Olson scratched his head trying to remember. "That door never was opened but once, when Captain Hadley tested it before we got out in the Chesapeake. I think it was opened and shut from the bridge, Mr. Hollis."

"That is the usual arrangement, but there is a slot here for a key; still the door is steel, and it looks too heavy for any one man to operate."

I leaned over, and looked down into the lighted engine-room at the bottom of the shaft. All I could see was a great wheel steadily turning.

"Masters."

The engineer stepped into view, and peered up into the darkness; he appeared burly and shapeless.

"That you, Captain?"

"Yes. Bascom, the owner, has gone crazy, and has hidden himself somewhere on board."

"Well, I'll be hanged. Can't you find him?"

"Not yet; we've searched every place aft. He hasn't visited you?"

"Not to my knowledge. Tony is back in the fire-room; I'll ask him."

The three of us clung to the ladder gazing down, the light from the lantern revealing our faces. Masters was not gone but a moment, but his voice was changed.

"Tony's killed, sir," he called up excitedly. "He's lying on the coal in

number one bunker, cut in the back with a knife."

The words were not out of his mouth before we were scrambling down. But our haste gained us nothing. The only trail Bascom had left was the dead Italian, stretched out in the half emptied coal bunker, his lips closed forever. It was a knife thrust which had killed him—just such a thrust as had done for his two mates in the cabin above; but the madman had disappeared. However, here was proof positive that the fellow was still on board; still hiding between decks. He had not reached the open, or flung himself into the sea. Surely within the narrow confines of the ship we could run him down. Yet the situation was baffling enough. Masters could tell us nothing; he had heard no sound, seen no shadow. He had been oiling the machinery and a man could have slipped down the ladder unobserved, and escaped again in the same way. There was no other entrance to the engine-room; the forward bulkhead was solid; there were two ventilator shafts, but neither was large enough for the passage of a man's body, and the coal-chute was kept closed and locked at sea. Nevertheless I had these examined, determined to take no chances, and our lantern penetrated every inch of the engine-room and coal bunkers. At the end, utterly baffled, White gave vent to an oath.

"It beats me, sir," he confessed hoarsely, "unless it's a spook we're a-huntin' for."

"I wish it was; the trouble is it's a man, and a mighty dangerous one. Well, he's not down here, and he must have gone back by way of the ladder. The fellow has either found some means of getting into the hold, or else he's managed to slip on deck and perhaps is hidden in the forecabin—no one messes there now?"

"No, sir."

"Then let's have a look up above; come on."

"Yer ain't goin' ter leave me down here all alone, are yer, Captain?" questioned Masters anxiously, "with Tony lyin' dead in there, an' a murderer prowling about?"

"He'll not be down here again, but I suppose you must have a fireman—White, you better stay."

"Tain't no job I like, sir; I shoveled coal here already for eight hours."

"I'll tackle it, sir," interrupted Olson quietly. "That big boob would throw a fit down here every time he saw a shadow. After you get those hatches off send him in on top o' the cargo. There's be no danger o' his gettin' hurt if Bascom was a hidin' there."

"Yer a liar. I ain't no more afraid than you are!"

"Then why don't you stay here?"

"I'm plumb tired out shovelin'."

"That will do, men," I broke in sternly. "There will be work enough, and maybe fighting enough for both of you. As long as you have volunteered, Olson, you may take a turn down here, and White will go with me. Keep a sharp eye out, you men below."

The two of us clambered up the iron ladder, the sailor with the lantern in his hand, the marlin-spike thrust into his belt. I tested the bulkhead door again as we came to it, but it seemed as solid as the steel wall itself, and thoroughly satisfied that it had not been opened since the ship sailed, we mounted to the open deck.

CHAPTER XXXVI.

The Work of a Fiend.

IN spite of what I knew; of the horror and tragedy I had just left behind; the unspeakable terror of feeling that somewhere aboard, hidden



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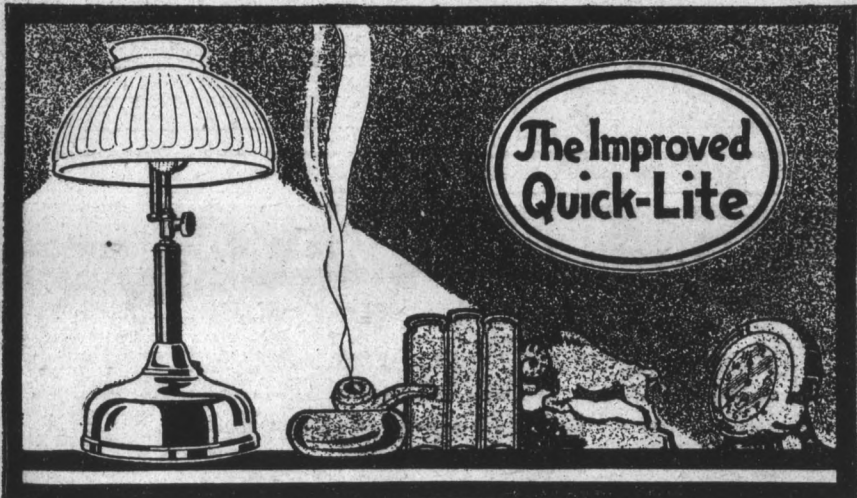
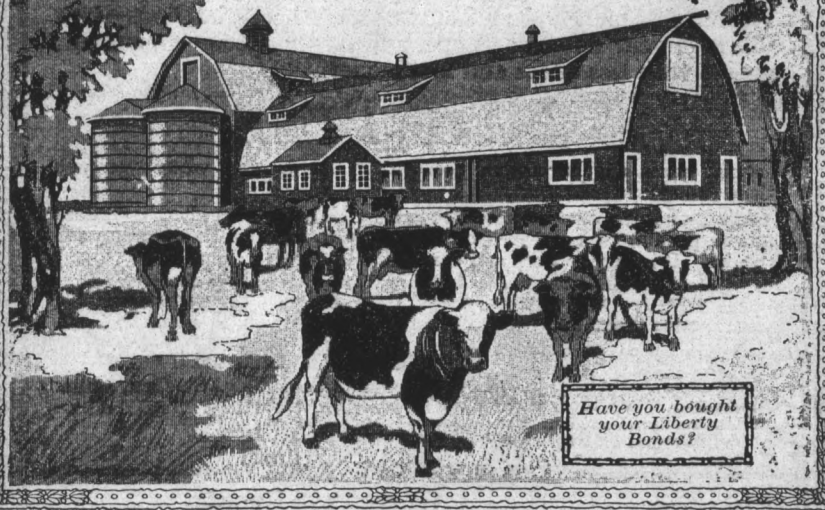
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in some black corner, lurked an irresponsible being, with murder in his crazed brain; a being devoid of all impulse, save the frenzy of hate, the desire for destruction, yet the sight of that cool, silent deck, already darkened by the gathering shadows of night, instantly calmed me, and brought back my powers of reasoning. The man was not aft; then he must be forward. It was impossible to hide long on ship-board in the face of an intelligent search. Already we had peered into every corner abaft the engine ladder below decks; all that remained unvisited was the hold, chock to the deck beams with cargo, both hatches battened down, the forecabin, the paint room, and the dign, ill-smelling recesses of the forepeak. Of one thing I was decided—if the fellow had, indeed, succeeded in slipping forward unobserved, he was never to be permitted to return aft again unseen. I would, first of all, see to it that the decks were guarded, and then the rest of us would hunt him in his hole.

"White, you remain here in front of the cabin. and keep your eyes open. Don't let a shadow get past you aft; you understand?"

"Aye, sir."

"Give me the lantern. There is no knowing what that fellow may do; he might fire the ship, or wreck the engines, unless we get him in time."

"You think he's forward, sir?"

"Where else can he be? I'll put another man at the mainmast, and then run him down."

Leayord, attracted by the gleam of the lantern, leaned out over the poop rail.

"That you, Captain? Have you got Bascom yet?"

"No; he has managed to escape, and get forward, but not without leaving another victim behind. Tony Rapello is dead in the stoke hole."

"The bloody villain! How did he ever get out of there?"

"Which is more than I can figure out; stole on deck, probably, and then slipped along in the rail shadow. Where is McCann?"

"Just gone forward to fix the ridin' lamps."

"All right; sing out to him to keep his eyes on the deck. There doesn't seem to be a great deal of wind, or sea, Mr. Leayord; do you imagine Miss Carington could hold the wheel for half an hour?"

"I don't see no reason why she shouldn't, sir; I've seen her do it in worse weather."

"Then ask her, please; I'm likely to need both of you if we round up that fellow. He's crazy and armed, and sure to fight hard. Pick up any weapon you can find, and come down here."

They were beside me almost instantly, eagerly questioning as to what had occurred below, their faces expressive of the deep horror both felt at the situation in which we found ourselves. Under other conditions I know I should have felt sincere sympathy for the suddenly stricken Bascom. His former friendship with Vera, what I knew of his misfortunes, the very conception of the man's character which I had formed myself during our brief acquaintance on board, all tended to make the man an object of pity. The murders he had committed were but the result of a diseased brain, the sudden snapping of responsibility. Nor did the dead men make any special appeal; they had been when alive the scum of the sea, treacherous and brutal; enemies to be watched and guarded against. All we had lost through their deaths had been the use of their hands in navigating the vessel. Even now I held Philip Bascom, if restored to his normal condition, worth all of them. I could not hate the man, or seek him evil—but I could dread him. That was the whole of it—dread. Here was a man crazed, murderously insane, who had safely tasted blood, whose insanity

had been caused by fear, and brooding over a great wrong. In his disordered brain a mad, desperate desire for revenge had overshadowed all else. To obtain this no deed was impossible, no crime too hideous. And this creature was hidden somewhere between decks, and, unless discovered and made captive, held in his hands the fate of every soul on board. The thought of what he might do during the black darkness of the night terrorized me. There was no guessing what crazed scheme his insanity might concoct—fire, a wrecked engine, an open water cock; a dozen different possibilities flashed through my mind, each frightful in its suggestion of potent evil. At any cost we must have him within our control; we dare not even wait in hope that the man might reveal himself—we must go after him, crawling in the dark, feeling within crevice and cavity, until we uncovered his hiding place.

I explained this quickly to the two men, hiding none of my own fear, but making them comprehend the desperate need of a thorough and ceaseless search.

"He's forward, sir; that's clear enough," insisted Leayord. "We'll nab the fellow in the fo'castle yonder accordin' to my notion. What do yer say, Red?"

"That's how I lay it out," coincided the big sailor, clinching and unclenching his hands. "He sure ain't aft; thar ain't no way I know how he could git into the hold with the hatches down; so thar ain't nothin' left except the fo'castle, an' the forepeak. We'll find the cuss thar all right, sir."

"Good; White and McCann will guard every inch of the deck, while we take the forecabin first. Bring the lantern, Leayord."

The door was two-thirds shut, and we slid it wide open to gain entrance, feeling our way cautiously down the steps. The place had never been a sea-parlor, but now, deserted by the crew, it presented as dismal a scene, in the dim light of the lantern, as I ever put my foot into. The air was foul with bilge-water, while rotting garments hung to the beams above, or were strewn along the deck. The shadows were grotesque and hideous, and much of the space was cluttered up by discarded sea boots, battered chests and miscellaneous ruffraff which the men had left behind in their flight. I stopped at the foot of the steps, but Leayord and Red advanced to the tier of bunks, the former lifting the lantern, while the latter took survey within each. They made the circuit without evidence of any discovery, Liverpool cursing as he stumbled over various impediments in the uncertain light. Except for their heavy breathing, the occasional rush of frightened rats, and the sturdy pounding of the seas without there was no other sound. Altogether the surroundings were too depressive for description; the scene was squalid, unwholesome, suggestive of wreck. We found no trace of Bascom, but at that I was glad enough to be back again on the open deck breathing in the fresh night air. It was like a tonic.

The paint-room and the forepeak came next, and I explored the latter myself, as there was scarcely room in the narrow space for even one to creep about. Pushing the lantern before me, every nerve singing like a copper wire, I crawled out at last, dripping with perspiration, and as black as though I had been for half a day in the coal hole. To Leayord's inquiries I could only shake my head.

"Well, sir," he said obstinately, "I'm a sailorman, but I never did believe in ghosts, an' I ain't a-goin' fer ter believe in 'em now. It warn't no spooks what I did this job. This yere Bascom was a sure enough human the last time I put eyes on him, an' I don't reckon he's changed much since, 'cept maybe in his line o' brains; do you, sir?"

"He's flesh and blood, all right if

that is what you mean; only insanity makes them cunning."

"That's what I said to Red here while you was crawling around in the forepeak, lappin' up bilge-water. He reckoned it might o' bin a ghost doin' these things; but I claimed that ghosts don't shove knives into sailormen; leastwise I never heard o' none that did. So it naturally stands to reason, sir, that this bloomin' lunatic is still aboard somewhere. He never got out them cabin-ports, for a cat couldn't git through 'em. He never went over the rail, or some o' us on deck would a heard the splash alongside; so there's n'thin' left but that he's still on the ship."

"Ain't that so, sir?"

"Why, yes, Leayord; I am unable to see it any other way—but where?"

"Well, there ain't but one place aboard unexplored, sir. I don't know how he ever got there, but he's either there, overboard, or aloft; or else I've got to take my hat off to Red here, an' acknowledge it's a real ghost we've got aboard the old hooker."

"The cargo hold?"

"Aye, aye; I'm fer takin' off the hatches, and letting a man or two creep around down there; we've got to find out where that devil is."

There was no answering his logic, and a determination to complete the job was already in my own mind.

"Get the tarpaulin out of the way, Liverpool," I said sharply, throwing the lantern where the light was needed. "Cut it loose, man, don't waste time with the lashings; there's plenty of spare canvas in the sail room. What is stowed below, Mr. Leayord?"

"Well, sir, I never told you, for I didn't see no cause. There was a lot o' boxes come on board, sir, maybe a thousand of 'em, the ends clamped with iron an' they was almighty heavy. We had to load 'em with the donkey engine, an' most of 'em were dumped in just below the main hatch."

"Do you know what they contained?"

"Mr. Bascom told me they was army stoves, sir, and maybe he thought they was, fer he seemed sure about it; but along at the last the hook slipped off one of them, an' the box dropped about thirty feet, smashin' the whole end of it in—it was full o' loaded shells."

"Loaded shells?"

"That's what; there was powder enough scattered about there to blow the whole ship to pieces."

"What did Bascom say?"

