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The Advantages of Late Fall Pruning

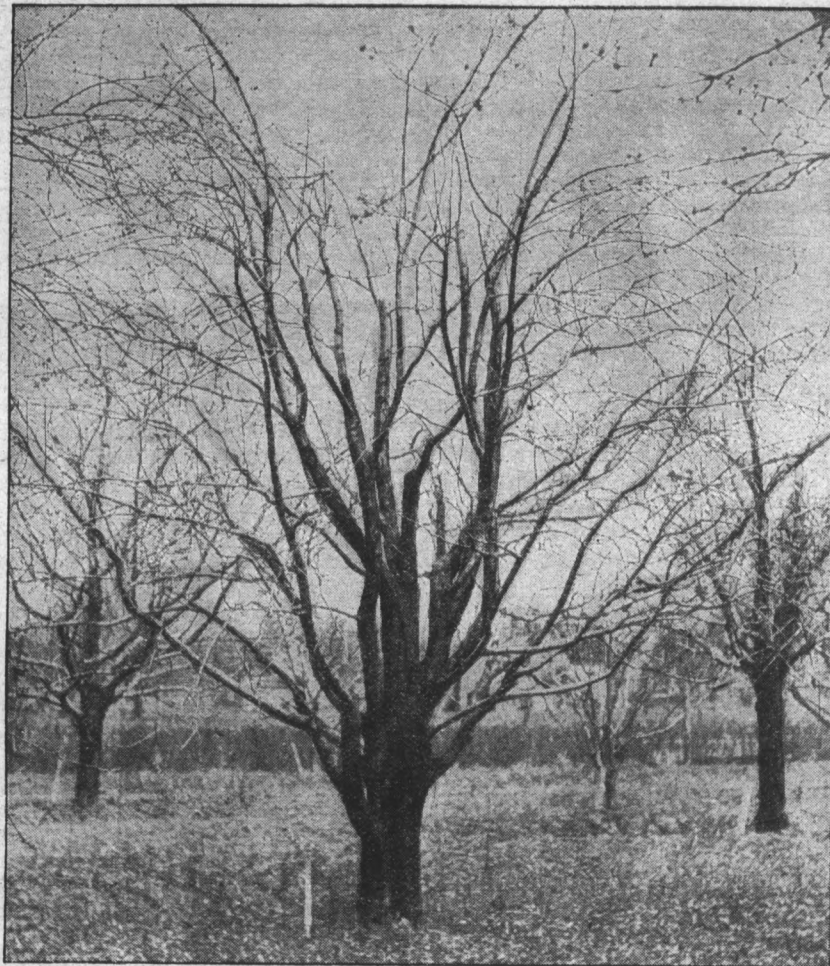
By R. G. KIRBY

ON the general farm there is always too much work and the time for doing any certain work is not determined by waiting until there is nothing else to do. The only question is, "How can this work be done with the least interference to the other duties of the farm?" Pruning of fruit trees will usually not injure the trees if it is carefully done when the tools are sharp. That means nearly any season will be satisfactory. On the farm the spring days are not long enough for everything and all work that can be finished in the fall or early winter will be of great assistance to the farmer. Pruning wounds seem to heal over more rapidly when the work is performed in the late spring, but there is not enough difference to make it necessary to avoid fall and winter pruning. Many growers seem to be of the opinion that fall pruning is practical if there is time for the work at that season. Possibly it will be safer to prune moderately but this is always best as a moderate amount of annual pruning will always pay better than an extensive slaughter of the tree at intervals of four or five years.

Experiments seem to prove that winter pruning increases the growth of wood. Some growers state that there is a danger of the twigs winter-killing if the work is carried on before late winter, but the damage from such causes is not apt to be serious. A large orchard requires considerable pruning and unless there is an abundance of labor available it will be necessary to begin the work in late fall or early winter and continue when the opportunity affords until spring.

Advantages of Fall Pruning.

Old orchards which have been seriously injured by the scale can stand



A Pear Tree Headed Back to Make it Spread.

a large amount of fall and winter pruning. Many of the limbs will be dead and the old apple wood is a very desirable fuel. These trees are often so large and in such poor condition that it would scarcely pay to prune them at all in the spring when time is more valuable than at any other season of the year. The condition of a tree at the close of the summer is a fair barometer of its future value. Dead wood is easily detected and if the tree is too far gone for rejuvenation it can be marked and turned into fuel at the first opportunity. On many general farms there are pest-ridden orchards which might better be removed, allowing the land to be used for profitable crops. A small orchard for home use is desirable, but a half dead orchard which produces no fruit that is worth storing may cost more to rejuvenate than the fruit will ever be worth. Some of these old orchards can be improved and made to pay well. Others are worth something if only used to produce shade for a good flock of poultry. A careful inspection of the farm orchard at this season will enable the grower to determine the amount of pruning necessary before spring and the prospective value of the orchard. The commercial orchardist as well as the farmer with a few trees should take time to thoroughly inspect his orchard at this time and plan his pruning

campaign before the advent of spring.

Grafting wax, white lead paint, etc., have been recommended for painting pruning wounds and many growers have had twinges in their conscience when this has been neglected. Experiments recently conducted at an eastern experiment station have proven that it is not necessary to paint any but the largest wounds. Painted wounds healed no sooner and, in fact, in many instances they did not heal as well as the unpainted cuts. The idea has been to use the paint to keep out fungous diseases and moisture. The results of the experiments would seem to prove that nature is fully capable of healing up the smooth pruning wounds made by a careful orchardist. The use of paint on every cut adds to the expense of pruning, especially in this age of high labor costs and if it is superfluous work the news is welcome.

Pruning Tools.

There is no place in an orchard for an axe or hatchet—at least not until a tree is dead. The short curved pruning saws are easier to use than a straight saw. They enable the grower to work in the trees with much less effort and seem to take a better hold when cutting through the wood. A frequent sharpening of the saw is necessary during the pruning season, especially if the tools are used by hired la-

bor. A dull saw is a discouraging tool to manipulate but when a farmer who likes fruit is pruning his own orchard with a first-class keen-edged tool there is a real pleasure in shaping up a tree into a form as ideal as possible. Small pruning shears with strong springs are necessary for trimming off the small wood and this is very necessary in shaping up peach trees. The double cut pruning shears with handles three or four feet long are practical. The blades are so constructed that they cut above and under the branch, at the same time making a smooth cut and not tearing the bark. The shears should be frequently oiled and never stored where they will become rusty or left in the trees during storms. Well kept tools save many hours of labor in the orchard, and a great deal of unnecessary effort. The dull tool cuts one thing very well—that's the profits of orcharding. Pruning shears on a pole save some climbing and they can be used to advantage in pruning all kinds of fruit trees. The next important item is a light ladder which can be rapidly shifted around the tree. It should reach high enough to enable the pruner to reach the majority of the limbs without climbing in the trees. A pair of old rubbers worn by the pruner will prevent the bark from being scraped and will also be an insurance against slipping while climbing on the limbs.

In the Peach Orchard.

Peach trees produce their fruit on the wood grown during the preceding summer and if they are not pruned the trees will soon become high-topped and unsightly while the fruit will be small and difficult to pick economically. Study the tree to be pruned and try and shape it into a low-headed, open-

(Continued on page 457).



Pear Tree Trained for a Low Head.



Shaping a Young Apple Tree.

The Michigan Farmer

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CURRENT COMMENT.

Waste Paper. The plan practiced in a few communities by enterprising church organizations, of collecting and disposing of waste paper, for funds to carry on charitable and philanthropic work could undoubtedly be extended advantageously to every rural congregation in the state under conditions as they exist at the present time. Prices for waste paper have gone skyward. The shortage in the wood pulp market is such that the paper mills must resort to the use of every available substitute in order to keep their regular customers supplied, and this urgent demand for raw material has developed such competition for waste paper offerings that quotations have advanced from 200 to 300 per cent during the past year. Because of these high prices it would appear that church societies could secure a nice little revenue through the diligence of members in regularly delivering the accumulations of waste paper in their respective households at the church or some suitable place where it can from time to time be baled in an ordinary hay baler and shipped directly to the paper mills. To assist any who may wish to undertake this scheme of raising church or charitable funds, this journal will gladly furnish the names and addresses of mills which would be in the market for the product.

Because of the large amount of paper delivered at every household through the mails and other sources, it is certain that any general activity along the line suggested would not only afford a substantial relief to the paper manufacturers but would also get rid of a waste product and at the same time bring to the associations undertaking the task a substantial income. Where one church society would be obliged to wait a considerable time before securing sufficient waste paper to make up a corload, it would not be a difficult matter for a number of societies to merge their supplies and ship frequently at the minimum of transportation expense. It would be easy for each society to keep track of the amount of paper contributed to the corload. Some person could be chosen to look after the weighing, loading, shipping and other business requirements and make returns to the several organizations when the paper had been paid for by the receiver.

Labor Costs. U. S. Department of Agriculture made an investigation relating to the labor investment required to produce a bushel of corn. The investigators found that at that time it required an average of four hours and 34 minutes of human labor to produce a bushel of corn. In the period from 1909 to 1912 a similar

investigation was made in Minnesota by the present director of the North Dakota Experiment Station, who found that the human labor required to produce a bushel of corn had been reduced to 45 minutes, or only one-sixth of the time required for the same result in 1855.

The difference in the labor cost is due to a number of factors, such as the use of more and better machinery, the growing of better varieties of corn and the practice of better soil management by the corn growers. It is entirely probable that few Michigan corn growers get the results reported for Minnesota from the labor invested in growing the corn crop. This is largely a matter of speculation, as little authentic data is available on this subject. It is, however, certain that the results secured by Michigan growers vary greatly, not alone in the labor investment required in growing a bushel of corn, but the labor required in producing all of the other crops grown. As a factor in farm management this is a fruitful field for study and consideration on the part of Michigan farmers.

As noted in a leading article of this issue, farmers are now hampered greatly because of the shortage of labor and must perforce depend more upon the use of up-to-date machinery than ever before. On this account it is important that their production be confined to a few lines for which they can afford to procure the special machinery required by producing a sufficient acreage of the special crops grown to make this investment a profitable one. Farm diversity is undoubtedly a good thing, particularly as insurance against seasonal failures, but too great diversity means either increased cost of human labor in the production of the crops grown or added overhead expense because of the larger investment required in special equipment.

The International. The announcement of the dates for the International Live Stock Exposition at Chicago and the days assigned to the leading breed sales which appears in another column of this issue, will be of interest to a great many Michigan Farmer readers. The return of an opportunity to visit the great International Live Stock Exposition after its enforced suspension due to the prevalence of foot-and-mouth disease among live stock in many sections of the country will be welcomed by all who are interested in any department of our live stock industry.

The scope and character of the International is too well known by stockmen and farmers to require fresh description at this time. No reader will fail to appreciate the benefit to be derived from attending this greatest live stock show of the world. In addition to the opportunity offered to see under favorable conditions for comparison the very best animals from a meat production standpoint which the breeders and feeders of the country have been able to produce, the added attraction of breed sales, the breed meetings which will be held during International week, the educational exhibits and demonstrations, the entertainment features of the daily programs which are the great drawing card, the opportunity to look over the great Chicago live stock yards and allied industries all make a trip to the International more than worth while to every farmer or farm family who can by any possibility arrange to attend. Then there are the attractions of a visit to the great city in which the exposition is held.

Among the points of interest which those who attend the International this year should give some attention is the Michigan exhibit at the Chicago Herald's Permanent Bureau of Agriculture and Industrial Resources. This exhibit is co-operatively made by several Michigan railroads having considerable mileage in western Michigan, and the Western Michigan Develop-

ment Bureau. In the Michigan booth are exhibits of various agricultural products from western Michigan and an automatic stereopticon machine constantly showing hand-colored slides illustrating western Michigan, a change in pictures occurring every eight minutes. This exhibit is located in the Ashland Block, corner of Clark and Randolph streets, a location so central as to be convenient for the attendance of Michigan people who may be interested in knowing what is being done to advertise the state's agricultural resources in other communities.

Steps have been taken for the carrying out of a plan evolved by State Dairy and Food Commissioner Matthews, of Illinois, for the conservation of dairy-bred calves in that state. The plan was presented by the commissioner at a banquet arranged to celebrate the first anniversary of the business men's dairy extension movement of Illinois, and which was attended by leading bankers and business men and representatives of the dairy interests.

According to Commissioner Matthews' figures, it would be necessary for Illinois to add more than 300,000 dairy cows in order to keep pace with the growth of the population. The situation is more alarming because of the fact as shown by authentic statistics that between the years 1910 and 1915 there was an actual decrease of 43,200 dairy cows in the state. During the campaign of the past year, inaugurated for the purpose of securing more and better cows for Illinois, 121 carloads of high-grade dairy cows have been placed with the farmers of the state. Three successful dairy day celebrations have been organized under the auspices of the business men's dairy extension movement.

In the development of this work the commissioner's plan which received the endorsement of the business men present, contemplates the organization of a large number of calf clubs in Illinois and to supply the calves for this work by having experts buy young calves from dairymen who do not care to raise them and feeding them scientifically on a farm where preparations have been made for this work until six months of age. By this plan it is hoped to give the dairy industry of Illinois an additional impetus. Funds have already been subscribed for trying out the plan on a comparatively large scale.

This is perhaps the first practical attempt toward saving the calves which has been such a popular slogan among well meaning but impractical people who would conserve the future meat supply through legislation prohibiting the sale of calves. Its workings will be watched with interest by the dairy farmers of other states.

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—The Allies have made further gains at Somme and Verdun. Violent fighting netted the French three lines of trenches north of the Somme, while still further in that direction the British took the hills in the neighborhood of Butte de Warlen-court. At Verdun the French have occupied the entire village of Vaux, and also the town of Damloup, which is situated a mile to the east of Fort Vaux. The Italians are determined to break the Austrian lines south of Gorizia, which is a part of the campaign to take the seaport of Trieste. Fresh gains against the Austrians have also been made on the Carso plateau, while farther to the south important positions are being bombarded. During the past week a large number of Austrian prisoners were taken in this region. Both sides are claiming successes at various points in the Transylvania theatre, where the Roumanians have been successful in checking the Austro-German advances. No news has been forthcoming from the province of Dobrudja in southern Roumania, the district in which the central powers have had many striking victories. Russian war ships have shelled Black Sea ports recently taken from Roumania by German and Bulgarian forces.—In

Macedonia fighting continues along the Cerna river, but no important changes have taken place.—The Germans on the Russian front made small gains south of Dvinsk, while the Czar's troops have been successful in Galicia and the Carpathian mountains.

The central powers of Europe have granted to the Polish people an independent government and thus restored this ancient kingdom to its place among the European nations. The exact delineation of the frontiers is to be left to the future, as is also the question of who shall be placed upon the throne of the new kingdom. Poland has been under Russian rule for the past century, but the territory was conquered by the central powers during the summer of 1915.

Carranza's forces in Mexico have abandoned Parral, according to the latest reports from that quarter.

National.