"Nothin'. He was ashore, an' a lot of longshoremen were doin' the loadin'. I don't believe they even knew what the stuff was. I made 'em scrape up all the could and throw it overboard. I never told the owner. Likely 'nough he knew what he was bein' loaded with an' I've sailed with more dangerous cargoes than that; but that's what's below us—loaded shells."

"No doubt there are other explosives aboard. The greater reason for us to lay hands on Bascom. Take hold there with Red and help rip up that tarpaulin; now get the point of this capstan bar under the hatch closings; here's your lever—it'll take the weight of the three of us to move the iron—now, heave ho!"

We bent to it, exerting every ounce of strength, encouraged by the fact that the heavy hatch yielded to our combined effort, and began to move, to lift over the grooves, and shove back slightly. With no other thought but to gain opening enough for another insertion of the lever, we bent to the task. Something caught, rendering the great iron lid immovable.

"White," I called, "come over here and give us a hand."

I heard him patter across the deck in his bare feet, but before he reached the bar, the fellow stopped, staring at the narrow opening, and sniffing like a pointer dog.

"Lay hold!" I called angrily. "The weight is breaking our backs."

"But there's fire below, sir," he roared excitedly. "That's smoke a risin' out o' the hatch—the cargo's afire."

I saw it now, and so did Red, and the mate—a thin, circling vapor barely perceptible in the night, curling up through the hole we had succeeded in forcing. For an instant I hardly knew it as smoke, but the fresh draught of air had already worked its miracle, and the wisp thickened as I stared into a threatening black coil, darting upward into our very faces. I dropped upon my knees, shading my mouth as best I might, and sought to peer down into the black void between decks. Away forward a red eye winked out of the darkness, then another, and a third. I leaped to my feet, realizing there was no hope, nothing we could do but get away alive—and, if we were even to do this, every second was worth a king's ransom.

"She's afire forward!" I exclaimed, striving to control my voice. "That is where the fellow was, and he's done the job; there's no stopping her now."

"There's plenty of hose forward."

"But the donkey engine is not connected, and we dare not take chances with all those explosives below. Great scott, man, we may go sky high any second. Don't stand talking; get over the dinghy, it's the only boat we have; haul her aft and swing her to these falls below the after-hatch—that will give us a chance to get away, perhaps. Jump now, the three of you. No! wait! Red and Leayord can rig the boat, and I'll give you a hand when you hook on. McCann, get a beaker of water in, and some biscuits; we'll have no time for anything else. Hurry men! there's a flame breaking through now!"

There was; a red serpent, sticking its ugly head up the hatch opening, the ghastly light glimmering in our faces. The men seemed fairly paralyzed at this sudden outburst of new horror, but I drove them, even using hands and feet in my mad desire for action.

"Aft with it now—aft with it. All will be a mass of flames amidship in five minutes. Is there water in that keg, McCann? Then throw it in!—now the biscuit. Miss Carrington—Vera!"

"Yes, Captain Hollis!"

"Can you hold to the wheel a few moments longer—till I come for you?"

"Yes."

"Call down the tube to the engine-room; tell Masters and Olson to come on deck at once—as quick as they can foot the ladder."

"Yes, sir."

The cool quietness of her voice calmed me as though she had pressed her hand on my brow in fever. I sprang to the help of the others, assisted to hook the light dinghy onto the falls, lifted it clear of the deck, and swung it outward over the rail. The flame streaming up the main-hatch by this time gave us light enough, and helped hurry our movements. I saw Masters and Olson emerge from the shaft, stare at the red glare, and run toward us. I have a vague impression that McCann burst out of the companion, a bag of biscuits in his arms, and flung it into the stern-sheets of the dinghy. He must have done so, for later the biscuits were there. But it was impossible to think of these things, to see clearly, to realize just what was happening. Every second I expected the ship's deck to rend asunder under our feet.

"Overhaul those pulleys, Leayord; no, we'll load at the rail, and lower from the boat itself—are there oars? that's it; stow 'em. Olson, to the wheel with you; take a couple of turns about it with a rope's end, and help the girl down. Over the side Red, and ship the tiller; now lads, over with you. Masters, you and Leayord lay hold of the ropes—don't lose your heads now and lower too fast. Here, Red, help the lady; step quick; dear; yes, I'll come—are you all in, now where's McCann?"

(Continued next week.)

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Woman and Her Needs

A Woman's Problems

I HAVE been wondering this morning, just what is the particular problem of my many readers, and how I could best help the hundreds of busy women who snatch a half-hour from "cold packing" or drying to look over the paper for a new recipe or a quicker way to do things. For, while we all have the same general problem, the thing which bothers the woman on the forty acres of new land, with a mortgage and no drainage thrown in, is vastly different from that of the woman in a thickly settled part of the commonwealth, where R. F. D.'s and telephones are considered as necessary, and are as common as plows and harrows. That is why some things which appear in this column are misunderstood by a part of my readers, and I am stoned by some for things which others receive with glad huzzahs. The great trouble is that so few of us have what a friend of mine calls "Experiencing Hearts." We can not put ourselves in the frame of mind probably experienced by others, but must see everything from our own point of view, and in the light of our own experience.

Canning and pickling, the war, knitting for the Red Cross, getting the boys off to Camp Custer, or whatever our nearest cantonment happens to be, the menu for the next Farmers' Club or the program for the Grange, these are all questions which concern all. But the one particular thing which bothers us as individuals is the thing I've been trying to settle on this morning. And because I can't decide whether it shall be the lack of labor-saving helps in the kitchen, the absolute necessity to buy new blankets and the high price of wool, whether to put our summer savings into a fur coat or a liberty bond, I've decided to air my own particular pet and present grievance: How to teach habits of tidiness and pick-up-attiveness to two boys aged nine and ten years. I've been trying it off and on for nine years, and perhaps that is why I haven't succeeded. There has been about as much off as on, perhaps a little more. A little better than half the time mother or grandmother, or the girl who was then chief helper, have done the picking up because it was easier than to call the youngsters in and make them do it, or neater than waiting until they got home from school. At one time there was a standing rule that the boy who did not take care of his clothes and toys should be brought in and made to sit still twenty whole minutes after he'd picked up. This corporal punishment worked well and for a time tidiness reigned. Then material vengeance slumbered and in the course of months the "last state of the boys was worse than the first."

This summer there was a reward of one cent a day for a neat room, with a fine of a cent for failure to "tidy up." This worked for awhile, but when a chap's in a hurry, a cent isn't bigger than a grain of sand. The average has been four cents, until last week when it collapsed to 0.

Now what is a poor woman to do? How am I going to give those boys a sufficient incentive to make them remember, without being continually watched? If I had time I might follow them about every day until the habit was firmly fixed. But who has time, or energy, in these busy days to camp on the trail of two real boys?

If I was sure they'd outgrow the habit as they get older it would not bother me so much. But as these are the oldest I have no previous experience to

go by. Is this one of the phases through which they pass, and will age teach them the desirability of keeping the crease in their trousers by folding them neatly when they take them off and putting them carefully away, and the fatal effect of throwing a white waist in the corner? Or is this a case of "as the twig is bent the tree is inclined?" Some childish habits drop away. Is this one of them?

I keep having fearsome pictures of the small girl growing up who is to be tormented by them throughout all the coming years. I can almost hear her say,

"It's a wonder your mother never taught you to pick up after yourself."

And still I don't seem to make any headway in getting a settled habit fixed. Are my boys exceptions in this carelessness, or are they just boys, with a bad habit common to all the breed?

That one particular thing bothers me more than why the peach and apple jelly didn't "jell" after it had responded to the alcohol test for pectin. I can find that out by a little research and experiment. But will someone please tell me how to make a boy remember to hang up his pajamas, instead of leaving them on the floor for someone else to pick up?

DEBORAH.

HOME QUERIES.

Household Editor.—I noticed in a recent issue of the Michigan Farmer the inquiry of Mrs. F. G. for a good plain recipe for canning corn, and also your reply to same. No doubt the method given is fine, but I am sending my method and would be glad if the lady would give it, at least, a trial. Cut the corn close to cob but do not scrape. Use thirteen cups of corn, one and one-fourth cups of sugar, two-thirds of a cup of salt, and one and one-half cups of water. Put in kettle and boil for twenty minutes, counting from time corn begins to boil. Put into hot cans and seal. This makes two quarts. When about to use corn, freshen by covering with water and bringing to good heat, not necessarily boiling; drain, and season for table. One beauty of this formula is that corn keeps fine, and a can opened in cold weather will keep for two weeks. The corn is as finely flavored as when fresh. Here is my rule for green cucumber pickles, one which is no trouble. For two-quart can take two tablespoons of mustard, two of salt, and four of sugar; moisten with vinegar, pour over cucumbers which have been packed in can, and cover with vinegar. Dilute vinegar as necessary. I put up one can, using mixed spices instead of mustard. Result, my pickles all withered and rose to top of can. Why did they do this? And can someone tell me how to use spices with satisfactory results?—Mrs. W. N. C., Rives Junction.

If spices are to be used the cucumbers should be soaked for twenty-four hours in strong brine, the brine poured off and scalding vinegar, in which the spices have been boiled up, poured over the pickles. The vinegar may be reheated the second morning and again poured over the cucumbers.

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"Kero-Oil" Engines

Immediate Shipment—All Styles—2 to 22 H.P.—No Waiting—Big Factory—Big Output—Prices most favorable. Write for my terms and prices—Cash, Payments or No Money Down.—ED. H. WITTE, Pres.
WITTE ENGINE WORKS
2192 Oakland Ave., Kansas City, Mo.
2192 Empire Bldg., Pittsburg, Pa.

I Save You \$15 to \$200

National Food Pledge Week

UNDER the direction of the Federal Food Administrators, a National Food Pledge campaign is planned for the week of October 21-28. This will be an intensive drive to enroll all American families as members of the Food Administration.

A million and a quarter signatures were secured to the pledge cards during the summer by the Woman's Committee of National Defense. This was a great achievement, for the handicaps were many, but the goal of this



Food Administration Seal.

new campaign is to secure pledges from the rest of the twenty-two million American families. It will be worked as a sharp campaign to cement all America into one great fighting family.

Every man or woman who signs the pledge card becomes voluntarily a member of the United States Food Administration, and promises to carry out its directions and advice on food economy as far as possible. Thus America seeks to accomplish what Europe has wrought by stern legal enactment.

In his address to the state officials, Food Administrator Hoover explained the psychology of the pledge card. "We need," he said, "some sort of a moral, definite attachment of every household in the country to national service that will form a binding link, that will maintain the constancy of reaction in the household over the entire period of the war."

The state campaigns will be worked through state executive committees down through county, city, village, and township committees. The Federal Administrators have complete lists of families by counties, and the campaign workers are prepared to reach every family from the most crowded city tenement to the remotest farm home.

All existing organizations will be utilized in reaching these. It will be a man and woman proposition, calling

for the voluntary services of enthusiastic community leaders. Their work will be backed up by the publicity furnished by newspapers, moving pictures and terse posters that carry the story. The fact that the campaign will be carried on by communities and states will doubtless inject into it a large element of competition. The results will be communicated each day from the county committees to state headquarters, and from there wired to Washington. Each town and county is expected to try for a 100 per cent record and the Food Administrators count on a final tally of all America.

This means that in the windows of every American home will hang the emblem that pledges that family, man and wife, young and old, to food conservation, and to an open declaration of allegiance to the government.

To the Women of America.

Faithfully you have guarded the altars of the home. Now, come forth from the kitchen! Lift your eyes to the light of a larger service! The task is stern—but the service boundless—yours the charge to hold the line from the hearth fires of America to the camp fires of Europe.

Take the solemn oath of allegiance to your country. Enroll for active duty with the Service Army of the Republic. Emblazon your colors, and follow the Flag.

THE NEW PLEDGE CARD.

Pledge Card for the United States Food Administration.

To the Food Administrator:

I am glad to join you in the service of food conservation for our nation and I hereby accept membership in the United States Food Administration, pledging myself to carry out the directions and advice of the Food Administrator in my home, insofar as my circumstances permit.

Name
Street
City
State

There are no fees or dues to be paid. The Food Administration wishes to have as members all of those actually handling food in the home.

Anyone may have the Home Card of Instruction, but only those signing pledges are entitled to Membership Window Card, which will be delivered upon receipt of the signed pledge.

If you have already signed, pass this on to a friend.

WHOLE-WHEAT BREAD.

Whole-wheat or Graham Bread.—One and a half cups of lukewarm milk, three tablespoons of brown sugar, one and one-fourth teaspoons of salt, three cups of whole-wheat or graham flour, half an yeast cake. Scald the milk, together with the sugar and salt. When lukewarm, add the yeast, mixing it first with a little of the milk. Add the flour, beat well, and let it double its volume. Beat it thoroughly, put into a pan, and let it rise. In a pan of standard size it should come nearly to the top.

The above recipe may be used in preparing bread from home-ground meal. There are many homes, particularly in the country, where the housewife can obtain unground wheat at a moderate cost. If ground in the ordinary coffee mill, such wheat makes a coarse bread, not very light in texture, but of such good flavor that it may well be used occasionally to give variety to the diet. It is useful, too, in places where good bread can not be obtained easily and where coarse breads are desired as a means of pre-

venting constipation. In making such bread with a view to economy the housekeeper should compute what it will cost her per loaf, including labor and fuel, as compared with other breads she makes. Skim-milk instead of whole milk can be used; home-made yeast, either liquid or dry cakes, is a possibility; some might like the bread with less sugar or unsweetened.

Home-ground Wheat Bread.—One and one-fourth cups of water or skim-milk, one and one-fourth teaspoons of salt, one tablespoon of sugar, three cups of home-ground wheat flour, half cake of dry yeast, or one gill of liquid yeast. Set a sponge at night, using half of the flour. In the morning add the rest of the flour, beat well, put into a greased pan, allow to rise until it doubles its bulk, and bake.

Red and yellow apples, polished and hollowed out to receive the end of a candle, make neat candlesticks to be used at a child's party, especially would these be appropriate where a color scheme of red and yellow is carried out, or they would be very appropriate at a Hallowe'en party.—M. A. P.

Columbia Grafonola

And Records



"Ask all the questions you wish"

The more questions you ask about the Columbia Grafonola the better.

You are to have the phonograph in your home. You and your family will listen to the music. You know the instrument that plays music the way you want it played. You are the judge and jury. You are the one to be satisfied. So the Columbia dealer wants you to go the limit and "ask all the questions you wish."

Learn the joy of buying a phonograph the Columbia way. No hurry. No rush. Listen to as many records of your own selection as you wish. Play them on the different models of instruments. Compare Columbia Grafonolas with other machines for brilliance and mellowness of tone-reproduction. Compare them as examples of beautiful specimens of the cabinet-maker's craftsmanship.

If you want to try the Columbia Grafonola at home in the very setting in which it will be played, any Columbia dealer will gladly arrange such a trial for you.

Columbia Grafonolas are priced at \$15 to \$350

Columbia Graphophone Company, New York

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To try in your home 30 days free no matter where you live. Show your friends, send it back at our expense if you do not want to keep it. Million members of families enjoying the comforts and pleasures of "Hoosier" Stoves & Ranges, perfect bakers and heaters, beautifully finished, smooth latest design, guaranteed for years. Write for our big free book showing photographs, describing large assortment of sizes and designs of Steel and Cast Iron, Coal, Soft and Hard Coal Heaters, to select from, explaining our free trial. Send postal today.



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Malt Cereal

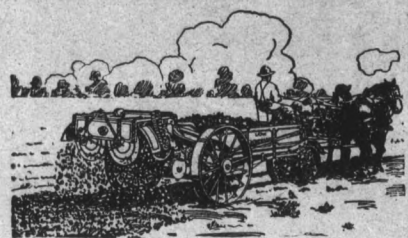
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Contains 65 to 70% Malt Extract. 10c per lb., f.o.b. Milwaukee, in 20, 50 and 100 lb. packages. WRITE FOR SAMPLES AND CIRCULARS. Dept. 180, 502-27th St. Milwaukee Importing Co., MILWAUKEE, WISCONSIN

MATURE woman for general housework in Christian American family of six. Well equipped modern home. References exchanged. Address by letter. Mrs. William H. Adams, 130 Farrand Ave., Highland Park Mich.

Invest in One of These!



WHEN corn was selling for 50 cents a bushel, one of our dealers made this offer to a skeptical farmer: "Use this manure spread-

er to top-dress 20 acres of your 40-acre corn field, putting on eight loads to the acre. Leave the other 20 unmanured as you meant to do with the whole 40. I will take the difference in the yield between the two 20's for the spreader." The farmer agreed, thinking to get his spreader at a low price.

The 20 on which he used the machine produced 512 bushels more than the other 20. He paid the dealer \$256.00 for the spreader—a great deal more than its present selling price. Today, higher prices would make that difference about three times \$256.00!

You simply cannot afford to be without a spreader when it will pay for itself like that. Hand spreading is out of the question. You want the manure pulverized and spread evenly, not dumped out in big lumps unevenly.

Now that we have added the New No. 8 Spiral Wide Spreader to the Low Corn King and Low Cloverleaf lines, we are in a position to suit any farmer. The No. 8 machines are for the average small farm, very light draft, narrow boxes, spiral wide spread (regular). Our big No. 6 machines—Corn King, Cloverleaf and 20th Century—are "whales for work", easy handling and loading, steel construction, light draft. With the No. 6 spreaders you may have the efficient disk wide spread (regular) or the new spiral wide spread (special).

Here is a spreader for every farm. This year, of all years, you need one. Write us for full information.

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Uncle Sam counts on you

to serve the nation by getting the most feed value out of your crops. Without increasing acreage or yield, you can get 25% more corn feed by husking ears and making fodder of stalks, leaves and husks—besides saving labor over hand husking.

The Appleton cuts or shreds stalks and leaves, while husking ears. The original successful husker; so strong and simple that first models, made years ago, still give good service.

Guaranteed to do more work with less power

than any husker of equal size. Husks cleanest; shells least, has most efficient corn saver. Easiest, safest to operate—works in all conditions of corn. Sizes for 4 h. p. engines and up described in our **FREE HUSKER BOOK**. Write to

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Why bother with short-lived, all-wood gates? Why pay war-time prices for steel or wire gates? My new Liberty "Can't-Sag" Gate, guaranteed 5 years, now costs you less than home-made gates.

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outlast three ordinary gates. Made with either 4 or 6 inch boards, bolted at every joint. Can't sag, drag, warp or twist out of shape. I furnish complete Gates ready to hang or just the Liberty "Can't-Sag" Gate Steels including angle steels, hinges, lag screws, bolts, etc. In fact everything but the boards with which you can build your own gates and save money. Write for Free Folder today. ALVIN V. ROWE, Pres. ROWE MFG. CO., 531 Adams St., Galesburg, Illinois



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Get It From the Factory Direct. HORSE-HIGH, BULL-STRONG, PIG-TIGHT. Made of Open Hearth wire heavily galvanized—a strong durable, long-lasting, rust-resisting fence. Sold direct to the Farmer at wire mill prices. Here's a few of our big values:

26-inch Hog Fence—24¢ a rod
47-inch Farm Fence—35¢ a rod
48-inch Poultry Fence—37¢ a rod
Special Prices on Galv. Barbed Wire
Our big Catalog of fence values shows 100 styles and heights of Farm, Poultry and Lawn Fence at money-saving prices. It's free. Write for it today.
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Crush ear corn (with or without husks) and grind all kinds of small grain. Handy to operate—lightest running. 10 sizes: 2 to 25 h. p. Capacity 6 to 200 bushels. Conical shape Grinders. Different from all others.

Write for Catalog and folder about the value of different feeds and manures.

THE O.N.P. BOWSHER CO. South Bend, Ind. 10

Fruit and Vegetable Markets

IN the following review of the fruit and vegetable market conditions, jobbing prices and shipments are given for the United States for the period of October 2-9 inclusive.

Crest of Peach Movement Past.

The week ending October 2 was the biggest peach week of the season. Shipments from New York this past week fell off nearly a thousand cars. With the reduced arrivals on the markets, jobbing prices have held about the same level as a week ago.

New York Elbertas are jobbing at \$1.25 to \$2.25 per bushel basket. Due to the car shortage in that section much stock has been stored, and it is estimated that there were about 1000 cars in storage at Rochester last night. As a result of the car shortage, shippers were often unable to load cars when the fruit was ready, consequently the arrivals on many markets have not been in the best condition. The peach crop in Utah this year has been heavy, with shipments now declining; about 1100 cars have been shipped to date.

Movement of Apples About One-half Heavier.

Apples are now appearing on the markets more plentifully. Washington and Illinois especially are shipping heavily, also Missouri and Arkansas doubled their shipments of a week ago. About twice as many apples have been shipped from Illinois to date as last year during the corresponding period. Jonathans from that state are jobbing at \$3.50 to \$6 per barrel. Virginia is now moving a considerable quantity of York Imperials and Jonathans.

Michigan Grape Shipments at Height.

Although the total movement of grapes for this past week was about the same as the week previous, the supply from Michigan has nearly doubled however, the movement to date from that state has been considerably lighter than that of a year ago. The New York crop is also moving quite heavily now, although only about one-third as many cars are being shipped as were last year at the corresponding time. California, with 1035 cars shipped this past week, moved fully twice as many as any other state.

Car Shortage Induces Storing of Potatoes.

Due partly to the shortage of cars this year, most of the Maine crop of White potatoes has been stored this year. Already most of the potatoes in that region are out of the ground, although only about 2000 cars have been shipped, compared with over 5000 last year by this time. In Colorado the car shortage is also inducing growers to store, although not to as great an extent as in Maine. In the large potato sections of the central west, in Minnesota and Wisconsin, the movement is now gradually becoming heavy, although digging is still proceeding at the present time in those sections, so growers have not started bringing in the crop in large quantities. F. o. b. prices have held firm for Wisconsin and Minnesota stock. Potatoes are bringing \$3.25 to \$3.40 in bulk per eleven pecks f. o. b. Presque Isle, Maine. Jobbing prices are firmer on most markets for Minnesota and Wisconsin stock, also in the east, Jerseys are jobbing at \$3.10 to \$4.25 per 150-lb. sacks, which is an advance over the prices a week ago.

Cabbages More Plentiful.

About 300 more cars of cabbages were shipped this week than the week previous. Most of these were from Colorado, New York and Wisconsin. New York and Wisconsin have shipped over twice as many cars to date as last year up to the corresponding time. The heavy buying by the kraut factories has made the shipments less than they would otherwise have been. New York stock is jobbing at \$15 to \$30 per

ton, which is slightly less than the prevailing price a week ago.

Other Fruits and Vegetables.

The pear movement from the west and northwest, namely, California, Oregon and Washington, has declined rapidly, so that now the bulk of the pears are coming from New York, Illinois and Delaware, although a number of states are shipping a small number of cars.

The movement of onions from all of the heavier shipping sections at the present time, namely, California, New York, Ohio and Massachusetts, was less this week than the week previous. Jobbing prices for Ohio stock are a little firmer, at \$2.60 to \$3.25 per 100-lb. sack. Californias are also jobbing at a slightly advanced figure, namely, \$2.85 to \$3.50 per 100-lb. sack.

The crop of celery from Michigan, New York, New Jersey and Pennsylvania is moving at about the same rate as a week ago. The total shipments of celery for the week amounted to 116 cars.

THE COST OF SELLING.

(Continued from page 352).

ered is pretty sure to open the farmer's eyes to the fact that there is such a person as the middleman, and a very prosperous sort of individual he is, too. This knowledge may indicate to him that good selling eliminates that gentleman. Certain it is, most producers look upon the middleman as a necessary evil, maintained as a convenience, though it is well known that his services add materially to the selling cost of the articles he handles. Of course, no one will object to a reasonable commission but when, in the majority of cases, he deliberately gobbles up for himself the major profits of the transaction the matter naturally assumes a serious aspect. Here is a striking illustration: A farmer sold his apple crop several years ago for \$1.50 a barrel. In one barrel he placed this note: "To the buyer of this barrel of apples—kindly write the undersigned, who grew them, how much you paid for these apples." In due time an answer came from the buyer in a western city, saying he paid \$4.25. It took \$2.75 to find a buyer for these apples, while the farmer got only \$1.50.

Evidently, one of the biggest problems of the present day is, how to get the farmer closer to his market. Several years ago the farmers of Kansas evolved a scheme which appears to be equal to the task. A cooperative selling bureau for all farm products was established at the Kansas Agricultural College. So far as I know, the idea is unique among institutions of this kind. By this means the farmers of that state have saved the unnecessary middleman's profits to the extent of millions of dollars. The college does no actual buying or selling, but with complete listings of the state's farm produce and information from all over the country it brings the farmers and the buyers together. The work of the bureau is carried on in cooperation with all the existing organizations of farmers in the state—the Farmers' Institute, the Grange, the Farmers' Union and others, making each local association a sort of branch of the central bureau at the college. In districts where county agents are employed much of the work of organization and of operation is done through these men.

It seems to me that this is a special work that might profitably be taken up by other similar institutions. The whole subject of farm marketing is still rather hazy. However, as the farmer gradually becomes better acquainted with what it is costing him, he will have obtained a clearer conception of the subject, especially that part of it bearing directly on the selling of his own products.

POTATO DEALERS ORGANIZED.

(Continued from page 352).

lar channels of trade unless someone abuses the privilege which they are entitled to exercise. It is the plan of the Food Administration to license all dealers. There will be no expense connected with the securing of these licenses but there will be general rules and specific rules to which the dealers will be expected to comply.

As success is based on confidence, Mr. Miller urges that the dealers do everything to gain the confidence of both the growers and the consumers. "Under war conditions," he said, "we have the means of making men grade." By so doing potatoes which are of some value as food on the farm, but of no value as human food, would be kept there and not shipped at a loss to the grower, dealer and consumer alike." He stated that on an average ten to fifteen per cent of a car of potatoes is waste and in some cases as high as twenty per cent. By eliminating these waste potatoes from shipment the railroad equipment may be economized. In view of the fact that there is not enough of this equipment to properly handle the large crop this is a very important matter.

After Mr. Miller had explained the attitude of the United States Food Administration and the object of organizing, several men present expressed themselves as being in favor of a shippers' organization. Practically all of the men present seemed to feel that the opportunity was at hand when the shippers could get together with a greater assurance of united effort than has been the case heretofore. After voting to form the organization it was agreed to call it the Michigan Potato Shippers' Association. The following officers were elected:

President, F. W. Hinyan, Grand Rapids, Mich.; vice-presidents, C. L. Randall, Oxford, and J. S. Dennis, Brutus; secretary, H. J. Cheney, Grand Rapids; treasurer, John Bale, Lakeview; executive committee, John Wallace, Hart; Joseph F. Gibson, Greenville; Frank A. Miller, Grand Rapids; J. B. Conger, New Era; John Fitch, Traverse City; William Buckley, Cadillac; Ross Squires, Rockford; Chas. Overacher, Kalamazoo.

During the session resolutions were passed urging the need of securing for the grower fair and profitable prices for potatoes—prices to be graded in such manner as to encourage the production of the highest quality of tubers; the suppression of unfounded newspaper stories that give the public the false idea that food stuffs are destroyed for the purpose of holding up retail prices; the importance of cooperating with and supporting the Potato Growers' Association of the state; and the need of educating the grower as regards the loss accruing through selling off the farm inferior and blemished specimens which are unfit for human consumption but valuable for stock feed or, in other words, of the importance to the grower, consumer and dealer alike of proper grading and standardizing of the marketable portion of the crop.

Mich. Ag. Col. C. W. WAID.

MAKE YOUR GRANGE BETTER WORTH WHILE.

(Continued from last week).

We settled the question for awhile, but other matters are constantly turning up to occupy our time, and perhaps it is no wonder that we do not accomplish more in our Granges than we do.

A word about co-operation—many join the Grange expecting to make money out of it. I have heard certain people called "Binding Twine Members." I want to shake hands with the man who comes into the Order for financial benefit. It is one of the possibilities of membership, it is perfectly right, and with all, it is an ambition

which, if it were shared by more people, and if they were more in earnest about it, Granges would grow much faster, and what is more important still we should be nearer to a solution of the "great problem of distribution." Yes, if Granges are to be better worth while, there must be more cooperative buying and selling.

If we would but make this matter a part of our program at frequent meetings, we might work out a plan.

Time and again I have gone into a Grange that did not use the contract privileges to any extent, and found them entirely willing to do so as soon as they were shown something that they could buy and save money on.

Our Grange contracts should afford this opportunity. Generally speaking, they do, though with greater patronage much better terms might be secured. If each of these contracts were investigated carefully and thoroughly more advantages would be shown, and larger patronage would result.

I have never yet asked a member of the Order to use a contract when it was not to his interest, but many times people have made complaints when they simply did not understand the conditions of which they complained. Here as in every other line of rural work, the great need is for the right kind of leadership. A certain Grange in the northern part of the state, some years ago began the purchase of flour and feed. They handled thousands of dollars worth each year with no trouble whatever. They had good leadership. In localities where people buy most of their flour, Granges ought to handle it by the carload. Feeds should by all means be bought in carlots whenever possible. Granges ought to understand fully the sources of the feed sold in the market. Each fall, their membership should be acquainted with the cottonseed meal situation, with the supply of gluten meal, dried beet pulp, oil meal, bran, and in short, all feeds that are in common use. And they should be sufficiently informed and have common sense enough to allow someone else to experiment with new feeds whose value is as yet not demonstrated.