Last week the German submarine merchant ship Deutschland completed another successful trip across the Atlantic when it landed safely at New London, Conn., under Captain Koenig, who was master of the vessel on its first trip to this country. The craft carried a valuable cargo to this country of which a large part consisted of dye stuffs now so much needed by certain American manufacturers. The boat is already being reloaded for the return voyage. The return cargo will consist largely of nickel and rubber.

The remarkable evangelistic services conducted by "Billy" Sunday and his helpers in Detroit for eight weeks, closed on Sunday, November 5, with a record of 27,109 converts, exceeding the number made by any evangelist in the world's history in a single campaign. On Sunday, the last day of the meetings there were 3,133 who came forward on the invitation of the Rev. Sunday.

Five men were killed and forty injured in an industrial riot at Everett, Wash. The trouble is the outgrowth of a strike of shingle weavers at that place.

The counties of Tuscola, Huron and Sanilac are planning a joint tuberculosis sanatorium. The board of supervisors of Huron county has appointed a committee to meet with similar committees from the other two counties on November 13, to consider the establishing of such an institution.

Where the normal price on print paper has for years hung around two cents per pound, delivered, the price has recently in many instances advanced to five cents per pound, and the gravest menace to publishing concerns lies in the fact that still further advances are likely to be made.

Figures for October show a remarkably large volume of business in the United States during that month. Bank clearings increased 27.1 per cent.

NORTHERN MICHIGAN AGRICULTURAL CONGRESS.

The Second Northern Michigan Agricultural Congress will be held in Ludington, Mich., on November 28-29. The purpose of this organization is to study the problems and needs of Northern Michigan and to consider a constructive agricultural program.

The first day's meeting will be devoted entirely to live stock and soils, the second day to the marketing of western Michigan fruit. Subjects to be considered the first day will be:

First, what can be done to add humus to the soil, and the raising of alfalfa, vetch and sweet clover.

Second, how to plan to secure loans through the Federal Act providing for rural credits.

Third, cash crops, beans, potatoes, and cucumbers.

Fourth, cattle and sheep on small farms and also on a larger scale.

Fifth, Agricultural Extension Schools to meet the special needs of Northern Michigan.

Sixth, what the state might do for the newer sections.

Dr. M. M. McCool, of the Department of Soils of the Agricultural College, is making an extensive study of the sandy Jack Pine regions of Mason and Manistee counties, and will give the results of his study during this first day. Mr. R. J. Baldwin, Jason Woodman, C. B. Cook, James N. McBride, W. J. Orr, W. P. Hartman, John C. Ketcham, F. W. Harding, D. D. Aiken, and many others will be on hand to discuss these subjects.

Individual farmers and representatives of agricultural organizations are asked to send representatives to advise and discuss the needs and remedies of their respective communities.

At the second day's meeting only fruit marketing and the matter of what can be done in the federating of Western Michigan Fruit Associations will be considered. Mr. G. E. Prater, of Paw Paw, and Mrs. C. M. Russell, of Manistee will lead the discussion along the lines of co-operative marketing, advertising, etc. Mr. C. E. Bassett from the office of Markets at Washington will be present.

Factors In Successful Farming

By J. A. KAISER

IN these days, when labor-saving devices must in large measure, take the place of the hired farm hand, machinery becomes, more than ever before, an indispensable farm asset. Human hands, perhaps, in some instances at least, would answer better and perform the work more satisfactorily, but if human hands are not to be had at any price, then the mechanical device must take their place. The scarcity of farm labor is one of the hard problems the farmer has been compelled to solve in recent years. The inventor has done his part in clearing up the difficulty. And for this reason, a modern farm fully equipped with adequate machinery, means an investment not dreamed of in former days. The manure spreader, the hay loader, the gasoline engine, and many other improved machines take the place of the laborer who is not to be found.

In the light of the foregoing facts, proper care of farm machinery becomes even more imperative than in former years. Machinery is, at the best, expensive. Since it is necessary in carrying on modern farming operations, its proper care may spell the difference between successful and unsuccessful farming. Indeed, it does do this very thing. Unhoused, unprotected, uncared-for machinery standing in the sun and rain about a farm yard, may be considered, nine times out of ten, as sure indications of unsuccessful

tools and machinery, goes another characteristic which often spells the difference between success and failure on the farm. This has to do with the up-keep of farm buildings. Untidiness and lack of repair decrease greatly the sale value of any farm. It is a hundred times cheaper to repair as you go along. Slovenly farming often proves expensive in ways not looked for. The writer once knew a farmer who was notoriously slovenly. The barn doors were always off or hanging by a single hinge. The stable floors were broken and treacherous, the stalls were unsafe, and even the fences were made traps for the horses and cattle by stretches of barbed wire allowed to sag and coil loosely along the margin of the fields. Annually, this farmer met with more misfortune in the way of horses and cattle with broken legs or other serious injuries than was experienced by the remaining farmers of the entire township. It often happens that a few dollars will repair a stable floor if the work is done in time. If neglected, a dead horse may be added to the cost of repair. In almost every case, too, these things which make for successful farming may be considered as permanent improvements, adding to the appearance and value of the place.

Good Planning is Essential.

The foregoing factors in successful farming have to do with the elimination of waste. The principle applies in



Good Methods in Potato Growing Have Paid Big Dividends this Year.

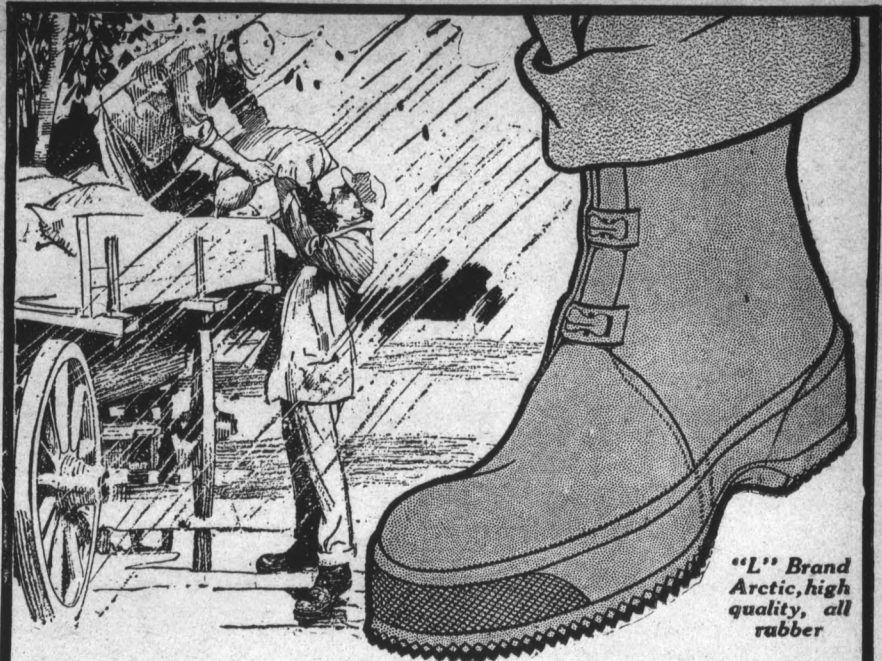
farming. These machines are too expensive to be permitted to rust and rot under the action of the elements. The farmer who leaves his plow standing in the furrow over winter, who leaves his sleigh unprotected through the summer, and who treats all other tools and machinery in the same way, can not succeed. He is swimming against the current all the way.

Permanent Improvements.

In the consideration of this question, the lack of requisite housing for machinery is often a factor. It costs to build tool sheds in these days of expensive building material. This is true, but it is a short-sighted policy to permit machinery to deteriorate rapidly in value for the lack of adequate shelter. A tool shed may be considered as in the line of permanent improvement. Its presence adds to the value of the place, and it will easily save in three or four years, in conserved tools and machinery, an amount equal to that used in building it. Any shelter, however poor, is better than none at all, and if it is impossible for a year or two, to erect first-class buildings, a temporary shelter may at least be provided, to protect the machines from the rain and snow. Any effort made along this line, will yield rich returns to the farmer in question.

In keeping with improper care of

lesser degree to active farming operations. The man who leaves a field of corn out in the shock over winter, because he regards the current price for husking, too high, is taking a step toward unprofitable farming. The loss through exposure to the storms of winter, will surpass by far, the cost of husking. This principle applies in the gathering and marketing or housing of all crops. To harvest a crop when it is ready is a big and important item. The man who puts in more crops than he can possibly look after properly makes a mistake as detrimental as that of the man who does not shelter his machinery. A farmer may work like a slave the year round, but if he does not attend to the factors mentioned and eliminate, so far as may be, the waste from this kind of management, he will fail utterly. The successful farmer puts his machinery and tools under shelter, keeps his buildings and fences in repair, harvests his crops when they are ready, so far as possible, and does not sow or plant more than he can adequately cultivate and care for. A crop of 10 acres, properly cared for and harvested, is worth more than a crop on 30 acres improperly cultivated and harvested. Waste of land and waste of labor are expensive items which enter into the latter case and destroy the profits.



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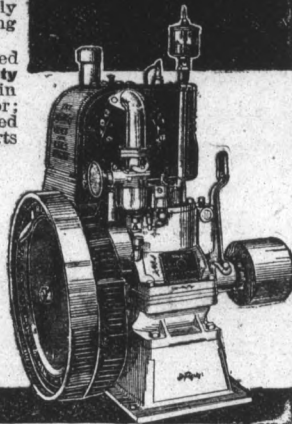
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DETROIT

Farm Notes

Spring Wheat for Michigan.

I am thinking of sowing some spring wheat next year. Can you give any facts in regard to it? Is our climate adapted to it? Should it be sown as soon as the ground can be worked? How much seed should be used to the acre? Is it worth as much on the market as winter wheat? I have nine acres of corn stubble and potato ground nearly plowed where I expect to sow it if all is well. The ground was well covered with manure last spring.

Genesee Co.

B. C.

Very little spring wheat is grown in Michigan, for the reason that our climate is much better adapted to the growing of so-called soft winter wheats than spring wheat, also the winter wheats give better average yields under Michigan conditions than does the spring wheat.

In the early history of Michigan farming considerable spring wheat was grown. Spring rye has also been grown to some extent, but in every case the practice of growing spring grains has given way to the growing of winter grains where these are adapted to our climate. Only a few years ago some spring wheat was grown in the Saginaw Valley, but only on a small scale and by a few farmers. Lacking acclimated seed it would probably be better to devote this land to some other spring sown grain rather than to sow spring wheat seed grown in the drier climates of the middle-west.

Its culture is in every way similar to that of other spring sown grains. Michigan grown spring wheat would not command any premium on the market, since it would not be of the No. 1 hard quality of the northwestern product, and under normal seasonal conditions would probably not be as good quality as the average grade of winter wheat.

Fall vs. Spring Plowing for Potatoes.

Last spring I sowed a piece of very sandy land to oats, clover and vetch, intending to plow it under this fall and grow a crop of potatoes on it next season. I have been advised by another farmer not to plow this ground until late in the spring. His reason for spring plowing is that land has not the chance of washing and eroding and where a good sod has started it will help to build up the soil into a black loam. Is this correct or not? Please advise. The land has a gradual slope to the south.

Marquette Co.

B. W. C.

On sandy land of the type described where a cover crop is growing, there is no doubt but that spring plowing would be preferable. The date of the spring plowing should depend somewhat upon weather conditions. The ground for potatoes should be plowed when it contains an abundance of moisture, particularly where a cover crop is to be plowed down. It should also be plowed down a sufficient length of time before the desired date of planting so that it may be thoroughly worked, a good seed bed prepared and the weeds killed.

LILLIE FARMSTEAD NOTES.

The soil does not dry out sufficiently so one can use the potato digger and must dig in the old-fashioned way—by hand. This makes the cost considerable more. The price of potatoes, however, will warrant the expense this year. Of course, we do not usually figure on getting much revenue out of the potato crop. I furnish all the men, that is, the four men employed by the year, with potatoes as a part of their wages, and we try to grow enough so everyone will have all they want to eat and have plenty for seed. Some years we have a few hundred bushels to sell, usually when we do they are worth 25 to 50 cents per bushel. But this year we will have a few to spare and the price now is \$1.50 and still going up. Our potatoes are remarkably free from scab this year. Most of them are smooth and nice and they are fairly good-sized potatoes. Some years they get too large. This year they are about right. They are also fairly good

potatoes to eat, although planted the middle of July. The starch is pretty well ripened. I don't think they will yield 200 bushels per acre, but there is a much better crop than I expected when they were planted.

The Wheat Outlook.

Wheat is doing nicely. It is large enough now so it sprawls out over the ground and if growing weather continues it will have sufficient top to offer some protection against winter conditions.

Many people smiled when I predicted \$2 wheat way back in July, but it looks as if I guessed correctly and the indications are that it will even go higher. Nobody knows where it will land before a new crop grows. But I look for good prices for next year's crop, because there will certainly be no big surplus carried over this year, as there was last. Some people seem to be afraid of a big Russian surplus to be dumped on the market at some future time. My idea is that Russia has enough to do in the great war, so this surplus will never materialize. It looks to me that the world will need all the wheat we can produce for some few years to come. But I don't think farmers should go headlong into wheat. A big acreage poorly planted will bring small profits, even though the price is high. The ordinary acreage well planted and well fertilized will bring much more profit, and profit is all that is worth while.

Hay Our Only Cheap Product.

Hay is selling around here at public auction for about \$7 or \$8 per ton in the barn. Shippers are paying \$10. Hay is the only cheap product we have this year, and I predict it will command a better price next spring than it does this fall. Hay is so cheap and grain is so high that farmers will feed hay very liberally and scrimp on grain. This is the natural and also the proper thing to do. Horses doing but little work will winter fairly well on hay and a very little grain. Young cattle and sheep can do well on hay alone, and I would not be surprised to see hay worth more and grain less next spring than now. Hogs are going to market not half fattened because corn is better than \$1 per bushel. It simply takes our breath almost to think of \$1 corn to feed hogs, with the uncertainty of the hog market. And feeding cattle are going now for less money than conditions would warrant, because of the high price of all feeding-stuffs. Farmers simply haven't got the nerve to feed such high-priced grain and take their chances. I can't blame them. I haven't got the nerve myself to do this, only with dairy cows. With the dairy cow one gets returns so quickly that the danger of loss is pretty well eliminated.

A High Price for Butter-fat.

I don't remember of butter-fat being as high as it is now at this time of the year. Elgin is now quoted at 35 cents. It is a splendid price and even though grain is high the farmer ought to have nerve enough to feed the cows a liberal ration. Some predict that the price will go much higher, but we must consider that there must be a limit to this price. If prices are too high consumption will fall off. This is a natural consequence and this will control the price in a large measure. Times are so good, labor is so well employed that price seems to cut less figure than formerly. Everything is working to a higher basis. There seems to be more money. It perhaps does not go so far as formerly, but being more plentiful it has the same effect. The thrifty man now can save some money. Cut down expenses as much as possible and bank the balance. There is a chance for this now when before, on a lower level of prices, one could not do it. The farmer sells more than he buys, therefore high prices allow him to make or save more money than low prices for everything. If there is little money going round it is hard to get any of it.