Cedar posts should be shipped just as directly from the forests of northern Michigan as possible. In short, through our system of cooperative buying we ought to shorten the distance between the manufacturer of the things we must buy, and the people who purchase them for use on the farm or in the home. To this end, discussion, investigation, experience should all be invoked.

May we not each and all unite in a common effort toward larger and more successful business cooperation in the year just ahead of us? So shall we retain many of those who have entered our gates this busy summer, and still farther increase our numbers.

W. F. TAYLOR.

CLUB DISCUSSIONS.

Discuss Farm Home Equipment.—The October meeting of the Salem Farmers' Club was held at the home of Mr. and Mrs. Irwin Johnson, with an attendance of forty members and friends of the Club. A good dinner and pleasant social hour was spent after which a fine program was given which consisted of music by the Club, followed by a paper on "The Equipment of a Modern Farm Home," by Mrs. Irwin Johnson. This was followed by music by Miss Grace Geiger, and a reading by Mrs. Claude Bailey, "Exemption." Mr. Halsey Sayre then gave some fine remarks on "The Present Condition of Our Country." The business of the day was then taken up, and it was decided to change the election of officers from December to November, the present officers to hold office until January. The meeting was closed with music by Miss Grace Geiger. Mrs. Chas. Ross and Mrs. W. Rorabacher were appointed committee for the next meeting.—Mrs. I. R. Johnson, Cor. Sec.

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People don't just see how we can make this splendid winter-weight underwear in war times to sell at a popular price. It sure opens your eyes to see all the extra values. Just get this: Hanes Union Suits have a tailored Collar-ette which snugles around the neck and keeps out the cold; Elastic Shoulders with Improved Lap Seams that "give" with every motion; Comfortable Closed Crotch that stays closed; Wrist and Ankle Cuffs that hold shape and keep out winds. Every button is good pearl, sewed on for keeps.

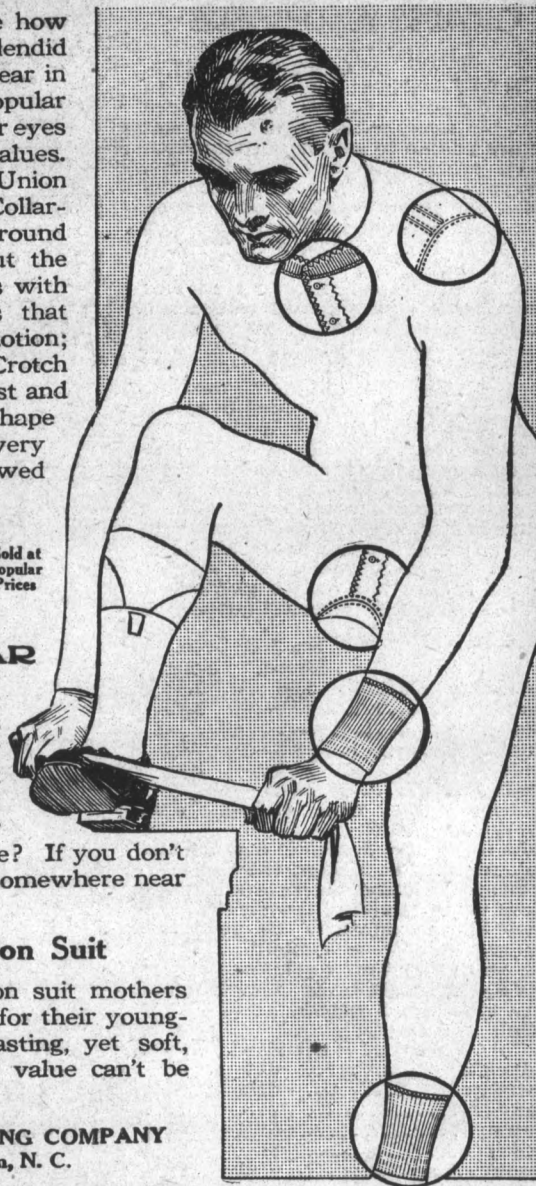
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Whiter-Brighter Than Gas or Electric, at 1/4 the Cost

WE SEND PREPAID, NO MONEY DOWN, 10 NIGHTS' FREE TRIAL. See it, try it, test it in any way you want in your own home, alongside any other light. Then if you feel like parting with it send it back at our expense. The trial costs you nothing. We take all the risk. U. S. GOVERNMENT report shows mantle oil light more than 3 times as efficient as ordinary lamp. The Daylite is whiter and brighter than gas or electric, at 1/4 the cost. Pays for itself in a few months in oil saved. No smoke, no dirt, no odor. Uses common kerosene and is lighted same as ordinary lamp. Simple and safe, cannot explode. Only oil light guaranteed for 5 years. Only mantle light with telescoping tube; full details in complete illustrated catalog—It's FREE.

AGENTS WANTED. No money—no experience—needed. Five out of six buy the Daylite the minute they see it. Wanted in every home. No talking necessary. Sells itself. No capital required. We supply stock, all necessary equipment and protected territory. Men with rigs or autos are making \$6.00 to \$15.00 every day, month after month.

WRITE NOW FOR LAMP—FREE for ten nights' trial. Tell us if you have a rig or auto, whether you can work spare time or steady, your age, occupation, what territory you want and when you can start.

DAYLITE COMPANY, • 321 Daylite Bldg., CHICAGO, ILLINOIS



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Wanted Clover seed and seed screenings. Send for free sample envelopes.
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Profitable Employment

For you if you will represent us in your vicinity. Michigan Farmer subscriptions are easy to get. Experience not necessary. For this money making proposition write Circulation Department.

The Michigan Farmer, Detroit

Markets.

GRAINS AND SEEDS

October 16, 1917.

WHEAT.—Wheat is scarce and in active demand. Orders for flour are large, but many mills are out of wheat and are unable to secure permits from the government to buy at this time. One year ago No. 2 red wheat was quoted locally at \$1.58½ per bushel. Quotations are unchanged with No. 2 red \$2.17; No. 2 white \$2.15; No. 2 mixed \$2.15.

CORN.—Despite the large crop that is now being secured, corn values are being maintained on a fairly firm basis. This is especially true of cash corn. In Chicago futures were easier on Monday following the excellent weather conditions that then obtained over the entire corn belt. It is difficult to supply the current demand owing to limited transportation facilities. It is expected, however, that the government will soon turn its attention to the movement of crops, which ought to bring relief and place the grain markets on a more normal basis. A year ago No. 3 corn was quoted at 90½¢ a bushel. Last week's Detroit quotations were:

	No. 3 Mixed.	No. 3 Yellow.
Wednesday	1.96	1.98
Thursday	1.96	1.98
Friday	1.98	2.00
Saturday	1.98	2.00
Monday	1.98	2.00
Tuesday	1.98	2.00

Chicago.—Dec. corn \$1.14½; Jan. \$1.09½; May \$1.09½.

OATS.—Active domestic demand and small receipts have kept the oat market firm. In some markets an active export trade is giving the cereal additional bullish support. A year ago standard oats were quoted at 49½¢. Last week's Detroit quotations were:

	No. 3 Standard.	No. 3 White.
Wednesday	61½	61
Thursday	61½	61½
Friday	61½	61½
Saturday	61½	61½
Monday	61½	61½
Tuesday	61½	61½

Chicago.—Dec. oats 57½¢ per bu; May 59½¢.

BEANS.—A slightly easier tone prevails here with local price off 25¢ for cash, it now being \$9 per bushel. Crop damage has occurred in spots, which makes it difficult to estimate the extent of the loss. There is a more general opinion, however, that the price set by producers fairly represents the actual condition of supply and demand. Greenville price is \$8.

SEEDS.—High and firm. Prime red clover \$14.85; alsike \$13; timothy \$3.80.

FLOUR AND FEEDS

FLOUR.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$11.50; seconds \$11.40; straight \$11.10; spring patent \$12.10; rye flour \$11.30 per bbl.

FEED.—In 100-lb. sacks jobbing lots are: Bran \$36; standard middlings \$39; fine middlings \$43; cracked corn \$80.50; coarse corn meal \$75; corn and oat chop \$60 per ton.

HAY.—In carlots at Detroit: No. 1 timothy \$20.50@21; standard timothy \$19.50@20; No. 2 timothy \$18.50@19; light mixed \$19.50@20; No. 1 clover \$14.50@15.

Pittsburg.—No. 1 timothy \$24.50@25 a ton; No. 2 timothy \$22.50@23.50; No. 1 light mixed \$22.50@23; No. 1 clover, mixed \$22.50@23; No. 1 clover \$23@23.50.

STRAW.—In carlots on the track at Detroit: Rye straw \$9.50@10; wheat and oat straw \$8.50@9.

DAIRY PRODUCTS

BUTTER.—Butter is in good demand and steady. Fresh creamery firsts at 41½¢@42¢; fresh creamery extras 42½¢@43¢.

Elgin.—Market is rather slow and quiet and receipts are decreasing. The sales are on a 43½¢ basis.

Chicago.—The feeling is easy and buying is limited to current needs. Creamery extras are quoted at 43½¢; creamery firsts 42½¢@43¢; firsts 41¢@42¢; packing stock 37¢.

POULTRY PRODUCTS

POULTRY.—(Live).—Poultry market is weak and unsettled. Best spring

chickens 20¢@22¢; hens 19¢@22¢; ducks 24¢@25¢; geese 18¢@20¢; turkeys 24¢@25¢.

Chicago.—Poultry is in fair supply with prices on all offerings lower. Fowls sell at 19¢; spring chickens at 19½¢; ducks 17½¢@18½¢; geese 17¢@18¢; turkeys, good 23¢.

EGGS.—Eggs are quoted easy and a little lower. Fresh firsts were quoted at 37¢@37½¢.

Chicago.—There is a good demand for strictly fresh stock. Fresh Michigan firsts sell for 37½¢@38½¢; ordinary firsts 36¢@36½¢; miscellaneous lots, cases included 36¢@37½¢.

FRUITS—VEGETABLES

POTATOES.—Prices at the shipping points: At Greenville potatoes advanced about 15¢ last week, the price now being \$1.30@1.35 to the farmer. At Coldwater the market is strong, the trade paying \$1.28 per bushel, for fancy round whites in bulk. The Grand Rapids market is also strong with jobbing prices at \$1.35@1.44, and car bulk \$1.33. In Idaho farmers are getting \$1.10 per cwt. for Rurals from wagons at side track, and \$1.25 for Russets. Colorado growers are securing \$1.40 per cwt. for round whites sacked. Minnesota growers are receiving 90¢@1, mostly above 95¢ per bushel from wagons, and 10¢ higher when sacked. Wisconsin growers are selling under the same conditions at \$1.15@1.25, mostly above \$1.20. Up in Maine Cobblers in 11-peck units are bringing farmers from wagon loads \$3.75@4.

Shipments.—The total daily shipments for the country from Tuesday to Sunday inclusive were 789 cars, 812, 904, 913, 985 and 136 respectively. Michigan's shipments are gradually increasing, while those from Wisconsin and Minnesota are holding about steady.

Markets.—(Oct. 15).—Jobbers' prices at Detroit where the market is stronger were \$1.44@1.50, mostly \$1.46@1.50 for round whites sacked, car bulk \$1.38 per bushel. New York market is stronger, Michigan 10-peck sacks quoted at \$3.90@4. At Cleveland Michigan round whites in 10-peck sacks \$4. Cincinnati prices are advancing with Michigan stock quoted at \$1.50@1.55 per bushel. Stronger prices obtain at Chicago with Rurals at \$1.45, and the round whites \$1.38 per bushel.

APPLES.—Shipments.—Total number of carloads of apples shipped daily from producing states from Tuesday until Sunday inclusive is 626, 753, 662, 753, 902, 301 respectively. On Saturday 26 cars from Pennsylvania, two cars from Illinois, one from Missouri and five from Washington were consigned to Detroit.

Markets.—(Oct. 15).—Detroit market is fair, with prices for fancy grades ranging from \$4@6. The Cleveland market is strong with fancy Jonathans \$5.50@6.75; Baldwins \$3@3.50; fancy Yorks \$5.25. New York market is strong with Wealthys at \$5@6, Greenings \$6, Jonathans \$5@6. The Cincinnati market is steady, while in Chicago a moderate demand prevails, with Jonathans at \$6@6.50 for firsts to fancy, and \$4@5 for seconds, fancy Greenings \$5@5.50.

GRAPES.—Shipping Point Prices.—Demand is good and market is strong at Benton Harbor, Mich., with Concord in 4-qt. baskets bringing 17½¢ from wagons at side track. Some immature sold in carloads f. o. b. at 17¢, and per ton with baskets at \$55. At Westfield, N. Y., the market is strong with carloads f. o. b. in 2-qt. baskets at 12¢; 4-qt. 20¢@21¢; Concord in 20-lb baskets at \$50@55 per ton. Frost killed grapes are selling largely to wine manufacturers.

PEACHES.—Elbertas sold on the Detroit market Monday morning in jobbing lots at \$1.50@1.60 per bushel. Shipments are now being made from the Lake Erie islands. The New York, Cleveland and Cincinnati markets are strong, while the Chicago market is slightly weaker than last week.

ONIONS.—In Ohio the shippers are holding for higher prices on account of the market being demoralized through inability to secure transportation facilities. Few sales were made at \$1.25@1.30 per bushel. In Massachusetts shipments are moderate with yellows selling in 100-lb. sacks at \$2.90@3 in carload lots. Daily shipments from Tuesday to Sunday inclusive were, 124, 102, 118, 116, 184, 23 carloads respectively.

GRAND RAPIDS

Potato prices on the city market weakened a trifle Monday morning, the range being \$1.20@1.30. Potato prices at outside stations are around \$1 and do not now seem likely to go much lower than this, owing to the active demand. Dealers report inquiries for large quantities by manufacturers and

other employers of labor who want tubers to sell at cost to their workers. The grape market shows weakness early this week, with sales at \$1 per bushel and less. Apples range from 75¢@1.50; peaches \$1.25@2.25; eggs continue at 40¢. The mills report grain prices as follows: Wheat \$2.09; oats 62¢; corn \$1.95; rye \$1.65; barley \$1.25; beans \$8.