COLON C. LILLIE.

THE ADVANTAGES OF LATE FALL PRUNING.

(Continued from first page).

centered and symmetrical appearing plant with a few crotches, no crossing limbs and a large fruit-bearing surface. The ideal peach tree pruner will need years of practice and much experience in the proper manner of trimming the peach. It cannot be learned except by working in an orchard and studying the methods of a practical farmer who has successfully developed commercial orchards.

Peaches cannot be pruned to advantage early in the winter like an apple tree. If the fruit crop is killed the trees may be headed back severely and in some cases the entire top of the tree can be renewed. If there are prospects for a good crop of fruit the trees may possibly be headed back about half the length of the last year's growth half the length of the last year's growth making a special effort to keep the center of the tree open, thus allowing plenty of sunlight to enter and color up the fruit. It might be mentioned that this year at least one dealer who purchased a carload of Michigan peaches complained that some of his best customers did not like the fruit and would not buy it because of the lack of color. It is true that a fine blush is one of the best selling points in the peach business and while the season influences the color it is also necessary to prune to make the tree open centered and thus aid nature in every possible way to produce attractive fruit.

When certain limbs on a peach tree grow very large and shade the center too extensively, it will be best to remove them. Some orchards are planted on windy sites and the trees may become lop-sided unless the branches growing directly toward the wind are encouraged in their growth.

Developing an Apple Tree.

The apple tree stands winter pruning very well and large trees require much attention, especially if they have been neglected, that it is wise to begin apple trimming as soon as possible after the completion of the regular fall work. Large limbs should not be trimmed clean of small branches until they have a pole-like appearance. If it is necessary to remove heavy branches a cut should be made for a couple of inches on the under side of the branch on the point at which it is to be removed. Then a few inches further out the entire limb can be sawed away and when it falls there will be no danger of tearing off a long strip of bark. Then the remaining short stub can be sawed off smoothly and a clean cut will remain. Ragged cuts heal slowly and give the orchard a careless appearance which is unnecessary.

Heavy winter pruning stimulates the development of apple wood and thus gives the tree a large fruiting surface. Cherry trees require little pruning after the first four or five years when the general form of the tree is determined. Dead limbs or branches that cross must be removed, otherwise there is little expense in keeping a cherry orchard well trimmed.

The pear tree has a more upright growth than the apple, and efforts should be made to keep it as open centered as possible. Trees that are too high-headed are difficult to harvest and for this reason the pear should be started as low as possible. Winter pruning is desirable for pears until five or six years of age. After that date many growers prefer summer pruning along in August as this does not encourage wood growth and the growth produced will have plenty of time to harden before winter. A profuse growth of pear trees after reaching five years of age, is to be discouraged as it makes the trees more subject to fire blight.

In general, pruning of all kinds of fruit trees is more or less of a necessary evil, but it must be done and the grower who can do as much of his

pruning as possible in the fall and winter will find it profitable. It will enable the orchardist to give the orchards a thorough pruning and not seriously interfere with the other necessary work which can only be performed in the spring.

TROUBLE DEPARTMENT.

Apple Tree Borers.

Can you tell me anything about borers in apple trees? How the eggs are deposited; how long before they hatch, and how long before anyone would notice them working in the trees?

Oakland Co.

C. D. J.

There are two borers which commonly attack apple trees; one is the round-headed apple tree borer, and the other the flat-headed apple tree borer.

Their life habits are somewhat similar, but the appearance of the borers and beetles are entirely different. The eggs are usually laid on the bark in June or July, those of the round-headed borer within a foot of the ground, and those of the flat-headed borer anywhere on the trunk.

After the borer is hatched it feeds first on the sap wood and then in the case of the round-headed borer it penetrates to the heart of the tree, but with the flat-headed borer its entire existence in the tree is spent in the sap wood. Both borers hibernate in the tree and spend two or three years there.

The only way that the presence of the borer can be recognized is by discoloration of the bark and by the presence of the castings pushed out of its burrows. The borers are more prevalent in trees which are not thrifty, and are rarely found in good, vigorous, well-cared-for trees. The methods of treatment are cutting out with a knife or probing with a soft wire.

Protectors tied around the trunk of the tree will in many cases protect the trees from attacks. Wood veneer or heavy paper protectors will prove satisfactory if tied around the trunk from two to three inches below the ground up to the crotching of the branches. A heavy mixture of pure white lead and raw linseed oil painted on the trunks of the trees will also have protective value, but ordinary paint should not be used, as it contains oils which are injurious to the trunk.

Peach shipments from Ludington have been heavy, with cars going west to Iowa and other states and south to Tampa, Fla.

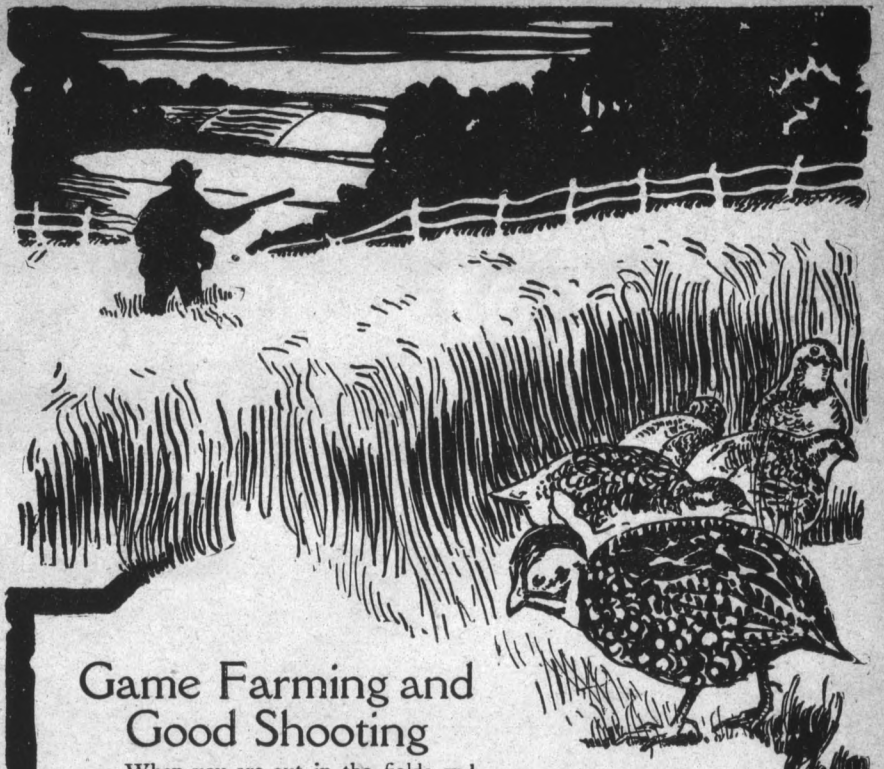
One of the boats out of Pentwater one night this season carried over 7000 bushels of Oceana county fruit to Milwaukee. With improved roads the shipments from this harbor will increase.

APPLE SHOW AT FREMONT.

During the past few years Fremont and vicinity have been putting up apple shows worth mentioning. This year was no exception and the show excelled those of the past. The quality of the fruit, corn and potatoes which comprised the exhibition was fine, and the arrangement very artistic. The decorations made the auditorium where the main show was held, a veritable fairy land and the large motto worked out in fruit, "Peace, Plenty, Prosperity," was very attractive. The windows of nearly every business house also had exhibits of farm products of Newaygo county and the large lobby of the Old National Bank was filled with fruit and vegetables. One of the features of the program held in connection with the show was a talk on State-wide Prohibition, by the Newaygo county prosecuting attorney. Fremont may well be proud of these annual shows which are the result of the efforts of County Agent Blandford in conjunction with the Fremont Board of Trade, the fruit growers of the vicinity and Mr. K. Vining, agricultural instructor of the high school.

"MISTER 44."

In book form this story would cost you \$1.50. Every member of the host of Michigan Farmer families will get the story through the magazine department of this journal. Second installment appears this week. Just turn to page 462 now.



Game Farming and Good Shooting

When you are out in the fields and woods with your shotgun this fall, or in the marshes waiting for the ducks, bear this fact in mind—your shooting would be much better if scientific game farming were conducted more extensively in this country.

Game farming is being carried on much more extensively than formerly, especially so during the past year. Evidence is plentiful to the effect that eventually we will pay as much attention to this important subject as have the people of Europe for many years. The wonderful grouse shooting in Scotland is one example of the results obtained there.

Game farming not only means much to the sportsman through an increase in game but also to the people as a whole through decrease in price and a greater supply of game birds for the table.

Those conducting game farms find both profit and pleasure in the work. Why do not you become a game farmer? Write us for our booklet, "Game Farming for Profit and Pleasure". You will find it well worth reading. Please use the coupon below.

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Cow Testing Associations

IN the last few years there has sprung into prominence among the farmers of this state, more especially in the dairy sections, co-operative organizations known as cow-testing associations. The purpose of these organizations is, primarily, the spotting of the "boarder cow" and the improvement of the herd thereby. The idea is not a new one, however, but has been borrowed from the country of Denmark, where it originated. The first cow-testing association was organized at Vejlen, Denmark, in, 1895. A small group of dairymen, twelve in number, and owning three hundred cows, met there and organized the first association of this nature. The association was a success and other Danish farmers, recognizing it to be of practical importance to the dairyman, organized numerous other associations. In 1911 there were 530 of these associations in that small country. The Danish farmer has so raised the standard of his cows that he is able to buy his feed in the United States and pay transportation charges on it; maintain his herd on high-priced land and compete successfully with the American dairyman in the English market.

Simple Plan of Organization.

The plan of organization of these associations is comparatively simple. The men of a community, who are interested, meet and organize, electing from their own number, a president and a secretary and treasurer. A tester is hired and each member pays to the association treasury a certain price per cow that he is to have on test. In the St. Clair County Association the price is \$1.50 per cow per year and each member furnishes the acid for the testing of his own herd. The proceeds are used to pay the tester and buy the testing outfit.

The success of these associations is influenced to a large extent by the man employed as tester, and it is essential that he be a man who is well qualified for the position. He should be a man who has had considerable experience in dairying and the handling and feeding of the dairy cow. He should take an active interest in the work and advise with the members in the selection of feeds, the balancing of the ration and the marketing of their produce where advice is needed. The tester goes from one farm to another, staying a day at each place. He carries a light Babcock tester of eight to twenty-bottle capacity, depending on the size of the herds, and a pair of scales, together with the necessary glassware. He arrives at the farm in time for the night's milking and weighs the milk from each cow and takes a sample. He does this again in the morning and then tests the milk of each cow. He also weighs the different feeds, finds the amounts fed to each cow and figures out the cost of each cow's feed at market prices. The cow's performance on that day is taken as the average for the month. From the data he obtains the tester figures out the monthly milk production, fat production, the returns, the feed cost and the profit above cost of feed.

He also computes for each cow, the feed cost of a pound of butter-fat, and of 100 pounds of milk; and the returns per dollar paid out for feed. All these figures are recorded in the member's own herd book and in the association book, which the tester carries with him. This book is open to inspection by any of the members who wish to do so. The books for this purpose are furnished to the associations by the United States Department of Agriculture, which aids in organizing and supervising them through the Extension Department of the Agricultural College. Mr. James Waldron has charge of the work in this state. These books give space for a complete yearly record of the cow and a space recording the date of freshening, when bred, and

a detailed description of the cow. At the end of the year each member has a fairly accurate record of the year's performance of every cow in his herd and can tell which ones are making him a profit.

A Good Slogan.

The St. Clair County Association has adopted the slogan, "Better Feeding, Better Cows." This is, in a nutshell, the purpose of these associations. By means of the scales and Babcock test the boarder cows are spotted. By culling these out and breeding only from the best, the member's herds can be improved and put on a paying basis. "Record discontinued, sold for beef," is a common entry in books of the association. Denmark furnishes the best example of what these associations may accomplish. The Danish census shows that the average yield of milk and of butter-fat per cow has been nearly doubled since the first association started in 1895. An increase in the profits by more economical and better feeding, is another important result of the testing. The members can experiment with different feeds and find which give the best results at the lowest cost. The records of the St. Clair Association show a gradual reduction in the average feed cost per pound of production of both milk and butter-fat from month to month.

Aside from these benefits the associations bring about a friendly rivalry between the members, each man endeavoring to have his herd make a better showing than the others. The organization brings together the men who are interested in better farming, produces a community loyalty and gives them an opportunity to learn co-operation. The associations lead toward other community enterprises of a like nature, such as co-operative breeding associations, co-operative creameries and other co-operative organizations.

Ingham Co.

R. L. CADMUS.

Cream is made up of little fat globules floating in milk. In making butter the fat globules are brought together into a mass and the milk is removed as buttermilk. These fat globules will stick better when just the right heat, than if either too warm or too cold. A good temperature for churning is 58 degrees Fahrenheit.

CHAMPION AWARDS AT NATIONAL DAIRY SHOW.

(Continued from last week).

Jerseys.

Senior champion bull, 2 years old or over, imp. Golden Fern's Noble 4570, Wm. Ross Proctor, Parryville, N. Y.

Junior champion bull, under 2 years, Meadow Queen's Fairy Lad 142283, Allen Dale Farm, Shelbyville, Ky.

Senior champion cow, 2 years old or over, Gloria Benedictine 246997, A. V. Barnes, New Canaan, Conn.

Junior champion cow, under 2 years, Fern's Oxford Ever 347433, F. J. Bannister, Hanson City, Mo.

Grand champion bull, imp. Golden Fern's Noble 4570.

Grand champion cow, Gloria Benedictine 246997.

Specials A. J. C. C.—Five-year old winners vs. four-year-old winners: Cows, first, A. V. Barnes, New Canaan, Conn., on Gloria Benedictine 246997; second, A. V. Barnes, on imp. Maitland's Ruth 313015; third, L. V. Walkley, Southington, Conn., on Oxford Majesty's Gypsy 344076.

Holsteins.

Senior champion bull, 2 years old or over, Oak DeKol Ollie Homestead 85929, Iowa Farms, Davenport, Iowa.

Junior champion bull under 2 years old, Korndyke Pontiac Ormsby 171617, Galloway Messer Farm, Waterloo, Ia.

Senior champion cow, 2 years old or over, Minerva Beets 85791, R. E. Haeger, Algonquin, Ill.

Junior champion cow, under 2 years old, Nellie Segis Pontiac 281918, Galloway Messer Farms.

Grand champion bull, Oak DeKol Ollie Homestead 85929.

Grand champion cow, Minerva Beets 85791.

Assembled Herds. First, Iowa; second, Illinois; third, Massachusetts.

Butchering on the Farm

By J. W. INGHAM

FARMERS should kill hogs enough to supply their families with pork for a year. To buy it by the piece of the meat peddlers, or of the grocers in town, is neither sensible nor economical.