DETROIT CITY MARKET

Farmers offered produce in large quantities on the Eastern Market on Tuesday morning and received steady prices. Potatoes sold around \$1.60; cabbage 70¢@80¢; tomatoes \$2@2.20; parsnips \$1@1.50; carrots 75¢; grapes \$1.75@2; apples \$1.25@2.25; onions \$1.75; squash 10¢@20¢ each; eggs 60¢; turnips 65¢. Loose hay moving in a small way around \$18 per ton.

LIVE STOCK

BUFFALO.

October 15, 1917.

Receipts here today as follows: Cattle 300 cars; hogs 55 d. d.; sheep 45 d. d.; calves 1300 head.

With 300 cars of cattle here today, too many for the trade, and heavy runs all over the west, our market was 25¢@50¢ lower, and in some cases more. Not so much off on the cow stuff as there was on the steers. There are several loads left over tonight unsold. It rained here most all forenoon and this is what made the trade so bad and the buyers had the best of it. Best quality stockers and feeders sold about steady with last week. Best bulls sold about steady but the common ones were about 25¢ lower.

Our receipts of hogs were fully up to expectations, 55 double decks; demand very limited and the most uneven trade resulted that we have had here for some time. A few of the early sales on heavy weights were steady, with a few of the mixed hogs a quarter lower, but when the market settled down the loss was 25¢@45¢ from Saturday's best time. The bulk of the sales at \$18.25@28.50, with a few selected heavy up to \$18.85; pigs and lights \$17.25@17.50; roughs \$17@17.25; stags \$15@16.50. Trade closed dull and the prospects are no better for the next few days.

With a liberal run of lambs today our market opened up slow and prices 25¢ lower than the close of last week. About 10 loads unsold and we look for steady prices the balance of the week.

We quote: Lambs \$17.25@17.50; cull to common \$12@16.50; yearlings \$12.50@15; wethers \$11.75@12; ewes \$11@11.50; bucks \$7@9; best calves \$15@16; common and light \$13.50@15; heavy \$10@14; grassers \$6@7.50.

CHICAGO.

October 15, 1917.

Cattle, Hogs, Sheep.
Receipts today.. 43,000 25,000 33,000
Same day 1916.. 31,297 48,269 46,593
Last week..... 93,173 76,286 119,032
Same wk 1916... 71,320 148,364 111,809

An overwhelming cattle supply today almost paralyzed trade during the forenoon, and while prime beefs stood firm, because of their scarcity, with a sale at \$17.50, the general market was largely 25¢ lower. Evidently, a great many cattle were destined to be carried over at night unsold. The hog market averaged 15¢@25¢ lower, with \$18.50 the top, with the single exception of a sale of a car at \$18.60. Hogs marketed last week were much lighter in weight than heretofore, averaging but 214 lbs. Prime range lambs are bringing \$18, while choice native killing lambs bring \$17.25.

Cattle were in extremely good demand during the past week, and despite the enormous receipts sales took place at steady to higher prices. At such a time as this, however, had breaks in prices are likely to take place at any time, and such a decline took place last Friday, when the receipts of grass cattle were much larger than usual. Taking last week as a whole, the greater part of the steers sold at \$9.25@14, and only a small percentage of the cattle went at \$15 and upward. Choice to fancy steers sold at \$16@17.50, a good class of steers at \$14 and upward and a medium class at \$13 and over and sales all the way down to \$7@8 for common light steers and scattering sales of inferior little steers on the canning order as low as \$6@6.50. Yearlings of the choicer class went at \$16@17.50, good lots selling at \$14.50 and over and sales down to \$10.50@11.50 for commoner lots. Cows on the butcher order sold at \$6.70@10.75, heifers at \$6@12.75, cutters at \$6@6.65, canners at \$5.40@5.95, bulls at \$5.75@10.85, calves at \$6.25@16, western range cattle at \$5.75@15 and stockers and feeders at \$6.35@12.25. Milch cows sold at \$65@125 each.

Hogs created a tremendous sensation during the last half of the week by undergoing one of the quickest collapses in prices on record, with provisions following the same course. During the first half of the week the few strictly prime hogs of heavy weight held firm, with top sales around \$19.65, but even these sold off sensationally later, along with all other descriptions of swine and pigs. Receipts in western markets continue much smaller in volume than a year ago, but for all that, the market appears to be headed for much lower prices. Later in the week the best hogs brought \$18.65, with sales all the way down to \$16.25@17.25 for the commoner grades and pigs going at \$10@16, and on Saturday the best hogs sold in a small way at \$18.75.

Lambs, yearlings and sheep continue to command far higher prices than in any former year, whether the market happens to be advancing or declining. Last week saw prime range lambs sell up to \$18.40, with a strong demand, with later declines in prices on increased receipts. Breeding ewes of the best kind sold up to \$20 per 100 lbs., breaking all former high records. Lamb and sheep and yearling receipts were much larger than a week earlier and also larger than a year ago, but there was a good outlet at very high prices, lambs selling at \$12.50@18.40, with feeders fetching the top price. Yearlings brought \$11.50@14.25, wethers \$11@13, ewes \$6@11.75, breeding eyes \$12.50@20 and bucks \$7@9.

Horses were marketed sparingly last week and sold at full prices. British army horses brought \$180@205 and a few heavy artillery horses, weighing 1500 lbs. \$220. Most of the horses bought for the United States army cost \$180. Horses sold anywhere from \$60@100 for the commoner ones up to \$165@285 for drafters.

This has been a phenomenal year for the sheep industry, due to unprecedented surroundings of the trade, with an enormous underproduction of mutton and wool, shepherds having been for years getting out of the business. While killers have sold extremely high lamb prices having been the highest ever known in October, much of the time the best feeders from the western ranges have sold above the best killers, such is the demand from country buyers. Not only are farmers eager buyers of feeders, but there is at the same time a large inquiry for breeders, and choice breeding ewes are scarce and command higher prices than ever in the past history of the market. Generally speaking, the average quality of the lambs reaching the Chicago market can be termed as very good, but within a short time there has been a considerable increase in the proportion of bucky lambs marketed, and buyers insist on purchasing such flocks at a large discount.

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DETROIT LIVE STOCK MARKET.

Thursday's Market.

October 18, 1917.

Cattle.

Receipts 2537. Dull and 50c lower than last week.

Best heavy steers \$10.50@11; best handy weight butcher steers \$9@9.50; mixed steers and heifers \$8@8.50; handy light butchers \$7.25@7.75; light butchers \$6@6.50; best cows \$7.50@8; butcher cows \$6@6.50; common cows \$5.75@6; canners \$5@5.50; best heavy bulls \$11@11.50; bologna bulls \$6.50@7; stock bulls \$5@6; feeders \$7.75@8.75; stockers \$6.50@7.50; milkers and springers \$5@12.50.

Bishop, B. & H. sold Brown 7 feeders av 797 at \$7.75, 5 stockers av 686 at \$7.50; to Parker, W. & Co. 21 butchers av 615 at \$6.50, 2 do av 850 at \$8.50, 4 do av 867 at \$8.50, 4 cows av 1000 at \$7, 2 do av 875 at \$5.75, 16 do av 750 at \$7, 2 do av 1100 at \$5.50, 15 butchers av 625 at \$6.75, 11 do av 885 at \$8.10, 4 cows av 825 at \$5.75, 27 butchers av 642 at \$6.75, 3 cows av 970 at \$5.75; to Walk 13 butchers av 613 at \$6.35; to Heyman 19 do av 643 at \$7.75, 1 bull wgh 950 at \$7; to Hammond, S. & Co. 6 butchers av 883 at \$6.10; to Newton P. Co. 7 do av 860 at \$8, 13 do av 888 at \$8, 19 do av 1033 at \$8.60; to Sullivan P. Co. 15 do av 840 at \$8.10, 5 steers av 1066 at \$8.25, 5 cows av 1026 at \$7.50; to Kamman B. Co. 6 steers av 833 at \$8.35; to Resnick 1 bull wgh 1380 at \$8; to Parker, W. & Co. 3 steers av 873 at \$8, 7 cows av 753 at \$5.65, 2 do av 1000 at \$7, 5 do av 890 at \$5.65, 6 do av 736 at \$6, 4 do av 1000 at \$5.65; to Grant 10 butchers av 712 at \$6.50; to Parker, W. & Co. 9 steers av 975 at \$9.25, 1 bull wgh 1140 at \$7.25, 1 do wgh 1270 at \$7.50, 4 do av 1132 at \$7.50, 3 butchers av 843 at \$7.

Sandel, S. B. & G. sold Thompson 1 bull wgh 1060 at \$7.50; to Kamman B. Co. 5 steers av 840 at \$8.25, 1 do wgh 1000 at \$9; to Applebaum 12 butchers av 518 at \$6.30; to Hammond, S. & Co. 2 steers av 915 at \$8.50, 2 do av 785 at \$8, 9 cows av 864 at \$5.75; to Mason B. Co. 1 bull wgh 1330 at \$7.50, 1 do wgh 1100 at \$7, 1 cow wgh 740 at \$6.75; to Breitenbeck 24 butchers av 805 at \$8; to Newton P. Co. 3 do av 687 at \$7.50, 1 do wgh 1170 at \$7.75; to Sullivan P. Co. 18 butchers av 733 at \$7; to Rattkowsky 9 do av 500 at \$6; to Grant 25 do av 553 at \$6; to Mason B. Co. 1 cow wgh 1210 at \$8.25, 3 steers av 840 at \$8.50; to Goose 16 butchers av 640 at \$6.75; to Breitenbeck 8 do av 620 at \$6.25, 15 cows av 1043 at \$6.50; to Mich. B. Co. 24 steers av 996 at \$8.90, 2 do av 865 at \$9, 7 cows av 937 at \$6.75, 1 do wgh 1100 at \$5.75, 10 butchers av 732 at \$6.25; to Prentiss 6 do av 900 at \$8; to Hammond, S. & Co. 5 do av 795 at \$7.25, 1 heifer wgh 550 at \$6.50, 6 cows av 891 at \$5.75, 7 butchers av 856 at \$7.25; to Greene 2 stockers av 625 at \$6, 2 cows av 850 at \$5.75; to Brewer 9 stockers av 544 at \$6.25; to Sullivan P. Co. 4 cows av 997 at \$6, 1 do wgh 1600 at \$6, 1 do wgh 1130 at \$8; to Garber 11 butchers av 700 at \$7.25.

Veal Calves.

Receipts 928. Market good, steady; \$15@15.50; the common and medium grades 50c@1 lower, selling at \$7@13.50.

Bishop, B. & H. sold Sullivan P. Co. 5 av 145 at \$14.50, 8 av 140 at \$15, 3 av 180 at \$13; to Mich. B. Co. 20 av 140 at \$15.25; to Newton P. Co. 17 av 160 at \$15.50, 51 av 140 at \$14.50; to Nagle P. Co. 20 av 135 at \$14.50; to Hammond, S. & Co. 3 av 180 at \$15.25; to Parker, W. & Co. 6 av 135 at \$15.60, 4 av 175 at \$15.50, 3 av 150 at \$15.

Sheep and Lambs.

Receipts 5850. Sheep and lambs 25 @50c lower than yesterday. Best lambs \$16.75@17; fair lambs \$15.50@15.75; light to common lambs \$13.50@14; fair to good sheep \$10@10.50; culls and common \$7@8.

Erwin, S. & J. sold Nagle P. Co. 12 sheep av 120 at \$9, 108 lambs av 70 at \$16.35, 16 do av 95 at \$15; to Sullivan P. Co. 61 do av 75 at \$17, 10 do av 56 at \$14.50; to Thompson 72 do av 75 at \$17; to Nagle P. Co. 12 do av 55 at \$15, 267 do av 80 at \$16.75, 82 do av 75 at \$16.50, 37 do av 60 at \$15, 7 sheep av 100 at \$9, 201 lambs av 75 at \$16.50.

McMullen, K. & J. sold Mich. B. Co. 25 lambs av 60 at \$16, 8 do av 45 at \$11; to Nagle P. Co. 27 do av 55 at \$15, 107 do av 75 at \$16.50.

Hogs.

Receipts 4512. Mixed hogs \$16.25@16.50; pigs \$15.50@16.

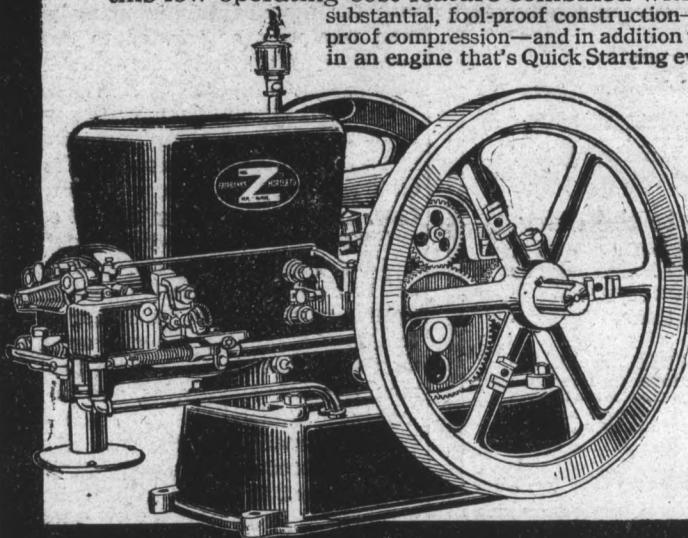
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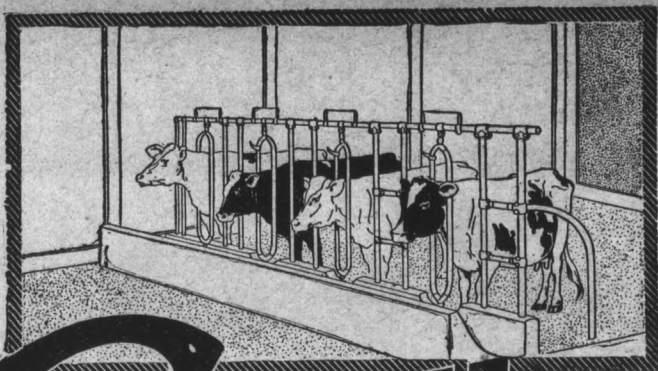
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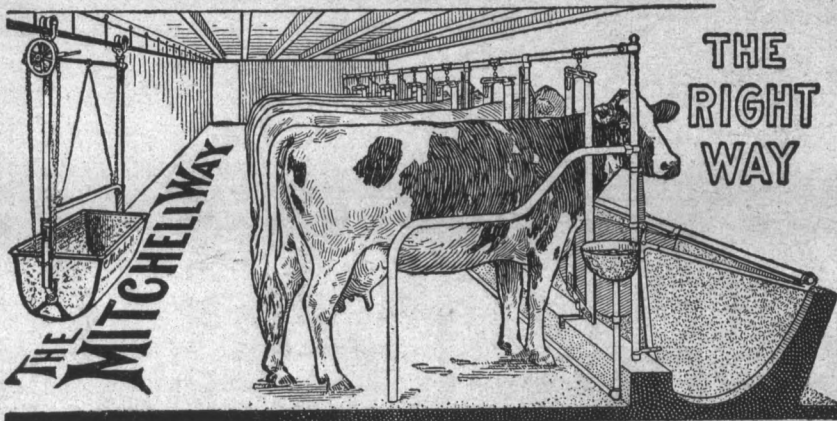
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The Young Breeder's Problems

By W. F. TAYLOR

EXPERIENCE is rather an expensive teacher, but no other agency can so firmly fix in our minds those practical truths that make for success. The writer has had a little experience in the development of a pure-bred herd of dairy cattle—experience covering a variety of conditions, and a number of years. He feels that he has made mistakes, at times he has been discouraged, his progress has been rather slow, and he has not yet gotten a herd that comes up to his ideal. However, he can truthfully say that he has profited by his mistakes, that his discouragements have been but temporary, and that today, he is more than ever determined to keep right on selecting and breeding, testing and feeding, just as long as he has strength to work. Feeling thus, he is coming, this pleasant afternoon, to talk for a while to the many young men who may be minded to develop pure-bred dairy herds, through this valuable journal.

The first big problem for the would-be dairy breeder is, how to get a start. If he has plenty of money it is not quite so hard, though often in this case, he buys the wrong kind of cattle, and wastes years in finding it out.

Many people advise the young man not to begin with pure-bred cattle, but to first breed grades. Whether or not this is good advice depends upon the man and his resources. One has less money invested in grades, and so if he makes mistakes, his losses are not quite as great as in the case of valuable pure-breds. But again, his profits are less, and if he has in him the elements of a successful breeder, he can manage the pure-breds in a way to insure success, even if he has had little or no previous experience.

It seems to the writer that the first great requisite of a successful breeder is a lot of hard common sense. Many people wait and dream about pure-bred cattle for years, after they ought to have had them. The writer began with grades and scrubs. He soon got rid of the scrubs, but he was too slow in getting pure-breds, and so he had to keep the grades too long. If I were a young man, which I should be quite willing to be, I would not begin dairying with a single scrub cow in my herd if I could help it. Three years ago last spring I walked out into a field belonging to a neighbor, who, having just moved into our community, was a stranger to me. He had but one cow, and she was not good enough to be in any danger of dying young. I said to my new neighbor: "You ought to get some cows." "Yes, but I don't want any poor ones." "Well," said I, "you might buy some calves of these people who are improving their grade herds year by year, and in doing so, you would get the last and best of their work in this direction."

"That is just what I am planning to do," he replied, and I knew at once that he would make good. He had very little money to spend in buying cattle, but he used what he had wisely, and today, after only three years, he has a number of fine grades, one pure-bred cow, and a number of pure-bred heifers that will soon grow into cows. All but one of these heifers are daughters of the very best bull that ever came into western Michigan.

Already this man is realizing a measure of success that ought to inspire him. He joined our cattle club the other day, and some day his stock will be known outside of our community, for he is going to win out.

First then, if I could buy the right sort of pure-bred cows, or heifers, I would buy as many as I could pay for. Otherwise, I would buy one or two pure-breds of the quality desired, and as many grades as I needed. I would never buy a cow just because she was

a pure-bred animal. There are a lot of registered cows that ought to go to the block, were it not for the scarcity of dairy products. The mistake that the young breeders often make is to overvalue a cow simply because she is registered.

This is one of the lessons the writer learned by experience. His first registered heifer cost him a nice little sum, when it was a lot harder for him to get money than it is now, and when the dollar was a good deal larger than it is today. That heifer tried his faith. It was not all her fault, for one learns after a while how better to feed and develop a heifer that is backward. We have that cow yet, and she is really a very fair animal today, after years of good feeding.

But contrast her with another heifer purchased a year and a half ago. She freshened August 15, 1916. She is due to freshen again, in December. During the year, she produced seven thousand pounds of milk, testing around six per cent. She has therefore to her credit, practically four hundred pounds of fat for her first year's work, and is still producing about eight-tenths of a pound daily. Yes, I hope to dry her up for a time, but our creamery paid forty-nine cents for fat during August, and will better that in September, so I am going to let her work a while yet, to make up for the disappointment over my first investment. This last named heifer is no accident. We expected her to be a great cow. It was her birthright.

I mention this only to emphasize the importance of buying the pure-bred animal with the right kind of breeding. Had I been so fortunate as to get an animal like this one, in my first venture, who can tell what it might have meant to me? But I was simply looking for a registered heifer then, and did not understand as I do today the tremendous importance of buying the right individual. So the young man's first problem is to find the pure-bred animal whose family is so noted for dairy performance as to leave little doubt as to her future value as a cow.

He may have to pay quite a sum of money for such a heifer but if he has the money to pay, he will not live long enough to regret it. He is laying the foundation for the work of a lifetime perhaps, and if he makes a mistake it will retard his success at best, and it may discourage him and cause him to abandon his purpose entirely. It follows, therefore, that one can not use too much care in the choice of the cows that are to serve as a foundation for his future herd.

Next comes the problem of the sire. Generally speaking, we know even less about the worth of individual sires, than about cows. We milk the cow twice a day, and so have constant evidence of what she is doing, but we must wait nearly three years after service before we can tell anything definite about a sire. By that time more than nine-tenths of the bulls have been slaughtered and eaten up. Here and there, a bull is kept until his worth may be ascertained, but such cases are rare exceptions to a very general rule by which the sire is disposed of whenever it suits the convenience of the owner, if the opportunity offers.

This is an old subject, and very much has been said and written about it, but our progress in this regard is very slow. One trouble is, that unless we test the cows, and actually know what they are doing, little accurate data is possible, and so we actually know but little of the merits or demerits of cows generally.

Could the "testing association" become a common reality, so that the majority of cows are tested each month, we should have definite knowledge, and this knowledge would in-

crease our enthusiasm, and it would not be long before we should have built up a sentiment that would spare our sires from great cows, until we had found out whether or not they were increasing the value of our herds.

In any case, the beginner in dairying must use the best sire he can locate. How far can he afford to drive his cows to the right kind of a sire? A friend of mine who once lived in this county made a sale of Jerseys. His cattle were only fair, and I watched a heifer from his herd in the hands of an excellent breeder. She freshened in due time, but like those in the herd from which she came, she was only an average cow. But she was bred to a great bull and after her daughter freshened the first time, the daughter produced a pound and a half of fat daily, for some time, and is a very excellent cow today. How far could her owner have afforded to drive her mother to breed to that sire?

At best, he consumes but little time in the breeding of a cow, at best the fee is not great. Where, then, is our judgment, when we discard the chance to use the great sire, and accept instead, the service of an average animal of the chosen breed, or worse yet, a grade or a scrub, to save from fifty cents to a dollar, and just a few hours' time?

In the truly great sire lies our hope of greatest improvement. Everybody cannot keep pure-bred cows, there are not enough to go around. But most of us may have the services of a good-pure-bred sire if we will but take a little more trouble, and pay a slightly larger fee.

(Concluded next week).

BUTTER-FAT IN CHEESE MAKING.

As I have been a reader of your paper for a number of years I would like to ask you a question. We have a cheese factory here that pays for milk on butter-fat test, and as there are so many different opinions I would like to ask if four per cent milk will make more cheese than 3.3 per cent milk? There was a man stopped over night at my place and said he had made cheese for 25 years and he said four per cent butter-fat milk would not make any more cheese than 3.3 per cent test, but four per cent test would make richer cheese.

Iosco Co.

L. G.

The yield of cheese from whole milk depends upon the total solids of the milk and the moisture content of the finished cheese. Thus, the moisture content of the cheese being equal, the milk containing the higher per cent of total solids will yield the most cheese per 100 lbs. of milk. Both fat and casein are constituents of cheese. Both are of equal importance, and are present in nearly equal proportions in the finished cheese. As long as the fat and casein increase in the milk in equal proportions, the yield will increase accordingly in the finished cheese; but it has been found that when the amount of fat in milk increases beyond four and one-half per cent, there is a gradual but slight diminution of casein for each pound of fat. Thus milk containing four per cent fat, providing the other constituents of cheese are constant in each case.

As a general rule rich milk does not yield as much cheese in proportion to the fat it contains as does poor milk, because of a smaller amount of casein in the rich milk.

MISS ALISON RANSFORD,
Instructor in Cheese Making, M. A. C.

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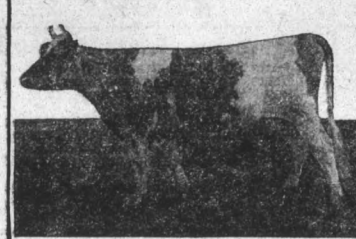
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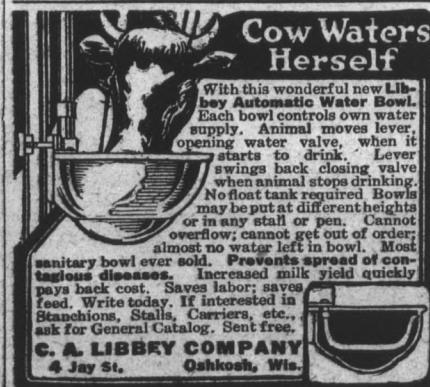
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Getting Winter Eggs

WE are told that "eggs are going sky-high" before long. And while this may be somewhat exaggerated, yet we have to admit that prices are on the upward trend. Not only egg prices, but grain prices and, in fact, prices of nearly everything else.

A good many poultry keepers are asking themselves the question: "Will it pay to keep hens for winter eggs and feed high-priced grain?"

The above question must be answered by the individual himself, or by someone who understands local conditions. But so far as we are concerned, there is no question as to whether it will pay or not. We know by long experience that winter eggs are profitable and with ordinary success we still hope to come out "ahead of the game."

Plenty of Feed Essential for Winter Production.

There is no magic in getting eggs in winter. But a good many things must be considered. To begin with, it is essential that the fowls kept be healthy and of suitable age, i. e., neither too old nor too young. Old hens, as a rule, put on flesh instead of laying eggs, while small, late hatched pullets or those that were stunted in growth, will lay no eggs during the winter months.

We have tried a good many different kinds of chickens, but have, at last settled down with the good old Silver Laced Wyandottes and Leghorns. We have plenty of house-room and always keep the two varieties separate during the winter, when all of our poultry is kept housed much of the time. Now, we don't mean to say that our selection of chickens is the best. We find that they suit our purpose best and believe this to be a step in the right direction. No one is likely to succeed with fowls he does not like.

Keep Pullets Separate.

Don't let the young pullets roost in the same house where the hens are kept, until they get used to the rest of the flock. There are always some backward pullets that cannot "hold their own" with the older birds. For these, we have a house and yard where they are kept for a few weeks, separate from the others. Of course, they must have good care and plenty of feed.

Remember, these so-called backward pullets are not the culls, but good thrifty pullets which seem rather timid and, for some reason, are unable to get their full share of the feed. A variety of grains and other things are necessary. Practically the same ration is required for growing pullets as that which is necessary for laying hens.

Also, moulting hens. The latter require a liberal ration. Plenty of feed and good, dry roosting quarters should be provided if the hens are expected to come through the moult and be ready for business, before cold weather sets in.

Buttermilk Valuable for Egg Production.

Buttermilk is very beneficial, both as an egg producer and growth promoter. It also helps the moulting hens to grow feathers. Bear in mind that the latter are under a strain so to speak. Their vitality is being taxed to the limit. The late moult is very frequently a heavy layer and while she is growing a new coat of feathers, she is, at the same time, laying up egg material for the future. We keep sour milk before the fowls most of the time, but sweet milk should never be used because it takes a bad effect on the bowels. Be careful to keep the milk trough as clean as possible.

There is doubtless a great deal of soft corn in many parts of the country at this time. Be careful about feeding this immature grain to poultry. New corn, at best, is none too safe. In former years we have suffered severe loss

by feeding poultry new corn, especially turkeys. If new or soft corn must be used, we now boil it.

This same rule holds good with other things, such as musty grain, cull beans, etc. If any of these are not too badly spoiled, they may be made suitable for poultry feed by thorough cooking. This sort of feed can be used as a mash by adding bran or something similar. Right here we want to speak a word of caution in regard to the use of crushed corn. When the cob is crushed with the corn it should not be used as a poultry food. The crushed cob is practically indigestible, somewhat similar to sawdust. We have known of a number of cases where poultry have died from eating "cob meal." They simply cannot see the difference between cob meal and corn meal.

A Wheatless Ration.

While wheat is one of the best egg-producers known, when fed along with corn, we have cut it out of the ration entirely, on account of the cost. Instead, we use bran and boiled oats. This, with a little corn meal added, makes an excellent morning mash. Sometimes we use boiled vegetables instead of oats.

When the hens are kept housed, as they must be, when they weather is severe or snow is deep, it is essential to vary their ration. We sometimes add raw cabbage (chopped) to the mash. A little salt or a dash of cayenne pepper helps to give it a "tang" that is greatly relished. Green stuff, or a substitute for same, should be provided. Pure water, with the chill removed, should be kept within reach.

Don't fail to provide some sort of place where the hens can get all the exercise they need. We have regular scratch-sheds attached to each house, but in former years the floor of the poultry house answered very well.

Every fall when dry leaves are plentiful, we store large quantities to be used as scratch material. Rye in the sheaf, or other unthreshed grains are used, also. Small grain, such as kaffir or even millet, will answer to make the hens work, but will not take the place of corn.

Fall Feeding Important.

Sharp grit is an important factor. Again let us impress upon the minds of beginners the importance of a generous ration, right now, for both old and young. Don't wait until winter to begin feeding for eggs. The fact is, chickens are more often under-fed than over-fed, at this season of the year. If judgment is used in the selection of feeds, it is next to impossible to over-feed a moulting hen or a growing pullet.

As to hopper feeding, don't do it unless the fowls have been accustomed to it, from the time they were hatched. Otherwise, they seldom know when to stop eating.

A warm mash in the morning, with scratch-feed and "grains" through the day and a full feed of warmed corn at night (never feed frozen corn) will give better results as a rule. We usually allow one quart of shelled corn for every ten fowls. A large handful for each hen is a safe rule, but may be varied.

Ohio.

ANNA W. GALLIGHER.