Farmers' hog killing for home consumption is not usually done until the weather is quite cold, and sometimes not much before Christmas. It is generally done out of doors, and it frequently happens that the day appointed is cold, windy, and snow squally, but as the help is engaged, and preparations made, the farmer goes through with it, bad as it is.

Most farmers are amateur butchers and have their own particular way of doing the work which they consider good enough, but may be interested in hearing how one of their brother farmers does it, who does not claim to be any better butcher than themselves.

Some people do not feed their hogs anything for twenty-four hours before killing, and the reasons given are that the feed is wasted, not making any pork, and that it renders the intestines more liable to be ruptured when full. I think neither reason is valid. The hogs expect their food at feeding time, and to deprive them of it is arrant cruelty. The feed is not all wasted if entrails are emptied where chickens can get at the contents. I never could see that the entrails were any more liable to rupture when full. I feed our hogs the night before killing, the same as at other times.

Killing.

Some farmers knock their hogs down with a club before sticking. There is no need of this unless the hogs are cross and threaten to bite. Others think it more humane to shoot them with a rifle. This might answer right well where there was only one hog to be killed, but where there are from three to a dozen, the firing, whether done in the pen or outside of it, would terrify the hogs needlessly and mercilessly.

To stick a hog lying on his side, the stick is more liable to get his knife under the shoulder blade which causes blood to settle there to the injury of the meat. Pork will not keep well unless the blood is removed, and the animal will bleed out much better when the head is kept lower than the body. In the slaughter houses in Chicago the hogs are not stuck until they are hung up on an iron rod by the hind legs with the head downwards.

Dressing.

The most important thing in dressing hogs is to get a good scald so that the hair and bristles can be easily, and speedily removed with scrapers. It is better to have the water too cold than too hot, because a "cold scald" can be remedied by another bath in hotter water; but an over-hot scald cooks the skin and "sets," or holds the hair so tightly that it can only be removed with a sharp knife, which gives the hog a poor appearance. This is especially objectionable in case any of the hogs are to be sold. Fortunately, obtaining a good scald need not be a matter of good luck. It can be gotten every time by taking the proper pains of testing the water with a thermometer. No man is able to tell the right temperature with his hand. For large hogs 170 degrees is about right. For small hogs and pigs the water should not be above 160 degrees. The skin being thinner on young hogs the hair "sets" quicker. For scalding, a platform is built about 18 inches high, and a big barrel with the bottom dug into the ground, and the top leaning against the platform at an angle of 45 degrees is generally used. The leaning of the barrel is to make it easier to "souse" the hog up and down, and pull him out. A little wood ashes, or soft soap put into the water will assist in removing the scurf. The wood ashes will gener-

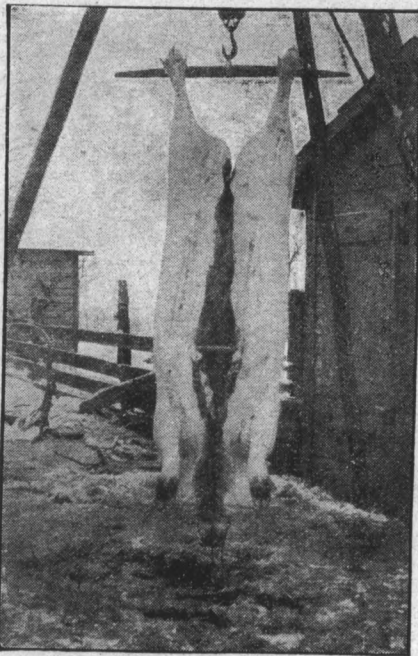
ally be found handy by in the fire. To handle a hog in scalding, a hog hook is nearly indispensable and can be made by any blacksmith. It can be hooked in the hog's jaw when scalding the tail end, and into one of the hamstrings of one leg when scalding the head end. The tail end is usually scalded first, in order that the head (which is the hardest to clean) may be scalded last and the hair removed while it is hot and can be cleaned the easiest. Scrapers are for sale at the hardware stores but farmers can make them out of old cradles or bucksaws. They must not be sharp. The head, legs, and feet being the hardest to clean should be attended to first. The few hairs that did not scrape off can be shaved off with a sharp knife.

Scalding.

Before hanging up the neck is slit open and the tongue, and part of the gullet, and windpipe, are cut around and pulled out when it can be done the easiest.

After the hog is hung up he is rinsed down with some of the water from the scalding barrel and scraped down, then plentifully rinsed with clean cold water and scraped down.

Removal of the internal organs, or



Every Farmer Should Dress His Own Pork.

"gutting," is not a difficult operation, but requires careful work. A slit is made from between the hind legs to the throat, and the stomach and inwards laid bare. The flesh is cut between the hams down to the pelvis bone, which is carefully severed with an axe. The hind legs are then spread apart on the garmbel stick and the rectum cut around on all sides, pulled forward and left hanging down. It might be tied with a string if there was danger of it leaking. The stomach and intestines are carefully severed from the backbone, pulled forward, and taken out to have the lard removed from them while still warm. Then the breast bone is cut with an axe and the "pluck," heart, liver, lungs and windpipe removed. These parts are very bloody and need to be thoroughly washed immediately. The inside of the carcass is washed by dashing in pails of cold water. The bloody neck needs especial washing.

Hogs should be left hanging until cold, before taken down to cut up. The arrangement for hanging up is usually made the day before butchering. They should never be allowed to freeze, as pork will never absorb salt so well after being frozen.

The season for marketing range flocks of lambs is drawing to its close, and there are liberal receipts of range feeding lambs, which meet with a lively demand at firm prices, lots weighing about 50 lbs. being the favorites with buyers.

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The U. S. Dept. of Agriculture says "the annual direct losses from animal diseases are approximately \$212,000,000." The indirect losses—lost time, stunted growth, decreased production, due to stock being half-sick—cannot be estimated.

Prevent this waste. First, put your horses, cattle, sheep and swine in perfect health by using

Pratts Animal Regulator

It sharpens the appetite—improves digestion—expels worms—keeps bowels and liver in normal condition—strengthens and tones up the entire system—makes rich, red blood. A natural tonic and conditioner used by successful stockmen for nearly 50 years. Then protect them. Use

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to kill all comfort-destroying, disease-bearing lice and ticks and keep the stables and pens clean, sanitary and free from disease germs.

Vigorous stock in sanitary quarters is almost sure to escape disease, and health and comfort mean more rapid growth, greater strength and heavy production. You will save and make money by following this plan.

Our dealer in your town has instructions to supply you with Pratts Preparations under our square-deal guarantee—"Your money back if YOU are not satisfied"—the guarantee that has stood for nearly 50 years.

Write for 64 page Stock Book—FREE.

PRATT FOOD COMPANY

Makers of Pratts Poultry Regulator and Remedies
Philadelphia Chicago Toronto



The Cow Waters Herself

With this wonderful new Libbey Automatic Water Bowl. Each bowl controls own water supply. Animal moves lever, opening water valve, when it starts to drink. Lever swings back closing valve when animal stops drinking. No float tank required. Bowls may be put at different heights or in any stall or pen. Cannot overflow; cannot get out of order; almost no water left in bowl. Most sanitary bowl ever sold. Prevents spread of contagious diseases. Increased milk yield quickly pays back cost. Saves labor; saves feed. Write today. Also for Catalog No. 9 if interested in Stanchions, Stalls, Carriers, etc. 8¢ at 4¢.

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Safe and Sure

catches easily and locks firmly. Has straight pull—no twisting. Your bull will respect the

KEYSTONE BULL STAFF

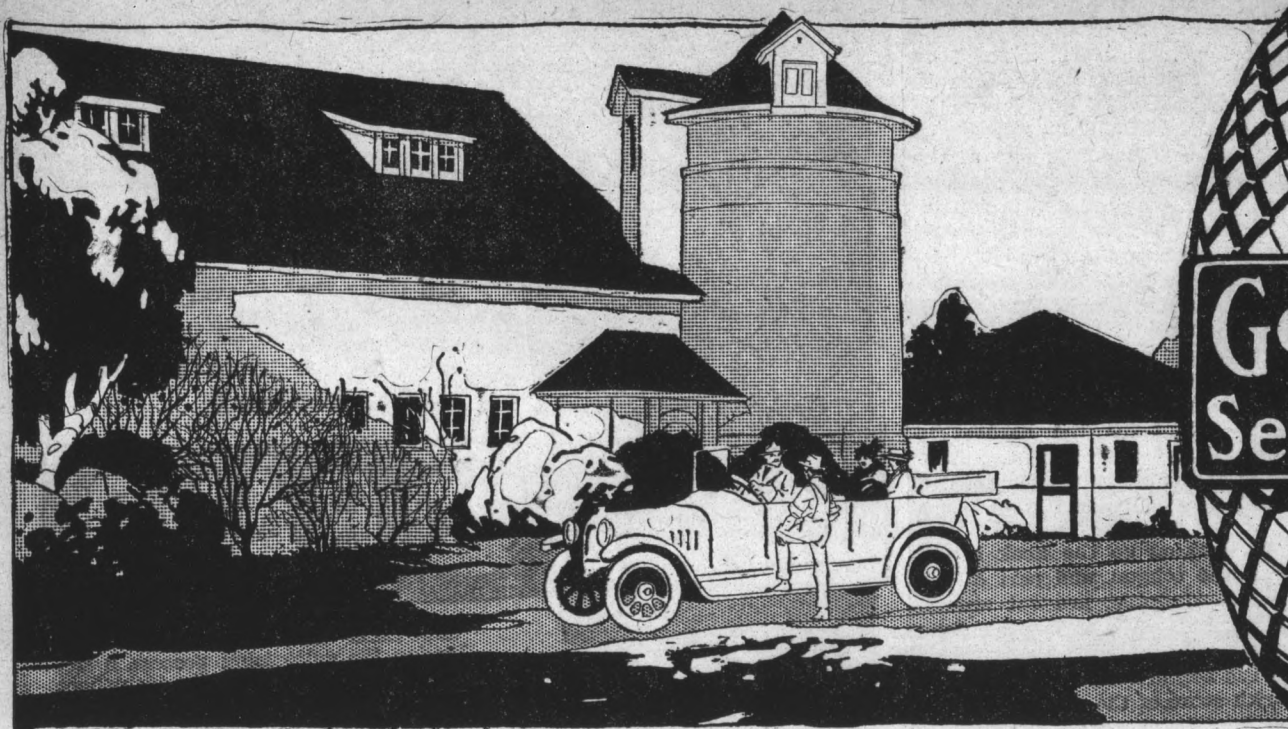
Shepherd's crook, automatic latch, easy to release, taper socket riveted fast to 6-foot heavy ash handle.

Guaranteed.
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LEARN AUCTIONEERING at World's Original and Greatest School and become independent with no capital invested. Every branch of the business taught in 5 weeks. Write today for free catalog.

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BUY YOUR FEED IN CAR LOTS
We can save you money. Write for delivered prices
RANDOLPH, HALL & YOUNG, Crows, Mich.



On a Great Farm in the Blue Grass Country—from an actual photograph



Why You Can't Buy Goodyear Tires By Mail

A study of old tires gathered in junk yards shows that many of them wear out before their time because they have not been used properly.

So a manufacturer of tires has not done his duty to the public until he provides a way for all tire users to get the constant advice and help of tire experts.

You may think your car is running just right and that your tires are doing all that they should do. But an expert, in five minutes, may show you how to get *three times the mileage* you are now getting.

That is why Goodyear Tires are sold through Goodyear Service Stations—and not by mail or direct from factory—so that all Goodyear

users may be able to get the last mile of wear out of their tires.

* * *

There is a Goodyear Service Station man in your neighborhood. He will sell you tires worth the money. Then he will help you get your money's worth by advice, inspection and inflation service.

This is the only right way to sell tires—or buy tires.

Good Tubes Make Casings Wear Longer

When the Goodyear Service Station man suggests that you put Goodyear Tubes in your Goodyear casings he is thinking as much about making your casings wear a long time as about selling tubes.

He will especially recommend **Goodyear Heavy Tourist Tubes** because they are cheapest in the end.

All Goodyear Tubes are made the right way. They are built up of layer on layer of pure, tissue-thin gum, not ground out of a machine like sausage.

Each layer is inspected for sand holes and bubbles. Then a valve patch is put on and the whole is vulcanized into one unified, air-tight tube, which will do all the work required of a tube and do it longer and better than others not made in this careful, expensive way.

You'll Be Glad You Got This Repair Kit

All of the quick-repair tire necessities have been collected into one handy package in the Goodyear Tire-Saver Kit.

This is the only thing of its kind on the market and is worth many times its price—in peace of mind alone.

When you start out with the Kit in your tool box you *know* that you are going to get back home, whether you are carrying spare tires or not.

Whatever accident your tires may have—short of complete ruin—is provided for in the Goodyear Tire-Saver Kit. It contains an inside protection patch, outside protection patch, self-cure tube patches, cement, talc, friction tape, valve parts and pressure gauge—all gathered together so that you know they are all there.

Get it next time you buy gasoline.

Goodyear Tires, Heavy Tourist Tubes and "Tire Saver" Accessories are easy to get from Goodyear Service Station Dealers everywhere.

The Goodyear Tire & Rubber Company, Akron, Ohio

GOODYEAR
AKRON

Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION

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

The **FARM BOY**
and **GIRL**
SCIENTIFIC and
MECHANICAL

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

WHEN I was a boy of twelve or fourteen years, the lakes and rivers in the new country where we lived were infested with trappers, and our notion of trappings was that one must have a large equipment and spend his entire time at it.

But one morning my brother and I discovered a large muskrat in the horse stable. We dispatched the intruder and after breakfast decided to skin him. A dealer in town gave us ten cents for the pelt. This gave us an idea. We hunted up three old steel traps and carefully set them one afternoon along a small brook on the back of the place, where the rats were starting to build houses.

Trapping the Muskrat

By GEO. F. DeLAMATER

This was about the first of November. We had chores to do every morning before breakfast, and again at night we were kept busy until dark, and ate supper by lamp light. "No time to monkey with the traps," Dad would say, but we were not to be stopped so easily. We took the lantern on Monday night after supper and went to our traps; the first one had not been disturbed, the second one had a rat's foot in it, and the last one held a nice-sized rat. We were so elated

with our success that we walked on air all the way home.

We kept our traps busy for a week, finding many hints in an old trappers' guide which we possessed. When Dad went to town again we had seven or eight hides and he brought us fifty cents for them. With this we purchased a dozen old rusty traps from a deer hunter that was boarding at one of the neighbors and these we set along the brook for a distance of two miles.

We kept at our traps. To find them

with the lantern we used to tie pieces of paper to sticks and place one within two or three rods of each trap. Sometimes one of us would do the chores alone while the other went to make some new sets, as it was very difficult to find good places to make the sets by the light of the lantern. At the end of a month we had earned four dollars and some cents and we were proud indeed, for a cent was as big to us then as a dollar is now.

Such was our beginning as trappers, and thereafter we used to make enough to buy ammunition for our guns and many other things besides.

In the following I will endeavor to describe my experiences with musk-

WORLD EVENTS IN PICTURES



Helping a Wounded Comrade Across "No-Man's" Land.