Sending chickens to market which have not been properly fattened is a wasteful practice. The weight of healthy, well-grown chickens can be increased from 25 to 50 per cent in two weeks by proper feeding. Three hundred and fifty to 400 pounds of mash, moistened with skim-milk or buttermilk, and properly fed to good fowls will produce 100 pounds of poultry meat in from 12 to 14 days. Proper feeding of the chickens before marketing improves the quality of the flesh. "Crate-fed" and "milk-fed" are synonymous with "high quality."

Mayer
HONORBIT
SHOES For all the family
Ask your dealer for Mayer Shoes. Look for the trade-mark on the sole.
F. Mayer Boot & Shoe Co.
Milwaukee, Wis.

CATTLE

HOLSTEIN FEMALES

Fifteen head of cows, heifers and calves for sale. Some have A. R. O. Records above 21 lbs. butter in 7 days, and all will average by their 6 to 7 nearest tested dams over 22 lbs. butter in 7 days. Grand daughters of King of the Pontiac and King Segis.

Extraordinary fine breeding at less than auction prices. All bred to calve before March.

BIGELOW'S HOLSTEIN FARMS, BREEDSVILLE, MICH.

OAK LEAF FARM

Ypsilanti Sir Pletertje De Kol
Registered Holstein cows & bull calves fine individuals cows safe in calf satisfaction guaranteed. E. H. Gearhart & Son, Marcellus, Mich., R. No. 4.

HOLSTEIN BULL CALF. Fine individual, four months old, pure bred, farmers prices. A. R. GRAHAM, Flint, Mich.

"TOP-NOTCH" HOLSTEINS

"Milk production is an inherited ability. Good cows must be bred to good pure-bred bulls if progress in dairying is to be made." Extract U. S. Dept. of Agric. Bulletin.

Here is a young bull with inherited ability, and rare individual merit. He was born Dec. 24, 1915.

His Sire's Dam's	Butter 7 Days	33.62
Record	Butter 30 Days	130.73
	Milk 30 Days	2615.70
	Butter 1 Year	838.41
	Milk 1 Year	18675.80

His Sire's Sire's three nearest Dams average Butter 7 Days 30.57 (Including a junior three and senior four, old.)

His Dam's Record	Butter 7 Days	31.24
3 Yrs. 14 Days	Milk 7 Days	452.8
Dams' Dam	Butter 7 Days	29.40

Almost 30 lbs. Price low for this quality.

McPherson Farms Co., Howell, Mich.

WINWOOD HERD REGISTERED HOLSTEINS

Holton, Mich.

Reference: Old State Bank, Fremont, Mich.
Flint Maplecrest Boy sire in service
His sire is Maplecrest Korndyke Hengerveld, his 3 Nearest Dams each over 80 lbs. of butter in 7 days. His dam and grand dam both made over 1232 lbs. of butter in 1 year. It is the yearly cow we are looking for to deliver the goods. Flint Maplecrest Boy's Dam is Gluck Vasser Bell, 30.57 lbs. of butter in 7 days and 120 lbs. in 30 days. Her butter fat test is 5.27. This looks about right to the man who goes to the creamery. We have Bull Calves from 2 weeks to 8 months old for sale at dairy farmers' prices all out of A. R. O. Heifers. Write & tell us the kind of a bull you want.
John H. Winn, (Inc.), Holton, Mich.

On Our Easy Payment Plan we will ship you a good one with A. R. O. backing. Write for pedigree and price. Elmer E. Smith, Redford, Mich.

FOR Sale One registered Holstein bull calf. Sire's twenty nearest dams have 7 da. records av. 25.53 lb. butter. Dam to be tested. A finely marked, growthy individual. Long Vein Farm, R. 2, Box 10 A, Rochester, Mich.

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

FOR Sale. Reg. Holstein bull calf born Sept. 15. Half white, in show firm, College Sire, A. R. O. dam price low. C. L. HULETT & SON, Okemos, Mich.

For Sale Shorthorns Bulls 3 mo. to 2 years old from good milking cows. R. R. Clyde Station, H. J. DeGarmo, R. 6, Milford, Mich.

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

Prize winning Jersey bull calves of the choicest breeding, from high producers and prize winners. Prices very moderate. C. S. Bassett, Drexel Pl., Kalamazoo, Mich.

Veterinary.

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

Naval Abscess—Dairy Question.—I have a cow that was treated for nasal abscess by our local Vet. and she is much improved, but I would like to know what to give her to help breathing. How long should a cow be milked for the good of herself and offspring before coming fresh? I have a heifer that has been milked for more than a year and am anxious to do best by her and calf. I also have horse with sore back which simple home remedies fail to heal. G. S. L., Highland, Mich.—Give horse 30 grs. of potassium iodide and 1 oz. tincture cinchona at a dose in feed or drinking water twice daily for 20 days. If cow is thriving, in good flesh, milking well, continue to milk her to within four or five weeks of calving time, but if she is thin and unthrifty dry her soon. Apply equal parts of oxide of zinc, powdered alum and tannic acid to sores on back or shoulder three times daily.

Weakness.—The other morning I found my mare cast, head and fore legs under manger; we pulled her back in stall, but she was unable to get up. Called vet. who placed her in slings; have had her in them for nine days. She has been taken out of slings during the day, put back for the night, and now I find her in good condition, but when down is unable to get up without help. She seldom makes any effort to get up. O. V. E., Sturgis, Mich.—Give her 1 dr. of fluid extract of nux vomica and 30 grs. of potassium at a dose in feed or drinking water three times daily. Her recovery will be slow.

Worms—Fits.—I have a young dog that has been troubled with coughing spells for the past two weeks; he also vomits and has occasional fits, which last for a few minutes. He eats and drinks well, but grows thin. E. V. D., North Detroit, Mich.—For every pound he weighs give him 1 gr. of powdered kamala in a tablespoonful of sweet milk twice a week for two weeks.

Indigestion—Open Sore.—I have a mare about 20 years old that had an attack of acute indigestion a few weeks ago, but I succeeded in relieving her. Some ten days ago found her down in stall and unable to get up. Since then she has remained down unless helped on foot. She has an open sore on brisket between fore legs which needs attention. F. H. V., Elsie, Mich.—Give her 1 dr. of fluid extract of nux vomica, 1 dr. salicylic acid, and 1 oz. of ground gentian at a dose in feed three times a day. Feed her one part wheat bran, two parts corn and four parts of ground oats. Also give her plenty of well-cured mixed hay. Apply equal parts of powdered alum, oxide of zinc and boric acid to wound on brisket twice a day. She should be helped up twice a day.

Cow Eats Leather.—We have a cow that eats all the leather that she can get hold of. I would like to know of a remedy. A. E. McC., Fenton, Mich.—Change her feed and give her a desertspoonful of dilute hydrochloric acid at a dose in a quart of water as drench two or three times a day after feeding her.

Small Boils.—I have a four-year-old mare that is troubled with small boils; these little bunches appear in different parts of body and finally open, discharge pus, then heal up. I have given her different commercial remedies without noticing that it done her much good. I forgot to mention that her hind legs stock. L. H., Carson City, Mich.—Give her 30 grs. of potassium iodide and a teaspoonful of Glauber's salt at a dose in feed or drinking water two or three times a day. As soon as bunches appear, clip off hair and apply equal parts tincture iodine and spirits of camphor. This treatment should be kept up for at least thirty days.

Diseased Stifle Joints.—I bought a filly one year ago which was then six months old, at which time she appeared to be sound, but two months later her stifle joint showed weakness and a swelling appeared in both. This same filly also showed some weakness in both fore fetlock joints. So far as I can tell, she does not appear to be sick or diseased and is in fairly good flesh. R. W., Pierson, Mich.—Apply equal parts of tincture iodine and camphorated oil to fetlock and stifle joint three times a week, until she recovers. Perhaps a little later you had better apply one part red iodine mercury, and one part powdered cantharides and eight parts fresh lard twice a month. Give her a desertspoonful of Fowler's solution of arsenic at a dose in feed or drinking water twice a day for thirty days.

4th Annual Sale In the Sale Pavilion at Howell, Michigan

THURSDAY, OCTOBER 25th, 1917
Eighty Head of Registered Holsteins

This sale consists of eighty females consigned by eighteen Livingston County breeders. With the exception of a few all are under 5 yrs. of age. Mostly fresh cows or soon to freshen and a few unbred heifers. Among our offerings is a 24 lb. three yr. old and her two daughters; a 23 lb. 3 yr. old, an eighteen lb. 2 yr. old, a daughter of a 28 lb. cow. A granddaughter of King Fayne Segis, a daughter of Johanna Korndyke DeKol and granddaughter of Pontiac Korndyke and Hengerveld DeKol. Our reference sires include a son of King of the Pontiacs, a son of a 1b. 32 cow, a son of a 30 lb. 4 yr. old, a son of a 29 lb. granddaughter of Pontiac Korndyke, and a son of King Segis Champion Mobil, the 40 lb. bull. All stock over six month of age tuberculin tested by state approved Vet. Catalogs ready Oct. 10th. Col. Perry and Col. Mack, Auctioneers.

Howell Sales Co. of Livingston County, Jay B. Tooley, Sec.

Jerseys and Duroc Jerseys

The most important thing in buying a Jersey bull is to get one backed up by generations of high producers. Brookwater offers to sell a few choice bull calves of this kind. Our herd of Durocs has won more prizes at the State Fairs this year than any other.

Boar Pigs and Yearlings For Sale.

H. W. MUMFORD,
OWNER

BROOKWATER FARM

O. F. FOSTER,
MANAGER

Ann Arbor, Mich., R. 7.

"BULLY" BARGAINS at Long Beach Farm, Augusta, Mich.

Choice Holstein bull, \$80 up. 4 to 14 mos. old from A. R. O. dams from noted families. Our Junior Herd Sire is stated to be a world beater. His sire is Spring Farm King Pontiac 6th. His dam a 28.53 lb. 6 yr. old daughter of DeKol 2nd Butter Boy 3rd. You should have our illustrated booklet describing both sires.

2 CHOICE Holstein bulls nearly old enough for 2 services. No. 1 born January 24, 1917, sire's dam, grand-dam and great-grand-dam's semi-official records average 842 lbs. butter. Dam of calf 18 lbs. butter 7 days as senior 2-yr.-old, average percent fat 4.3. No. 2 Sired by 23 lb. bull and out of a 14 lb. junior 2-yr.-old. O. L. BERRY, Owner, Fort Huron, Mich. Chas. Peters, Herdman, Three Rivers, Mich.

Butter Fat Counts

Holstein Bull Calves from a 30 lb. 6.53 % Sire. Dam are grand daughters of the King of the Pontiacs. Their dams grand daughters of Sadie Vale Concordia the first 30 lb. cow. Edwin S. Lewis, Marshall, Mich.

2 Holstein Bulls old enough for service. From A. R. O. dams and sired by bull with three generations of twelve hundred pound yearly record. LEWIS D. STARK, Dryden, Mich.

Do You
Want a Cow
Like Grace?



Grace is a ten year old Jersey, the best-paying cow in the Germantown-Gaithersburg Cow Testing Association, Md. All dairy breeds are represented in this Association, yet Grace produced more butter than any of the others. She yielded 12,750.7 lbs. milk and 768.4 lbs. butter. Her feed cost was \$89.11; her butter sold for \$307.15 leaving a net profit of \$218.04. You can have money-makers like Grace. Our Book, "The Jersey Cow in America", points out the way. It's free. Send today.

The American Jersey Cattle Club
346 West 23rd St., New York City

Jersey Bulls for sale, ready for service. Out of good producing dams. Prices right. R. B. FOWLER, Hartford, Mich.

Hillside Farm Jerseys. For sale ten months sides by R. of M. dams with high official records. O. & O. DEAKE, Ypsilanti, Michigan

Little Farmstead Jersey Cattle. Bull calves from R. of M. Cows, also heifer calves and several bred heifers for sale. Colon C. Little, Coopersville, Mich

For Sale Two registered Jerseys bull calves, Splendid individuals. Good pedigrees. Priced to sell. Long View Farm, R. 3, Box 10A, Rochester, Mich.

FOR sale, 2 yr. old bull out of a R. of M. dam record 518.8 lb. butter in one yr. sire Majesty's Wonder a R. of M. sire with 10 daughters in the R. of M. Write FRED A. BRENNAN Sec., St. Clair Co. Jersey Cattle Club, Canaan, Mich.

Maple Lane R. of M. Jersey herd offers for sale tuberculin tested cows, bulls, bull calves carrying the best R. of M. blood of the breed. IRVIN FOX, Allegan, Mich.

The Wildwood Jersey Farm offers for sale choice young bulls from R. of M. dams, good enough to head any herd. We invite inspection. ALVIN BALDWIN, Cayce, Mich.

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

FOR Sale—Reg. Short Horn Bulls by Maxwalton F. Monarch 2nd, a son of Avondale, from 1 to 12 mos. old. John Schmidt, Reed City, R. No. 5, Michigan

Francisco Farm Shorthorns Big Type Poland Chinas "They're rugged—They pay the rent." Nothing for sale at present. P. P. POPE, R. R. 3, Mt. Pleasant, Mich.

BIDWELL SHORTHORNS

For Beef and Milk.

5 Bulls ready for service 15 months to 2 years, for sale; also good Scotch-topped cows and heifers. Modern sanitary equipment. One hour from Toledo, Ohio. N. Y. C. 87.

BIDWELL STOCK FARM Box B, Tecumseh, Michigan.

40—SHORTHORNS—40

34 Cows and Heifers, 6 Bulls.

5—PERCHERON MARES—5

at auction—Mon. Nov 19th 1917. O. M. Jones, Auct. H. B. Peters, Prop. Canaan, Mich. Write for Catalog.

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

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

Shorthorns for sale, 5 bulls Scotch top 10 to 14 mos. 3 roan, 1 white, 1 red, price \$150, to \$250. 1 son of Maxwalton Sultan, 19 mos. \$550. C. Carlson, Leroy, Mich.

Bates Shorthorns The original milk strain young bulls 8 mos. old for sale. Price \$150 to \$200. J. B. HUMMEL, Mason, Mich.

Registered Shorthorn calves sired by Diamond King 2nd, 410475, both sexes \$150. Twenty cows \$250 each. WM. J. BELL, Rose City, Mich.

Shorthorns. Bulls 9 mos. to 12 mos. old from good milking cows. Prices reasonable. COLLAR BROS., R. 2, Conklin Mich.

Feeders For Sale We have six car loads of well bred Shorthorn grades. We can sell these so as to save you money as compared with Chicago. Free from contagious diseases. Write for further information. The Jennings Farms, V. M. Shoemith General Manager, Bailey, Mich.

Cattle For Sale

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

HOGS.

Durocs and Victorias

Heavy bone, lengthy Spring Boars and Gilts from prize winners sired by one of the best Sons of the Great Defender & other noted strains. M. T. STORY, Lowell, Mich.

SWIGARTDALE

BERKSHIRES

We are offering a few very desirable gilts and boar pigs. All will be of good size for breeding and service by December 1st. Though we have not pushed them they have made about 1 lb. per day for their age.

We do not claim to have the cheapest in price but we do claim to have the best in quality and type.

SWIGARTDALE FARM

PETERSBURG, MICHIGAN

"Nothing But Spring Pigs For Sale"

CAREY U. EDMONDS, Hastings, Mich.

Duroc-Jerseys One Yearling Cherry King Boar, Gilts bred for fall farrow. J. H. BANGHART, East Lansing, Mich.

Duroc Sows and gilts bred to Eureka Cherry King and Orimson Critic son of Critic Model 1916 champion Iowa Fair. W. C. Taylor, Milan, Mich.

Duroc Jersey Swine

of the heavy boned type Spring Boars and Gilts also a good young Percheron Stallion for sale. M. A. BRAY ESTATE, Okemos, Mich.

DUROC BOARS AND SOWS

The biggest, longest, growthiest and best bred of Spring boars. 31st fall boar by Panama Special 65383. This fall's boars \$20, pair, not akin \$40. NEWTON BARNHART, St. Johns, Mich.

DUROC Jersey Spring Pigs of either Sex also Septem. Dber pigs Grand Sired by a Grand Champion Boar at the Detroit State Fair. One registered Durham bull, 6 months old. GEO. W. ARNOLD, Bates, Mich.

DUROC Boars. First, Second and Third Prize Boars at State Fair 1917 get in your order for a herd boar at once. Plum Creek Stock Farm. F. J. DROTT, Prop. R. 1, Monroe, Michigan

Pinehurst—brood. Registered Spring Boars, tried brood sows. One Great Herd Boar. Write your wants. Orio L. Dobson, Quincy, Mich.

Duroc Spring Gilts and fall boar pigs of the finest breeding. E. E. CALKINS, Longacres, R. 6, Ann Arbor, Mich.

Durocs A few good males sired by Joe Orion 2nd Dam by Orion Ch. King Jr. A. FLEMING, Lake, Mich.

FOR SALE two good yearling Duroc Jersey Boars Registered by Edward F. No. 70193 out of Orion Cherry Lass No. 169726. W. E. SKRIPPS, WILD WOOD FARMS, Orion, Mich.

Duroc Jersey Spring gilts and fall pigs either sex. E. D. HEYDENBERG, Wayland, 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 5 months old. Write for my plan—More Money from Hogs. G. S. BENJAMIN, R. F. D. 10, Portland, Michigan

Chesters Bred Gilts all sold. Special prices on March boars, also 6 months. Holstein Bull. F. W. ALEXANDER, Vassar, Mich.

Big Type O. I. C'S, & Chester Whites Special prices on all boar pigs for the next 30 days. Will sell sows only when bought in pairs. These pigs are sired by our three Champion boars that have not an equal in the country. School master King of the breed Grandella wonder & Callaway Edd both champions. All stock shipped on approval, satisfaction guaranteed. Get our catalogue. Harry T. Crandell & Son, Cass City, Mich.

O. I. C. An extra fine lot of last spring pigs, either sex and not akin, from good, growthy stock. Farm 1/4 mile west of depot. Otto B. Schulze, Nashville, Mich.

BOARS

Big growthy fellows. The kind that pleases. I ship C. O. D. and pay express. J. CARL JEWETT, Mason, Mich.

O. I. C. & CHESTER WHITE SWINE. Strictly big type with quality. Have a choice lot of boars fit for early fall service. These boars will be sold worth the money. Also have some fine gilts. I will ship C. O. D. NEWMAN'S STOCK FARM, R. 1, Marlette, Mich.

O. I. C. Choice Spring boars and gilts out of prize winning stock. All stock guaranteed. The long bodied and Big Boned type. Write for photo and low prices. A. V. HATT, Grass Lake, Mich.

O. I. C. Boars, long bodied, with quality, for fall service. A few registered, extra fine, Shropshire lambs. G. P. Andrews, Dansville, Mich

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

"POLAND CHINAS"

2 Spring boars—4 Gilts—3 Yearlings Sows. Sired by Big Knox Jr., a 900 lb. boar at 22 months old, his sire Big Knox weigh 1000 lb. at Iowa State Fair 1912. The dam, Allans Miss Orphan, a big growthy prize winning sow sired by Hadley Over, 1st at International Chicago in 1912. We have a nice lot of July and Aug. pigs from such sires as Big Knox Jr. Big Defender Jr. and Big Hadley. We can pick you out pairs and trics of these pigs at such a price as to buy the best of the breed at a moderate price. ALLEN BROS., Paw Paw, Mich.

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

BIG TYPE POLAND CHINAS

For Sale from the CHAMPION and GRAND CHAMPION and our other GREAT HERD BOARS and big STRETCHY SOWS of very best breeding and individuality.

HILLCREST FARM, F. B. Lay, Mgr. Kalamazoo, Mich.

BOARS--SOWS

Big type big bone. For the next 30 days we will sell Big type Poland Chinas at bargain prices. April boar weighing 300 lb. Open gilts. Summer and fall pigs everything goes. Get busy. J. C. BUTLER, Portland, Michigan, Bell Phone.

LARGE Type P. C. Largest in Mich. Spring Boars ready to ship. The kind that make good. Come and see the real big type kind. Expenses paid if not as represented. Free delivery from Parma. W. E. LIVINGSTON, Parma, Mich.

Big-Type Poland Chinas: April and May pigs, healthy and growthy: Prices right. L. W. BARNES & SON, Byron, Mich.

LARGE Type P. C. Some growthy spring Boars and Gilts ready to ship, come and see them. Free delivery from Augusta. W. J. Hagelshaw, Augusta, Mich.

Poland Chinas large and medium type. Prices low for quality of stock. P. D. Long, R. 8, Grand Rapids, Mich.

Big Type Poland Chinas, of April farrow, both boars and sows, for sale. A. A. WOOD, Saline, Mich.

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

BIG Type P. C. Boars, March, April and May farrow ready to ship. Sired by Grand Super Boar, a Peter Jumbo, Mouw Bred Boar. C. E. Garnant, Eaton Rapids, Mich.

HAMPSHIRE Boar pigs only for sale \$15 and up as to age. JOHN W. SNYDER, R. 4, St. Johns, Mich.

1 FALL BOAR Good Bone. 6 Spring boars, good breeding. Write for description and prices. J. D. CRANE & SON, Plainwell, Mich.

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

SHEEP

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

Reg. Shropshire Rams and Ewes For Sale.

Prices reasonable. Harry Potter & Son, Davison, Mich.

Why Not Breed The Good Ones Yourself?

Will sell twenty extra well bred registered Shropshire ewes at \$45 per head. Also a few ram lambs at \$40.00. KOPF KON FARMS, Address Coldwater, Sheep at Lupton, Mich.

Registered Shropshires 50 ewes 1 to 4 yrs. old 75 ewes and ram lambs also a few yearling rams of quality and breeding. Priced right. Flock established 1890. C. LEMEN, Dexter, Mich.

Shropshires Big, early reg. ram lambs, for coming fall trade, sired by imp. Nock ram. Milo M. Gibson, R. 5, Lapeer, Mich.

R A M S: Rambouillets and Hampshire for sale. A. A. WOOD & SON, Saline, Mich.

Registered Spanish Morino Black Top Rams for sale, 1 and 2 yrs. old. RALPH N. HAYNER, Webberville, Mich.

MERINOS & Delaines, having quality, size, oily fleeces, long staple, heavy shedders. Rams for sale, delivered, S. H. Sanders, R. 2, Ashtabula, Ohio.

Shropshires a few choice Ram lambs; one three yrs. old, 10 ewes. DAN BOOHER, R. 4, Ewart, Mich

Meadow Brook Herfords Two 2 yr. old bulls, 3 yearlings and 15 calves for sale. EARL C. MCCARTY, Bad Axe, Mich.

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

PURE BRED Hampshire Ram Lambs—Will register. Wm. O. SMITH, Phone 31F21, Rochester, Mich.

Additional Stock Ads. on Page 367

"HOG-FAT" PROFITS

And 60 Days FREE Treatment For ALL Your Hogs!

DON'T SEND ME A PENNY TODAY!

That's my offer—made repeatedly in this paper for over a year now—and accepted by tens of thousands of hog-raisers in this state. I agree to send you the **Avalon Farms Hog-Tone** treatment for all your hogs for 60 days—and if it don't make your hogs **make more money for you**—produce more pounds of good, firm flesh from the same amount of feed—I don't want your money.

This is the same proposition that H. M. Giesekeing accepted. Read his letter at right—and the letter from W. W. Madden, who bought and shipped the hogs—the one from Williamson Commission Co., who sold the hogs—and the letter from Danahy Packing Co., who paid "top market prices" for those

hogs the day they were placed on the market. This is only one of hundreds of similar instances. **Avalon Farms Hog-Tone** is making "hog-fat" profits for tens of thousands of hog-raisers from one end of the Corn Belt to the other.

AVALON FARMS HOG-TONE

The Liquid Hog-Conditioner, Fattener and Worm-Remover
Cost Is Little—Profit-Results Are Big



20 cents' worth keeps a hog in tip-top condition from weaning time until marketing time. I will ship you one \$1.00 bottle of Hog-Tone for each eight hogs in your herd—the day the coupon below, filled in, reaches this office. That will be sufficient to treat your hogs 60 days or more, according to size. This will mean just 12½ cents per hog for all the treatment—and that treatment is guaranteed by me to give you a 400 per cent profit over and above the cost of the Hog-Tone treatment, at marketing time. If it doesn't, I don't want you to pay me a penny. The **Avalon Farms Hog-Tone** does this—and more—99 times out of 100! Farmers by the hundreds report profits of 1000 and even 2000 per cent in hog-weight increase over and above the trifling cost of **Hog-Tone** used. Let me send you facts about scores of such cases right in your own section of the country.

Don't Send Me a Cent Today, Just Mail the Coupon at Once

Avalon Farms Hog-Tone is highly concentrated liquid medicine for hogs only. It contains highly important medical ingredients which are liquids and which cannot be combined in Medicated Salts, Stock Foods or Condition Powders of any kind.

Avalon Farms Hog-Tone is safe. Very easy to treat your hogs with it. Easily mixed with any slops, with drinking water or dampened feed. Given only every third day for first 6 weeks and after that once a week.

Thoroughly proved on **Avalon Farms**, near Fort Wayne, Indiana. Almost invariably successful in cleaning out every kind of Stomach, Bowel and Bronchial worms that infest hogs. Reports from users everywhere prove this absolutely. By doing so, it gives protection to hogs from easily contracting Cholera, Rheumatism, Scours, Thumps, caused by worms and indigestion, Enteritis, Indigestion and other diseases that destroy millions of hogs. A wonderful tonic and conditioner—gives hogs voracious appetites, aids digestion, makes them thrive, and put on flesh fast. Makes hogs eager for their feed.

Avalon Farms Hog-Tone is the best known tonic for sows during gestation. Its use insures strong, healthy pigs. It is the reliable worm expeller which is safe to use at this time.

Now—write me at once—use the coupon—a post card—or send me a letter—and I will send you the 60 days' treatment on 60 Days' Trial—No Money If Not Satisfied Plan—at once.

W. O. GANDY, President
AVALON FARMS COMPANY
772 Rand McNally Building
CHICAGO, ILL.

W. O. GANDY, President,
Avalon Farms Co.,
772 Rand McNally Bldg.
Chicago, Ill.

I have.....hogs. Ship me immediately enough **Avalon Farms Hog-Tone** to treat them for 60 days. I am to pay nothing now except transportation charges. I agree to report results to you at end of 60 days and pay for the **Hog-Tone** at that time if it has done all that you claim. If it does not, I will return the labels to you and you agree to cancel the charge.

Name.....Please Print

P. O.....

R. R. No.....State.....

Shipping Point.....

Name and address of my druggist.....

SEND NO MONEY—TAKE NO RISK
NOTE—DR. GRAWCOCK'S FAMOUS BOOK ON TREATING HOGS, FREE WITH EVERY ORDER



Read This Letter First

Arcola, Ind., Jan. 12, 1917.
I enclose photo of my 86 head of **Avalon Farms Hog-Tone** hogs, which the feeding expert of Purdue University Experiment Station says are the best hogs he has seen this year.

The mothers of these hogs were all treated with **Hog-Tone** during pregnancy. All these hogs have been treated with **Hog-Tone** since weaning. My 13 sows farrowed 132 pigs. I lost some from cold, sold some and butchered some, but have 86 left. These were weighed Jan. 8th and averaged 285 pounds at about 7½ months of age. There is not 10 pounds difference between the heaviest and the lightest.

Very truly yours,
(Signed) H. H. GIESEKING

Read This Letter Second

Churubusco, Ind., Jan. 23, 1917.
I bought a carload of hogs from H. M. Giesekeing that had been treated with **Avalon Farms Hog-Tone**. In loading them one broke his leg. I butchered it and it proved the finest heavy hog I ever slaughtered.

This car of hogs was shipped to The Williamson Commission Co., East Buffalo, N.Y. They "topped the market" the day they were sold—selling higher than any other hogs on the market. I wish every farmer knew the money-making value of **Hog-Tone** in hog raising.

Yours truly,
(Signed) W. W. MADDEN.

Read This Letter Third

East Buffalo, N.Y., Feb. 17, 1917.
The load of hogs fed by H. M. Giesekeing at Arcola, Ind., which had been treated with **Avalon Farms Hog-Tone** were a fine lot. They were sold on this market in open competition on January 23rd, and topped the market, selling at a higher price than any other hogs that day.

The packers who bought this advise that they killed out very satisfactorily, the meat being good and firm. They will be glad to get this kind of hog any time they are on the market.
(Signed) Very truly yours,
WILLIAMSON COMMISSION CO.

Read This Letter Last

Buffalo, N.Y., Feb. 19, 1917.
In regard to the carload of hogs which were treated with **Avalon Farms Hog-Tone**, we beg to state that these hogs killed out very satisfactorily, the meat was good and firm and, in fact, this lot of hogs was the most satisfactory that we have killed in some time.

We would consider it a great favor to notify us whenever you have any hogs conditioned on **Avalon Farms Hog-Tone**.

Yours very truly,
(Signed) M. J. DANAHY.
THE DANAHY PACKING CO.