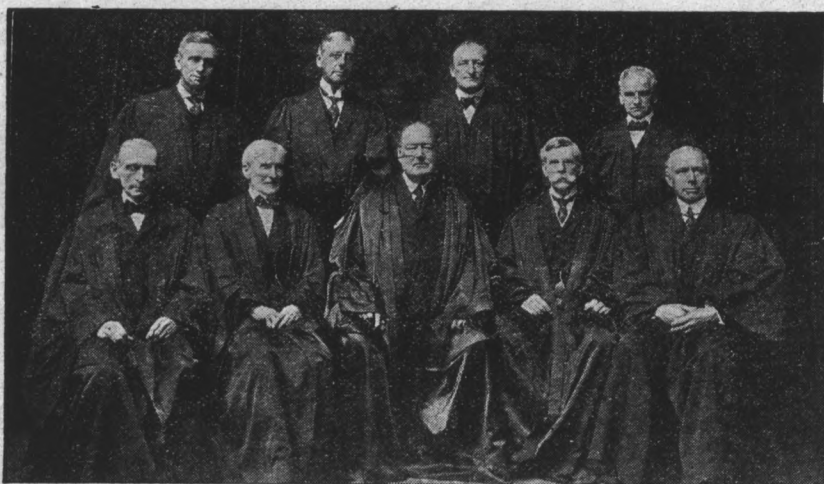
French Soldiers Operating a Pneumatic Bomb Thrower.



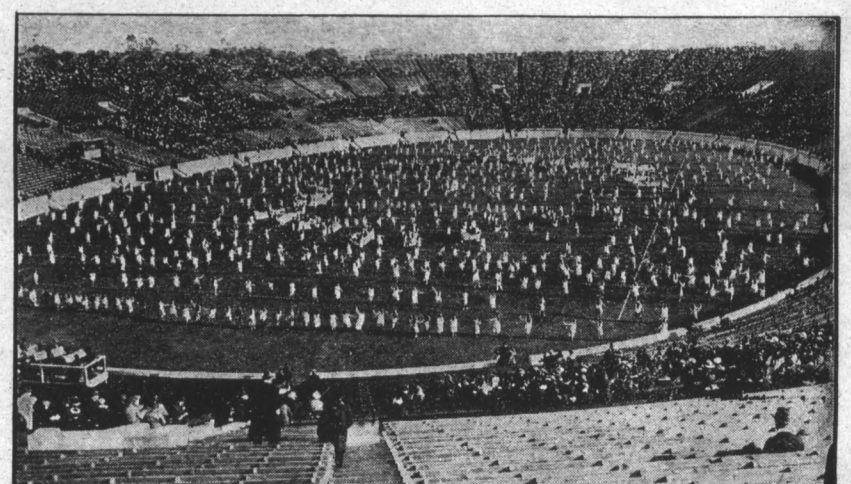
An Improvised Shower Bath on the German Front.



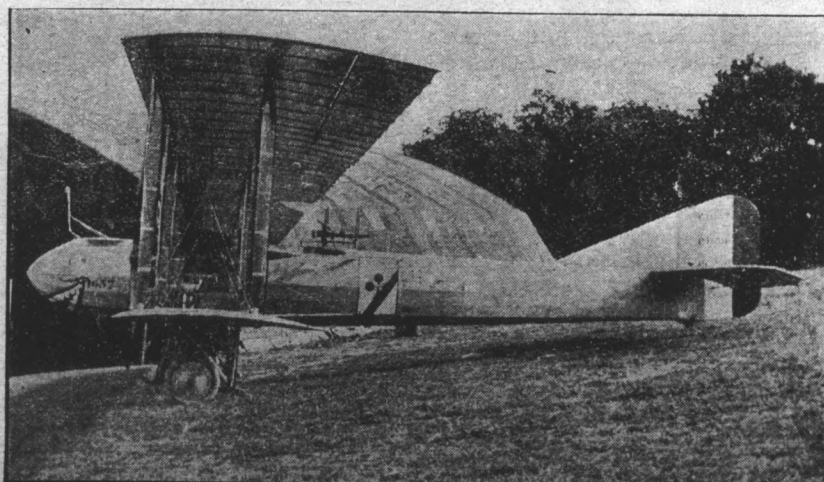
An Ungainly Combination Brought About by the War.



U. S. Supreme Court—From Left—Day, Brandeis, McKenna, Pitney, Chief Justice White, McReynolds, Holmes, Clarke and VanDevanter.



Thousands Joined in a Magnificent Pageant Commemorating the 200th Anniversary of Yale University at New Haven, Conn.



A Dozen German Planes Winged by Driver of this craft.



In the Vosges Mountains Hurling Stones Upon Germans Below.

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rats in such a manner as to be of use to boys who, like I was, are ambitious to earn a little money and have some sport at the same time.

The muskrat, excepting possibly the skunk, is the easiest of the fur bearers to capture. It is a question open to debate whether the muskrat should be trapped in the fall or in the spring. In the spring a muskrat hide is usually worth twice as much as it is in the fall; but under ordinary conditions about twenty-five per cent of them die during the winter and occasionally a very large per cent of them perish. Mink and foxes are fond of them. And often, in the northern part of the state, the rats will build a colony of houses in an old beaver meadow where the creek is small and sluggish, and in midwinter the brook will freeze solid and the rats will become imprisoned and die. Under such conditions as these it pays best to trap for rats in the fall.

If the indications point to an easy winter, it pays to leave the rats until spring when they are easily caught during the early freshets. A trap placed on a log in a notch just under the surface of the water is nearly sure to catch them. The rat digs a root up from the bottom and swims to the handiest log to eat it. A log which lies with one end on the bank and the other end under water, makes an especially favorable place for the trap. A notch is chopped large enough to let the trap set firmly under about an inch of water where it is anchored with the chain immersed and, if possible, in such a position that the rat cannot climb back onto the log after he has plunged off with the trap; however, a rat will but rarely get back on the log after being caught.

Another good method is to set the trap at the edge of the water and bait it with a parsnip or an apple, or even a peeled stick stuck in the bank back of the trap will attract them. I have taken a forked stick and placed a piece of sod on the fork, sharpened the other end and drove it into the bottom until the sod was partly under water and set the trap on this; this method is good where there are no logs handy, and the water does not rise and fall too much.

In examining a stream for muskrat signs, we often see blades of grass, rushes, etc., floating on the water, having been pulled up from the roots; this is the work of rats, and if we look closely we are apt to see small piles of grass roots along the edges of the stream. Such places are excellent for traps. Sometimes one can make a pile of roots and get as good results as by using the ones that have been placed there by the rats. The trap should be placed out in the stream as far as possible to insure drowning, for if a rat fails to drown he is very apt to chew his foot off and escape.

Another unique way of catching the muskrat is to set traps in the holes leading to the houses in the bank. These holes will be a few inches under water. The trap is set in the mouth of one of these holes and is held upright by sticks placed on either side in such a manner as not to interfere with the working of the trap. When Mr. Rat enters the hole he is almost certain to get caught, and the strange part is that the trap nearly always catches him by the tail and he is always there when the trapper comes for him. I have often had rats chew off their feet but never their tail, they are evidently apostles of the "tail goes with the hide" theory.

In places where there is a strip of bog or mud between the water and the high bank the rats often dig a ditch about eight or ten inches wide and deep enough so that there will be six or eight inches of water in it. A place like this will be investigated by every rat that comes along, whether he belongs there or not the trap should be placed as described above. Sometimes

small rats will swim through the trap without springing it; this can be prevented by pushing a small straight stick into the mud in the center of the ditch about six inches from the trap, one on either side, when the rat swims against this stick he will settle to the bottom and squeeze around it and when he comes against the second one he will settle down in the trap and be caught. I don't often find it necessary to employ the sticks unless the water in the ditch is eight inches deep or deeper.

"Mister 44" By E. J. RATH

(First Installment Appeared Last Week)

Writing a letter was not so simple to Sadie as putting shirts into boxes, while writing this kind of a letter was a problem of particular intricacy, to be solved without the aids of precedent or experience.

"Sounds kinda foolish," commented Sadie as she re-read it. She tore it up.

Ultimately, after fingering a third sheet of paper, she returned it to the box and shook her head slowly.

"Tisn't that it's not proper," she mused; "although, of course, it's not regular. But if it's done at all, it's got to be done right, and the way I do it doesn't listen good. Maybe he wouldn't understand, and I wouldn't want him to get a wrong idea."

"Gee, but I could use an education for about three minutes!"

Sadie took off her shoes and stockings, blew out the lamp, groped her way to the bed like a statuesque ghost, and lay down. The room was warm, and the little window, opened to its widest, was a poor substitute for a ventilator. But it was not the lack of air that kept Sadie awake. It was a puzzled brain.

Fifteen minutes later she arose briskly, located the matches, and relighted the lamp. She was smiling now, and there was a confident look in her eyes.

The third sheet of paper emerged from the box and the pen began to write. Her fingers moved steadily but cautiously; her expression was one of calm satisfaction. All the hesitation, the frowns, and the other signals of perplexity had vanished.

She blotted her letter carefully, held it at arm's length, and read it. A proud little toss of her head and a faint chuckle announced the verdict.

Out went the light again and into bed went Sadie. The letter was under her pillow. She was asleep in five minutes.

Morning in the packing-room of the Challenge Shirt Company found Sadie in a state outwardly of placidity, but inwardly of turmoil. Occasionally she raised a hand to her breast with affected carelessness to feel if "it" was still safe. The soft crackle of paper reassured her each time. That she would resume her search.

Ordinarily Sadie paid no attention to the destination labels on the paste-board boxes. All she was required to do was to put into each box what its slip called for. But now she examined labels diligently, though furtively. The task she had set herself was fraught with such an element of chance that she began to think by the time the noon gong rang that it might be weeks, months, perhaps years, before she accomplished it.

First, it must be an olive-drab. Second, it must be going to Montana. Third, it must be a forty-four.

That constituted no impossible combination, of course. But when thirty girls beside Sadie were packing shirts it added thirty to one against her, in addition to the initial odds. She could not appeal for assistance, even to No. 12. The girls would ask questions and Sadie had no information for them.

The meat of the muskrat is very palatable, and in the cities there is a ready market for it; most fur houses will arrange with the customers to dispose of their muskrat meat; however, it doesn't pay to ship in small quantities. The Indians scald the meat of muskrats and dry it; they say that it keeps well this way but I have never eaten any of it.

When skinning muskrats to eat, care should be taken that one doesn't get any of the musk on the meat, as this will give it an unpleasant flavor.

The day went slowly. Sadie realized for the first time what an amazing number of combinations it is possible to make out of shirts and sizes and states. She had one Montana box, but they were blues. She packed an unusual number of forty-fours, but they were gray and none of them went to Montana. She handled olive-drabs by the gross, including everything up to forty-eights, but they went south and east. At other tables she could see olive-drabs disappear into boxes, and once she thought she glimpsed a Montana label, but could not be certain. Even so, it was of no benefit to her.

Ferguson let her alone all forenoon. Even had he tried to annoy her Sadie would not have noticed him, for she was too intent on trying to coax her luck. The paper hidden in her waist now and then crackled a reminder, although she did not need one. Sometimes it scratched uncomfortably, but Sadie bore it as a necessary hardship of adventure. For that was what she knew it to be—an adventure.

Another hour came and went in the packing-room; it was a blistering one, too. Sadie's note became damp and crumpled. Worse, it was still hiding against her ample breast, like a timid and guilty thing, looking vainly for an avenue of escape.

She was almost downhearted. She had no idea why the Fates should mock her. Why, only the day before—the very afternoon that cost her fifty cents—she had packed olive-drabs for Montana; and she was almost positive they were big sizes, too.

She wondered if Montana had all the olive-drabs it would ever need. Didn't it ever wear out its shirts?

The afternoon was unlucky, too, because the Shrimp was showing symptoms of a conciliatory spirit. She would neither conciliate, arbitrate, nor mediate. He finally absorbed this fact, after Sadie had stated it slowly and distinctly three times. When it reached him at last he gaped at her and walked away.

Sadie watched him go, turned to No. 12, nodded in the direction of the retreating Shrimp, tapped her forehead, and said gravely:

"Nobody home."

Then came the last hour, and with half of it gone Sadie was as nearly unhappy as it was possible for her to be. She had not even seen a Montana label. It seemed that Montana had quit wearing shirts, even blues and grays.

She fell to consulting her mental geography, which was not extensive, and considered the matter of a substitute, not for olive-drabs, but for Montana. There were other states that had cowboys, others that had plenty of outdoors and forty-four-inch chests. If luck was going to run against her in this fashion it might be wisdom to propitiate the goddess by a compromise.

Idaho and Wyoming suggested themselves immediately, but there were no labels to match them. There was a

Colorado box, but she was not sure about cowboys in Colorado; she could remember only miners. Then there was Utah, but she was not certain that Mormons punched cows or wore chaps.

It took a label to jog Sadie's memory further. Arizona! Her pulse quickened in an instant. Arizona meant cowboys, in all probability fully as large as those in Montana.

"What's the matter with Arizona?" she asked herself. And answered, "Not a single little thing."

With a hand that was nervous for Sadie, but normal for any other girl in the department, she lifted the order slip from the box.

Olive-drabs! That was point two. Sadie closed her eyes for an instant before she read further. She was not praying; just rooting. Then, with lips compressed, she went over the sizes.

Thirty-eights—forties—forty-twos!

And forty-fours.

The first thing she did was to blush hotly; the second, to rush for a pile of olive-drab shirts.

"Good land, Sade!" exclaimed No. 6, who chanced to be in her path. "I'd as soon have a trolley bump me! Ain't you hot enough without runnin'?"

Sadie had no time to answer. She hurried back to her table with an armful of shirts. Into the Arizona box went the thirty-eights, the forties, and the forty-twos. Now her hand lay upon the forty-fours and lingered caressingly. She hesitated. After all, ought she? Suppose—

"Now or never!" said a voice within her.

She bent over the table, trying to conceal the hands that fumbled at the bosom of her shirt-waist. She wondered if anybody was watching her. She knew that her face was fiery.

Skillfully she palmed a slip of paper as a hand came forth with it. A second later the slip disappeared into the left-hand breast pocket of the topmost shirt. Then from somewhere came a pin that fixed the paper firmly, so that no energetic salesman out in Arizona would shake it from its hiding-place.

A second time Sadie examined the size-tag on the shirt; then critically surveyed the garment itself. It was a forty-four beyond peradventure, truly labeled. An instant more saw it resting in the Arizona box, with three other forty-fours on top of it.

Sadie slipped on the cover and drew a deep breath.

"I don't care if it is a Friday," she murmured. "And Arizona looks good to me!"

The Shrimp came running out of the office with a memorandum in his hand. He darted elf-like from table to table, calling in sharp tones:

"Large size olive-drabs and blues, forty up! Rush order! Gimme whatever you got."

Sadie's cheeks paled. She knew what a rush order meant. It was remorseless. Swiftly she looked about for the boy who carried away the filled boxes. If she could only get it out to the shipping-room it might still be safe.

The Shrimp was approaching swiftly, breaking up orders right and left. He reached Sadie.

"Got any big drabs and blues?" he barked.

"Here's some drabs," she said, pushing a pile toward him.

"I need a lot. What's in there?"

He nodded to the Arizona box.

"Grays," said Sadie smoothly.

The Shrimp ripped the cover off the box with a quick movement.

"Grays nothin!" he exclaimed angrily. "What's the matter with you?"

He grabbed the box and rushed away with it.

Sadie looked at him dully. Good-bye Arizona! Good-bye, cowboy! She knew not where the rush order was going, but she felt in her heart that it was not destined for the big outdoors. And this after a solid day of patient waiting!

For a full minute she stood motionless, wondering why it had to be the (Continued on page 464).



-but it wouldn't be a Reo!

Are you one of those who, just because you can't get a Reo on the minute, are thinking of accepting as a substitute a car that is your "second choice?"

Or are you one of those who think perhaps you can get as good value in some automobile of lesser reputation?

If you are in doubt on any point, let us just say this:

Take a Reo, and have it made in any other factory—and it wouldn't be a Reo.

It isn't design alone—there are no radical features of design in Reo cars.

Nor is it factory equipment—all automobile factories have about the same machines. Reo, being a leader, is always a few months ahead of most—but machine tools are practically standard.

Nor could one say that Reo mechanics are all more skilled—others can hire good mechanics too.

That's why we say that if you took Reo design and Reo specifications and had the car made up in some other plant, still it would not be a Reo.

It's the Reo spirit—that indefinable but still tangible thing that pervades the whole Reo organization from General Manager down to the Last Man in the Shops, that gives to this product the quality that has come to be known as Reo.

We like to call it good intent—for after all that is the determining factor.

It is the desire of the Reo Folk to make the best automobiles it is possible to make.

Not the most, but the best. Not quantity, but quality, is the Reo goal.

And every Reo man—from the Chief Engineer to the Final Inspector—is imbued with that spirit, is actuated by that desire to make good, dependable automobiles. Better than others.

Visit the Reo plant. You will be welcome—the doors are always open. Reo Folk, proud of their work, are glad to show you through. Note the atmosphere of the place. Watch the workers—listen to the remarks you'll hear.

No one asks—"How many did we make yesterday?" as you hear in so many factories nowadays.

For that isn't the thought uppermost in the minds of Reo workmen.

It's how many parts were discarded, turned back by the inspectors—because of some error so slight it would "pass" in most plants.

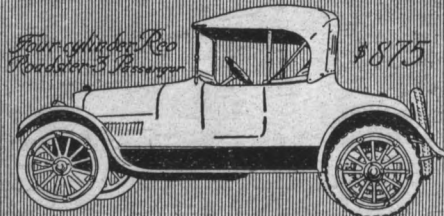
There's no secret—no necromancy—about Reo quality or how it gets into the product.

It's the result of that fervent desire of the Reo Folk to make Reo cars excel—and the eternal vigilance that results from that desire—that is responsible for Reo quality, Reo stability, Reo low cost of upkeep, and finally, Reo preference—Reo demand.

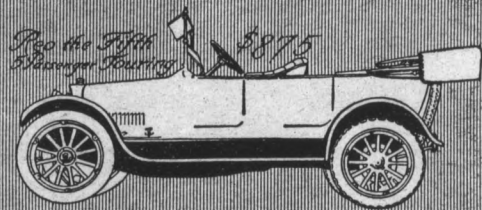
Is it any wonder that Reo cars are known as "The Gold Standard of Values?"

Reo Motor Car Company

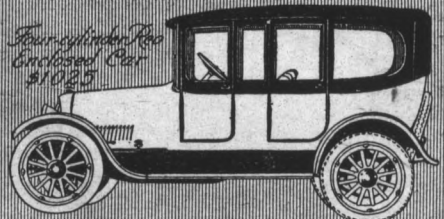
Lansing, Michigan



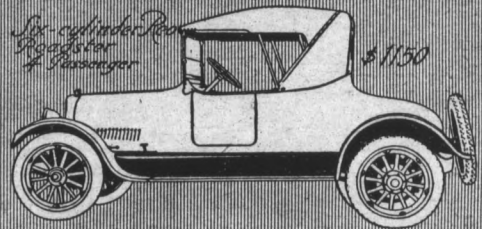
Four-cylinder Reo Roadster 3 Passenger \$875



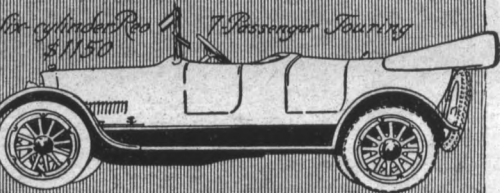
Reo the Fifth Passenger Touring \$875



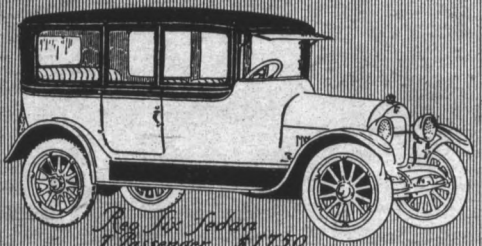
Four-cylinder Reo Enclosed Car \$1025



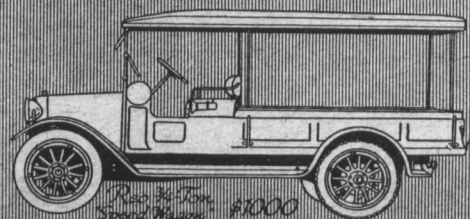
Six-cylinder Reo Roadster 4 Passenger \$1150



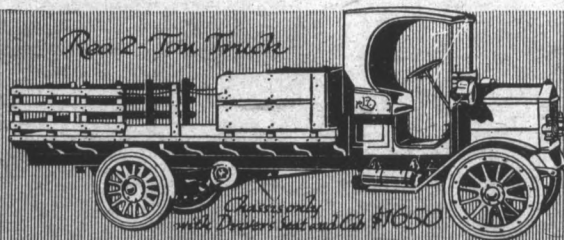
Six-cylinder Reo 7 Passenger Touring \$1150



Reo Six Sedan 7 Passenger \$1150



Reo 3/4 Ton Speed Wagon \$1000



Reo 2-Ton Truck

Chassis only with Drivers seat and Cab \$1650

All Prices are f.o.b. Lansing, Michigan

169-B

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GOLD STANDARD
OF VALUES"



Styleplus \$17 Clothes

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(In other countries duty added)

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Style plus
+ all wool fabrics
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+ easy price
+ guaranteed wear

You know the price before you go into the store—\$17 always, everywhere. Watch your local newspapers for advertisements of the nearest Styleplus Store. Look for Styleplus in the Store Window. Look for the Styleplus Label in the coat collar. If there should not be a Styleplus Store in your town, ask your favorite dealer to order a Styleplus suit or overcoat for you.

Write us (Dept. H) for free copy of "The Styleplus Book."

HENRY SONNEBORN & CO., Inc.

Founded 1849

Baltimore, Md.

SABO

SURE CATCH TRAP
for skunk, coon, possum, fox, groundhog, rabbit, etc.

The SABO TRAP is the best trap in the world either for amateur or professional trappers. This trap is designed to be placed in the animal's burrow; it requires no bait and is positively sure catch first trip in or out; no chance for escape; it catches him over the body; no danger to hunters, dogs or cattle. Ask your hardware dealer for one. If he has not, get them written for free booklet which explains the SABO SURE CATCH TRAP. Sabo Trap Mfg. Co., 3126 W. 25th, Cleveland, O.

NOTICE

Hastings, October 28 th., 1916

Notice is hereby given that there will be a special meeting of the members of the Michigan Mutual Tornado, Cyclone and Windstorm Insurance Company to be held in the city of Hastings, Michigan at the city hall on December 5th, 1916 at one o'clock P. M. for the purpose of voting on the revised charter of this company as adopted by the board of directors October 3rd., 1916.

By order of the Board of Directors.
D. W. Rogers, Sec.

Wanted Married Farmer Dec. 1, on farm near Detroit. Give reference, experience and salary wanted in first letter. Box F-111, In care Mich. Farmer, Detroit, Mich.

WANTED—Competent Maid for general house work at State Psychopathic Hospital, Ann Arbor, Mich. References required.

Farms and Farm Lands For Sale

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BY F. J. YATES.

Grandmother's hands are worn and thin,

All through her active days They have been caring for other's needs,

Seeking no thanks or praise— Granting demands—

Dear old hands.

Grandmother's feet with age are slow,

Many the weary year They have been treading thorny paths

For love of those held dear; Do, I entreat,

Spare those feet.

Grandmother's back is bowed and bent

Under the weight of life; Long since the day when young and gay

She stood, a fair young wife; Many the years,

Smiles and tears.

Grandmother's eyes are faded blue,

Dimmed with a mist they seem, Yet for them, ranging past this life,

The lights of heaven gleam— Ah they are wise,

Dim old eyes.

Grandmother's hair is soft and thin,

Glistening silver white, Once it was dark, but is it now

Any less fair to sight— Crown'd by the years

Snow appears.

Grandmother's need is loving care,

Never that care withhold; Seek her side oft with sunny smiles—

'Tis hard, this growing old. Lord, thro' Thy grace,

Grant her peace!

"MISTER 44."

(Continued from page 462).

Shrimp who delivered the crushing blow to hope. Then she sighed softly, reached for another box, and began stacking up shirts. This time she did not look at the destination label.

"Oh, well," muttered Sadie, "I suppose there is something in the Friday business. And it might be worse. The Shrimp can steal Arizona from me, but he can't steal a forty-four-inch chest off a man."

CHAPTER III.

The City-Haters.

The man in the bow-seat lifted his paddle from its resting-place across the gunwale of the canoe, sighed wearily, made half a dozen perfunctory strokes, and then trailed the blade in the water. He turned stiffly and cautiously, every movement betraying his unfamiliarity with travel in such fashion.

"See here! Don't you ever get tired!" he demanded, his voice fretful.

The man in the stern grinned, but did not stop paddling. His teeth gripped a brier pipe, from which a delicate wisp of blue-grap smoke trailed out behind, as much a part of the canoe's wake as the plainly marked track that ran back a quarter of a mile across the smooth water of the North-east Arm.

"I said not to peg yourself out at the start," he answered. "Take it easy. You'll be up to it in a week or so. I don't mind going it alone."

"My legs are cramped," complained the occupant of the bow seat. "I can't stretch them because you would put that blanket-roll in the bow."

"Sorry," observed the paddler; but he grinned again. "Had to have some weight in the bow in order to get a good trim."

The person to whom this explanation of his narrow quarters was made did not sense the full significance of it, for his mind was too intent on his physical discomforts, not the least of which was a neck already proclaiming by its hue that the September sun was hot and was enjoying a cloudless afternoon. The bow-man did not stop to reflect that he weighed but a hundred and forty pounds, while about a dozen feet behind him crouched a genial human engine that scaled two hundred when in condition—which was always.

The engine was sitting back on its

heels, braced as securely as if bolted to bedplates; the upper part of it swayed noiselessly back and forth, with a barely perceptible side-roll, while the paddle cut cleanly and silently into the water with the regularity of a pendulum swinging twenty-eight arcs to the minute. It had all the marks of a well adjusted piece of machinery, running on a middle load.

The bow-man lighted a cigarette and smoked for a few minutes without speaking. His eyes dwelt upon the rankly wooded shore that paralleled the course of the canoe a hundred yards to starboard. To him there was a sameness in it that bored. For nearly two hours he had been surveying that shore-line, and each mile of it had seemed exactly like the last—just thousands of trees, crowding each other for the honor of standing in the front row at the water's edge.

To the paddling man, however, this shore-line was a much-diversified landscape. He viewed it with the familiarity of trained eyes.

He saw coves and little bays, dead forest monarchs that had fallen face forward into the glistening water; rocks that were guides and landmarks; sharply jutting capes that served as bearings for the navigator; gullies in the hillsides through which cold streams trickled into the lake; here and there a reddening maple or a yellowing birch; the entrances to two old portages and to one that had been cut out only the season before—and these were but a few of the things he saw. Each had a significance and an interest. He noted them with a quiet and attentive eye as he drove the well-laden canoe upon its steady course.

"How much farther, Stod?" asked the bow-man as he made a rueful examination of a blistered palm.

"About twenty minutes more; around the second point. There's a good island there. We won't begin to work full days until next week."

"Full days!" echoed the voice from the forward seat. "Don't you call this a full one?"

"We'll only be ten miles from the station when we hit camp. That's not half a day's work."

The bow-man groaned.

"I don't see where all the joy comes in," he said. "I think you played a trick on me, Stod."

The big man laughed outright and halted his paddle for the first time in more than an hour.

"You'll get the point of view by and by," he answered. "After a few days your mind will unlimber, along with your muscles. Just because the North-east Arm isn't Broadway and because that point over there isn't decorated with an electric sign, you feel like a lost soul."

"As a matter of fact, Larry, I don't think you've really had a soul for several years. It ran away from you. I expect you'll find it up here. This is where souls that get tired of Broadway go."

"I only came here for my health," said the bow-man defensively. "The doctor said I needed a change and a rest. Well, I've got the change; but if you call this rest you've got a queer way of giving wrong names to things."

"That's because you have the idea that resting is doing nothing, son. You've been resting for several years and you're all played out."

"Oh, that's the way all you husky folks talk. But I'm not built to go out and conquer a wilderness. A man's got to have beef for that sort of thing."

"Beef? Oh, I don't know, Larry! Before we go home I'll show you an Indian up here who took a hundred-and-twenty-pound pack over an uphill portage without setting it down until he reached the far end."

"Length of portage, one and a half miles. Weight of Indian same as the pack. Witnesses, myself and the Indian's dog. Explanation: the Indian never saw Broadway."

The big man leaned against his pad-

dle again, and the canoe, which had been losing way during the conversation, began to pick up speed.

True to the promise made to him, Larry's eyes viewed an island as the canoe rounded the second point. It lay but a hundred yards ahead. A minute after he sighted it the canoe came to a gentle rest, broadside to a sloping rock, and was held steady by the big man while Larry stepped out after a sharp caution to keep his foot off the gunwale.

He walked back and forth, stamping his feet painfully and straightening his back with grunts of discomfort.

"I don't see why we had to come this far to find an island," he observed as he glanced up toward the trees. "It seems to me we've passed a hundred."

"Sixty-eight," corrected the big man, who seemed in no hurry to get out of the canoe, but was engaged in refilling his pipe. "But this is the one we wanted."

"I don't see any difference in them."

"Why, man, they're as different as can be! Different shapes, different sizes, and different dispositions. Didn't know an island could have a disposition? Well, you'll learn! That's what makes them interesting. Some give you the glad hand; some are sulky, while there are some that will bite if you don't watch sharp."

"Then I'm bitten, all right," remarked Larry gloomily as he tenderly felt the back of his neck.

When Stoddard finally uncoiled his long legs and stepped ashore the complaining one momentarily forgot his troubles in contemplating the marvel that such a huge creature could fit himself into the narrow, wedge-shaped stern of a Peterborough. Before they had embarked at the station Larry Livingston had doubted that the thing was possible; now that Stoddard was ashore again, he was still uncertain that the feat had been accomplished, and had a vague idea there was some trick in it.

Stoddard was big, beyond denial. There were six feet two of him, net. Set him apart from other men and he did not look the height, for he carried width and bulk with it to an extent that made his altitude no freak dimension.

As men of his size go, he was not heavy; he merely possessed the beef and muscle that by right belonged to him. Nor was he any slower in movement than a well-conditioned young man of medium size. His body moved easily and quickly, with a sense of certainty in every effort it put forth, however trivial. He was not leaden-footed, even in his hob-nailed boots.

He broke into a laugh as he made a critical inspection of the figure of Larry Livingston. It stood as a synonym for dejection. Face, neck and hands were scarlet from the sun and the glitter of the water, while the woful brown eyes that gazed upon Stoddard reproachfully were smarting furiously as the salty sweat trickled into them.

"Oh, it's all right for you," growled Livingston. "You're used to it. You don't know the difference between a jungle and the lounge-room of a club. Sid Osborne said you were half a savage, and I believe you are. But I'm still civilized, and I'll be hanged if I'm taken with what you've brought me into!"

"You haven't had time yet, son."

Stoddard had a way of calling Livingston "son" that irked the latter. He interpreted it as a measure of respect—bulks, whereas no such idea ever entered the mind of the big man. Stoddard said "son" because somehow he felt himself to be older, and infinitely wiser than his companion, and just at present responsible for his safety and his conduct. In actual years Livingston was thirty-four, Stoddard but thirty.

"If I live here a year I won't like it any better, I'm all tired out now." (Continued next week).



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Woman and Her Needs

At Home and Elsewhere



Work Not Included in the Curse

HERE are many things about the old way of teaching that are difficult to understand, and of these perhaps the most puzzling is why work should have been called a curse. Among the countless blessings showered upon mankind, work, to my mind, ranks first. Indeed, the same ancients who referred to it as a curse must have felt they were making a mistake or they would never have evolved the proverb, "Satan finds some mischief still for idle hands to do."

The nearest approach to happiness we ever make is when we are in the midst of congenial work, and the man who first dubbed work a curse must have had a lob his soul loathed. Work, plenty of it to keep us active without overdoing it, is the safety valve which keeps us not only out of mischief but out of insane asylums as well. It keeps us young and in good trim, and in many cases actually prolongs life. An old lawyer died last week at the advanced age of 86, not from old age but because his family insisted that he close his office and stay at home. He was in fine shape so long as he kept at work. But when the old familiar office was closed to him, when he had nothing to do but sit at home and "take life easy," he simply gave up and died. The incentive for living was removed when his life work was taken away.

The worker never has half the trouble that comes to the idler, for he never has time to look for it. Trouble, as a usual thing, is largely a state of mind, and the idle person not having anything else to do is usually looking for something to complain about. During the recent hot summer the women who suffered most from heat were the ones who had time and money to run about trying to get away from it. The women who had to stay at home and cook three meals a day, wash and iron and take care of three or four children were not the ones who complained. They never had time to look at the thermometer and see how hot it really was. Occasionally they vaguely sensed that something was wrong but so many duties were pressing they had no time to fret about it. But the women with nothing to do, they were the ones who gave the doctor plenty to do. Shattered nerves and heat prostrations were the result not so much of the heat as of the idleness which gave people time to work themselves up into a fever over it.

But the trouble an idle woman can make for herself is as nothing compared to the trouble she can make for other people, as those who have lived in family boarding houses can testify. They are all alike, those places. A half dozen working women, teachers, clerks and stenographers, a few bachelors and six or eight married couples. The last class are there as a general thing because the women do not like housework and are too selfish to do something they do not want to do for the sake of the men they married. Trouble-making is their forte, though they would be insulted if you told them so. With not a thing in the world to do but to dress and crochet they have ample time for gossip. And gossip they do from the time breakfast is over until bedtime rolls around again. No one's reputation is sacred and many an innocent person has been blackened for

life by the chatter of these idlers who consider work a curse.

The normal person is glad of work and considers it always as a blessing. Those who look at it in any other light are either empty-headed, overworked, or tied up to a line of work to which they are unfitted.

And while we are talking of work I can't refrain from saying a word for the girl who is called lazy because she does not like housework and the housewifely arts. Only last week a man complained bitterly to me of his daughter.

"If any man ever asks me to let him marry Dorothy I shall try to persuade him not to," this father said. "Dorothy is unfit to make any man happy. Why, she is too lazy to stoop over and pick up a pin, she hates housework and she doesn't like to take care of babies. All she wants is a book in her hand."

He admitted that she led her class in school and worked hard enough to carry off more than her share of class honors. But still he insisted she was lazy. I had a sneaking pity for Dorothy because of a very vivid memory of another girl I knew some years ago. All the good housewives thought this girl was lazy, too, because she wasn't overly fond of dishwashing and dusting, and did not, after a hard day of teaching in a country school, come home evenings and pull threads out of linen and darn the holes up again in the name of fancy work. Yet this particular girl was fond of work of the congenial sort and when the right kind came along she literally ate it up.

So I say I was sorry for Dorothy, and for all the other Dorothy's and Robert's who have not yet found the right sort of work and who as a result are called lazy by despairing elders. Few intelligent healthy persons are lazy. It's simply a question of finding the niche. Fortunate indeed is the one who realizes this and seeks till he finds it.

DEBORAH.

PREPARING BULBS FOR DIGGING TIME.

BY L. H. COBB.

As winter is drawing near we must think of taking in the bulbs that will not live out over winter. Some of these are more tender than others and must be taken up sooner, some need labeling and top pruning, while others need only to be left in the ground until severe freezes kill the tops down close. If one is not familiar with the different sorts it is hard to tell just what to do and the proper season to do it.

The tenderest bulb is the tuberose, and it must be dug so early that the hearts cannot be injured by frost. The first frost that cuts the tops should be all that is permitted to touch them. If you have more than one variety it is best to label the sorts. Of course, this is no very serious thing, especially with tuberose where they are all so similar, but with other bulbs it does make a good deal of difference. Even with tuberose there are places where you would not like to have the dwarf double when you planned for the tall single.

Cannas are such strong growers and form such clumps there is little can be done for them until a good freeze cuts the foliage down, except to label the

sorts. If they are planted in separate clumps it is only necessary to label the clumps and then mark any in the clump that you wish to discard, or transfer to some other clump. If they are growing together it is then necessary to label every bunch. If they are planted rather thickly it is sometimes hard to label them so as to know you get them accurate. Outside straggling bulbs may become detached and mixed with other varieties, causing trouble next year if it is desired to plant to colors.

Dahlias are at their best just before frost, and it is easy to label them. Cannas are often out of bloom soon after the nights become cool, but these conditions bring out the dahlias to the best advantage. Dahlias are so different in size, color, form and sturdiness that the labels should be definite in describing them. It is nice to know just what a certain clump will produce when it is separated and planted in the spring. If they have been grown from seeds, and this is an easy and very interesting process, there will be many that one will not want to keep over at all. They do not need to be dug until the tops are cut down thoroughly, although they should not be subjected to a hard freeze, for the eyes that are to produce the plants for next season are on the main stalk just above where the tubers attach. It must be remembered in digging them that detached tubers are not worth anything as they have no eyes and cannot grow under any conditions. A little piece of the stem of the old plant must be attached or there will be no eye.

Gladiolus and caladium bulbs are allowed to freeze down to the ground. It is hard to label gladioli, for they separate from the stems badly in digging. If your bulbs are mixed it is well to leave them so, and if there should be some sort you wished to keep separate or a sport among a special variety, you would be safer in digging it before the top dies entirely, having labeled it, of course, when it was in bloom. Gladioli are easily dug, dried and kept, but caladiums are so fleshy that it is necessary to use care in drying them well or they will rot. After digging the bulbs, and they don't look like bulbs at all at this stage, just great white stalks tapering slightly toward where they come out of the ground, place them in an airy shed to dry until the tops become soft and you can peel them off from the bulb. The bulb will remain solid, but the part that is to come away will soften, and when it is all removed and the bulb dried then you can store it in much the same manner you do the gladioli or tuberose.

Soil for the potted plants we want in the window in winter is quite a problem to those who do not know how to prepare it. Plants in windows in winter have weak root action, and the soil must be such as to help these roots as much as possible. If the mechanical condition is poor, or there is a deficiency in available plant food the plants suffer, for they have not the power to resist that they have in the summer, or in the open ground. It is important that it should have the capacity of holding just the right amount of moisture, and that the surface does not form a crust to prevent the air reaching the roots freely.

Old sods from a roadside or pasture make a good soil if they are permitted to decay well. The roots keep it fib-

rous, the decaying vegetable matter has made it rich, and, if in a pasture the droppings from the animals has added valuable elements. This soil, when properly composted, has "life," a term used by florists to indicate a peculiar mellow rich loamy condition constituting an ideal soil. It is hard to describe but anyone who has worked much in the garden can readily recognize it from the "feel."

To prepare this soil the sods should be cut just deep enough to get beneath the mass of roots. Then place a layer of sods and cover this with a layer of manure about half as thick. Partially rotted cow manure is best. If manure from the henhouse is used it must not be so thick, probably about a half as much. Horse manure with bedding in it should be well rotted if used at all, and more may be used. Sprinkle a little lime over the manure and add another layer of sods. Follow this by another of manure and lime, repeating this until the sod pile is as large as you want it. You can make enough for two years if you want to do so, for it will be all the better for the longer time to compost.

If it is desired to use it within three months it should be given a thorough soaking at once. As soon as it has time to settle some and the sods start to decay, cut it down with a hoe or shovel, and stir it up well. Water again and again turn and mix it when it has had time to settle, and continue the decaying process somewhat. Keep this up until it is in first-class condition. Just before you are ready to use it you can mix bone meal into it at the rate of a six-inch pot full for each heaping wheelbarrow full of soil. This soil will be good for almost any kind of house plants, but begonias and ferns will be better for having it mixed half and half with well rotted leaf mold.

If you cannot prepare a soil in this manner, try to get a good supply of garden soil as you can find. Add bone leaf mold and mix it with as good a meal as directed for the other, and sand enough to make it appear somewhat sandy to the touch. Garden soil is more apt to get sour from overwatering, or to bake on the surface. If good drainage is used, and the surface well stirred at frequent intervals there is apt to be no trouble with it, unless the plants are exceptionally weak, or they are kept wet.

DRINKING WATER WITH MEALS IS SOMETIMES BENEFICIAL.

Occasionally one hears conflicting assertions in regard to the wholesomeness of the practice of drinking water at meal time. Somewhat recent physiological studies indicate that while the drinking of water with meals has no apparent effect upon the utilization of the fats, sugars and starches, its copious use does result in the better digestion and absorption of the ingested protein—that tissue building constituent which is the most abundant of the solids in lean meat, eggs, and cheese, and that constituent which also characterizes certain other foods.

The use of water as a beverage, with meals is a desirable practice. It may be added that drinking generous quantities of water during the course of the day is an important health measure in the up-keep of the general health of the body.

An unfortunate eating habit is that

of depending upon water as an aid to swallowing food. If one has not learned to thoroughly masticate food—swallowing it without the aid of a beverage—then it would seem wise to subscribe to the creed of the "dry eaters."

ONE REASON WHY BOYS LEAVE THE FARM.

BY A. J. PATCH.

Most mothers desire to have their sons succeed, or as it is commonly expressed, "be somebody!" This is true of the mother on the farm as well as of the mother in the city. The "somebody" is an ideal, which may be created by desires ungratified or by unpleasant experiences. The disagreeable things which are the portion of many women on the farm are the cause of many boys leaving the country.

Many farmers' wives feel a spirit of revolt when they look up from some particularly tiring task and see an automobile going by, filled with people who appear not to have a care in the world. The son, looking out through a cloud of dust stirred up by a harrow, sees the same sight. To the woman and the son the automobile represents a relief from toil. The people in the car may envy the workers' health, but this makes no difference to the ones who look up from their labor.

When night comes the boy, sitting on the porch, can see on the sky the glare of lights from the city. He can look through a window and see his mother working at some task by the aid of a dim light. He has seen the same thing many nights. A spirit of unrest causes the boy to say, "Mother, I wish we could go to town tonight."

"If you ever want to have a good time and be somebody, don't be a farmer," answers the tired mother.

Perhaps the phrase, "don't be a farmer," does not impress the boy much at the time, but sooner or later the words come back. Every disagreeable task brings out the refrain, "if you want to be somebody leave the farm." At last the boy decides that the farm is no place for a person of his ability. From then till the arrival in town, the road to the city lies all down hill.

Not all mothers in the country tell their sons that the city is the place of opportunities, but many of them do. Even a little easing of mother's tasks would lessen the number who send their sons away. The woman may have many times given her last ounce of strength to complete some task. She desires something different for her boy. It is very natural then, that she should point to the road of apparent ease. What would you suggest to stop it?

HOME QUERIES.

Household Editor:—Will you please tell me how to pickle smoked hams so they will keep all summer? Also, give me a good recipe for mince meat without boiled cider.—Reader.

"The People's Home Library" gives the following rule for hams: "Hang hams up for a week or ten days. If kept perfectly sweet the longer they hang the more tender they will be. For each good-sized ham mix one cup salt, one ounce saltpetre, one tablespoon of molasses. Put hams in a tub; heat the mixture and rub well into the hams, repeat until mixture is all used and let lie two or three days. Then put for three weeks into brine strong enough to float an egg; take from brine, soak in cold water for eight hours and hang up a week or longer; smoke from three to five days, but be careful not to heat the hams. Apple tree wood and corn cobs are good for fuel. Smoke with hock down and tie in bags until wanted for use."

Any recipe for mincemeat may be used and the cider or brandy omitted. This recipe is especially fine. Chop finely six pounds of lean cooked beef, four pounds of suet, six quarts of apples, six pounds of raisins, seeded, four pounds of currants, six pounds of cit-

ron and two cups of mixed candied orange and lemon peel. To this mixture add one cup of orange juice, a half cup of lemon juice, four tablespoons of salt, eight cups of sugar, white or brown, two cups of coffee, two teaspoons each of cloves and allspice, four of cinnamon and a glass of currant or quince jelly. Mix all thoroughly and cook slowly for two hours. Then add two quarts of any fruit juice you may have, cherry or raspberry is especially fine. This should stand for a week before using. The citron and peel may be omitted.

RECIPES.

Grape gelatine is easy to make. Wash well some Concord grapes. Put on to boil with a very little water; let boil from 20 to 30 minutes, strain. Make a quart of lemon jelly. While warm stir in the grape juice and set on ice until firm.—Mrs. J. J. O'C.

If you can't get good graham flour at your mill and it is impossible to get the whole wheat flour, become your own miller by utilizing your coffee grinder, providing you have no larger one. Use clean, dry wheat and it will not take long to grind enough for a loaf of bread. One egg, two cups of sweet milk, two tablespoons of shortening and four of sugar, one teaspoonful of salt and two teaspoons of baking powder, mixed with enough flour to make a very stiff mixture will make one loaf.

A small truck for moving the mop pail, coal pail, etc., is made of a thick piece of plank measuring 14x14 inches with a rubber roller furniture caster screwed in each corner of the under side. We also use this when moving trunks, boxes, etc., in cellar or attic or storeroom.—G. S.

MICHIGAN FARMER PATTERNS.

Our latest Fashion Book, containing illustrations of over 1,000 designs of ladies', misses' and children's garments in current fashions, also newest embroidery designs, and articles which give valuable hints to the home dress-maker, will be sent to any address upon receipt of ten cents. All patterns are ten cents each. Do not forget to state size.



No. 7970—Ladies' Apron. Cut in sizes 36 to 44 inches bust measure. Linen, gingham or calico can be used for this apron with the trimming bands of plain material.

No. 7972—Ladies' Waist. Cut in sizes 34 to 42 inches bust measure. Crepe de Chine, lawn or taffeta can be used for this waist.

No. 7976—Ladies' Waist. Cut in sizes 24 to 32 inches waist measure. The skirt is cut in nine gores and is plaited.

Healthfulness in Food is More Important than Low Price

The principal ingredient of Royal Baking Powder is Cream of Tartar, which is derived from grapes, a natural, healthful food.

The principal ingredient of many baking powders sold at a lower price is alum or phosphate, both of mineral origin and used instead of Cream of Tartar because they are cheaper.

Housekeepers who are influenced by low price when buying baking powder will find that it pays to consider quality first.

The label on the can will show whether the baking powder you now use, or any brand, new or old, that may be offered contains alum or phosphate instead of cream of tartar.



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Cattle or Horse hide, Calf, Dog, Deer or any kind of skin with hair or fur on. We tan and finish them right; make them into coats (for men and women), robes, rugs or gloves when ordered.

Your fur goods will cost you less than to buy them, and be worth more. Our illustrated catalog gives a lot of information which every stock raiser should have, but we never send out this valuable book except upon request.

It tells how to take off and care for hides; how and when we pay the freight both ways; about our safe dyeing process which is a tremendous advantage to the customer, especially on horse hides and calf skins; about the fur goods and game trophies we sell, taxidermy, etc. If you want a copy send us your correct address.

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

\$11.50 FOR THIS FINE FUR COAT

Made from your own cow or horse hide to your own measure. We tan and manufacture the raw hide into a warm serviceable coat for this small charge.

Send Us Your Hides

We make up any kind of skin to suit your individual desire—

Also Ladies Coats and Furs, Auto Robes, etc.

We have been leaders in the tanning business since 1878 and guarantee satisfaction.

FREE Book of styles of Mens' and Womens' Furs. Write for it today.

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IF YOU LOVE GOOD COFFEE SEND FOR PRICE LIST
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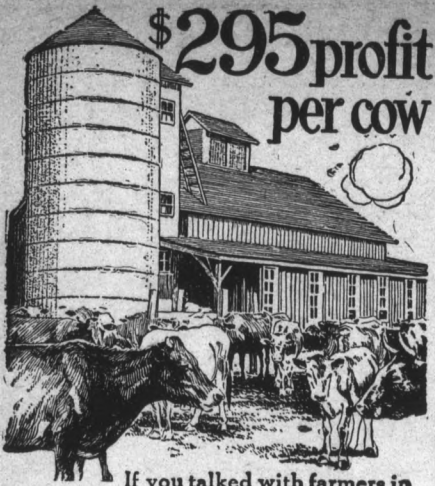
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If you talked with farmers in Arkansas and Texas, they'd show you that while a cow costs over \$100 per year to maintain up north, she costs only \$55 per year to keep down there. Figure up all the advantages along the

Cotton Belt Route in Arkansas and Texas

with its much lower priced land, twice as long pasture season, far shorter winter feeding, no expensive shelter, etc. You'll then see how \$295 gross can be made from a good Holstein or Jersey, yielding \$300 in milk, a \$25 calf and manure worth \$25. And they get higher prices for their products, too—milk retails at 10c a quart, butter brings 35 to 40 cents and 30c is paid for 20% cream at the local creameries.

J. R. Scurlock ships cream to Piggott, Ark. and gets 35c a lb. for his butter, f.o.b. his station. S. B. Todd of Comanche, Tex. started dairying with four good Jerseys, sold milk and butter to local places and cleaned up \$7,972 since 1912. After 3½ years he sold part of his herd for \$2500 cash, reserving 19 head of choice stock worth \$1760. He did this on only 105 acres. W. Y. Wester, near Sulphur Springs, Texas keeps 9 to 12 cows; yet he sells from 7,000 to 7,500 lbs of 5% milk per month, receiving \$100 to \$175 per month for it. The same advantages that make dairying extra profitable in Arkansas and Texas make all lines of farming pay much better there than up North. You ought, at least, to get all the facts and get them now. Send for

Two books FREE

prepared by a practical farmer who has traveled all through Arkansas and Texas and got pictures of the farms and actual statements from farmers. Tells cost of land, crops raised, etc., and about towns, churches, schools and social conditions. Write at once for these free books.

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Clear your stump land cheaply—no digging, no expense for teams and powder. One man with a K can rip out any stump that can be pulled with the best inch steel cable. Works by leverage—same principle as a jack. 100 pounds pull on the lever gives a 48-ton pull on the stump. Made of Krupp steel—guaranteed against breakage. Endorsed by U. S. Government experts.

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65 quarts per hour

is the skimming capacity of our new No. 10 Economy King Cream Separator, which we sell at \$17.95. Ideal for three cows or less. See page 1478 of our big General Catalog for particulars.

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Farm Commerce.

Grape Trade Needs Squaring

THERE are three conclusions that can be safely drawn from the inspection service in the grape belt the past fall. They may not be new ideas; they may not be generally true. They may be of no great significance; yet the writer is firm in the belief that the time has arrived for their consideration. The generalizations, which are based on the inspection, both casual and thorough, of a fraction of the grapes delivered at the shipping stations at Paw Paw, Lawton, and Mattawan, are as follows:

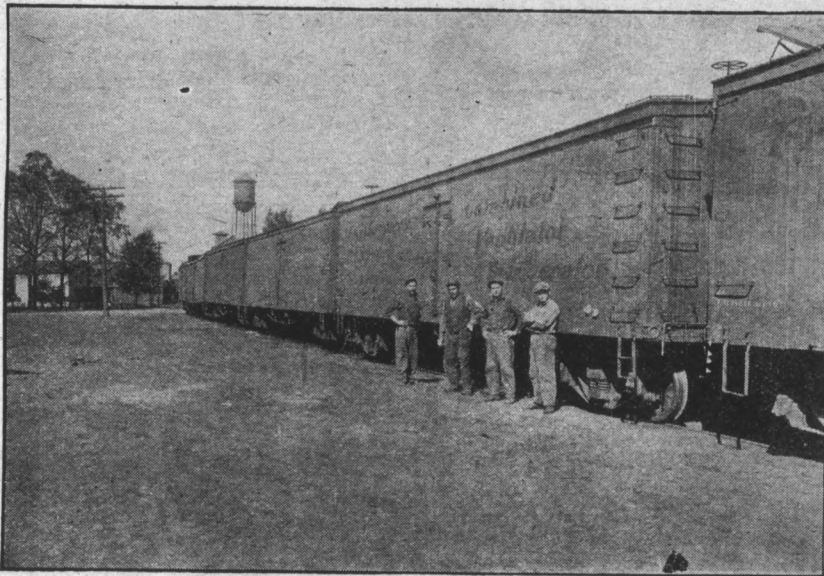
First. With the present marketing machinery there is no inducement for the grape grower to put up a "good" peck.

Second. It is almost impossible for a marketing association handling but a

good fruit in each car makes up for the poor and helps to get it sold.

It is true that most of the shipping associations have inspectors and that these men do their very best to get the quality standard and the pack standards up to high levels. Yet they have no way of rewarding those who produce fruit that is above a fair grade. They are supposed to complain when the quality falls far below the average, but for reasons that lead to the second conclusion, they are able to be active only in a limited way. To their credit, however, they are meeting with excellent success in enforcing the weight requirements.

With existing conditions it is most profitable for the grape grower to produce a quality of fruit that will just



String of Cars at Paw Paw Loaded with Grapes. It is Believed that through Proper Inspection the value of Michigan's Grape Crop can be Increased.

fraction of the grape crop, on its own initiative, to operate an inspection system that will provide a reward for those who have quality ideals.

Third. The state is the logical authority to undertake the work of standardizing farm crops and to provide the inspection service, charging the interested parties the cost of service.

The conclusion that the good grower and packer is not getting his just deserts with the present arrangement in the grape belt is based on the fact that grapes are just grapes when they appeared at the car door, unless the quality is decidedly negative. An effort is made to see that the packages are up to the legal requirements as to weight, and in this respect the local inspection service is successful. But there is little attempt to distinguish between grapes of good quality and those that are none else than mediocre. Grapes from vineyards that have been pruned, plowed, fertilized, and sprayed go into the same cars with grapes from vineyards that receive but little care, and that little of an indifferent quality. Baskets containing grapes with large berries, in well-formed cluster and almost free from rot, go into cars with fruit that is just the opposite of this. Baskets filled with big fine clusters from top to bottom are loaded in the cars beside baskets containing fine grapes on top and small scraggly bunches in the bottom. Fruit from the man who takes pride in growing fine grapes and putting them up in attractive packages is as likely as not to be bunched with the grapes from the grower who is a stranger to pride in any of its forms.

Grapes that are ten per cent or twenty per cent, above the average in quality and pack, fare the same in the daily pool as those that are ten per cent below the average. In reality the

come up to the average, and to pack his fruit according to the standards observed by the vast majority. He then gets full returns for the minimum amount of effort. Is not this efficiency of a high degree?

There are exceptions to the conditions described above, many of them, yet not so many as to destroy the value of the conclusion.

The second generalization based upon the recent inspection work is that it is next to impossible for the existing marketing associations to remedy the injustice now prevailing. It is doubtful if there is one of the sales managers but what would like to reward his good growers by giving them better returns. But all are powerless to work out of their own accord, a plan. All the managers know of the great difference in the quality of the different lots of grapes that go to make up the different carlots. The different managers are competitors! Most of them are directly dependent upon the volume of fruit forwarded, for their incomes. No manager can afford to tell a grower that his fruit is poor or that his pack is not satisfactory. For a manager to do that would mean that he would lose a client, and one of his competitors would gain a client. Each manager does all he can without giving offense to raise the standard of the fruit delivered to him, but rarely does a manager run the chance of losing the opportunity to market the output of even the poorest of his growers. The poor growers and packers know this. Furthermore, they know that if their fruit gets turned down by any one of the association managers there is another manager, or if not a manager then a cash buyer, who is ready to receive them with open arms. The indifferent growers are able to enforce the unwritten

You can farm 365 days in the year in California

You can work outdoors every day in the year

Think of that, you who now live where winter shuts you in five or six months.

In sunny, summery California—

Stock don't eat their heads off.

Furnaces don't burn up tons of coal.

Heavy clothing is not needed.

No snow blocked roads.

Fingers, ears and toes don't freeze.

Go and see for yourself what California is doing while there's "nothing doing" at home. Go this winter. Take advantage of the low all-year excursion fares, with nine months' limit. Go with one of the Santa Fe personally-conducted tourist-car parties, leaving three times a week. See Grand Canyon of Arizona on the way. San Diego Exposition, too, if you reach California during 1916.

Plenty of time to enjoy yourself. And ample opportunity to see rural California as it really is. At your leisure pick out the farm you want to own some day. Maybe it is in Southern California in the San Joaquin Valley—California's heart. Irrigated lands on reasonable terms for raising alfalfa, oranges, vegetables, grapes, etc. Grazing lands for dairy cattle and sheep. Poultry, hogs and bees do well.

Our San Joaquin Valley books have the details. Just drop a postal to-day and say "Send California books." Tell us what kind of farm you want and we will gladly get you the fullest possible information through our agricultural agents who help to locate settlers in productive sections and assist them in selecting the right crops to insure permanent success after they are located. The Santa Fe's interest in you continues and the service is free.

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WORK SHOES**

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PULL OUT THE STUMPS!

The HERCULES—

All Steel Triple Power Stump Puller pulls an acre of stumps a day—increases the value of your land 100%. Makes room for money crops. Guaranteed for 3 years against breakage from any cause. Send name for free book, 30 days free trial offer and special low-price proposition. HERCULES MFG. CO. 937 25th Street Centerville, Ia., U.S.A.

Mention the Michigan Farmer when writing Advertisers

law, that "a grape is a grape, and that all grapes are to bring the same average price." Again, there are exceptions, but they do not destroy the value of the generalization.

The third conclusion, namely that the state should provide inspection service at cost is based upon the experience of the two inspectors who operated in the grape belt the past season. One of the shipping associations arranged for state inspection, paying the cost thereof, and has as large a share of the grapes delivered to it as possible inspected by these neutral men. The inspectors were concerned in neither the selling nor buying of the grapes. They were interested in the quality of the fruit as an abstract proposition. No grower had a pull with them nor could any grower influence them by threats that he would take his fruit elsewhere. The inspectors were not in fear of discharge, nor were they susceptible to influence in behalf of fruit that was not quite up to grade. That there was real work to be done is proved by the fact that only a fraction of the fruit inspected came up to the standard, although it was admitted that the standard was not an unreasonable one. The standard used was only fair for grapes that were being marketed as "select" table grapes.

Certificates were issued by the inspectors for twenty-four cars. In the case of ten of the cars only a part of the fruit in each car was covered by the certificate. By the close of the season the trade gladly paid a penny a basket extra for the grapes that had passed the inspection. With this increase in pay the growers could well afford to pay the cost of the inspection, especially those who have regularly been putting up a pack that is fully up to the standard requirements.

That not all the growers have been ignorant to the true conditions is proved by the fact that a number of the grape men have been marketing their fruit independently of the associations and selling it on their statements that the fruit was above the average for the belt and that the packages were honestly packed.

It is not improbable that much of what has been said above would apply to other fruit than grapes, especially where the central packing house is not used. Many of the injustices of the "average price" are overcome where the fruit is delivered in bulk to a central station and the packing is done under the direction of a single brain. Then each grower gets paid for the exact quantity of each grade delivered by him. Even here inspectors who are not interested parties to the marketing might be used to advantage.

Ingham Co. R. H. ELSWORTH.

GOVERNMENT WINS BEAN CASE.

Last spring officials of the government seized an interstate shipment of 1,169 cases of canned beans, valued at \$5,000, put up by a Michigan canning company. It was charged that the beans were partially decomposed, in violation of the pure food and drugs act. The specific claim made was that the beans were spotted with anthracnose, the fungous disease that was so prevalent a year ago but was almost unknown in Michigan bean fields this season.

The canning company, supported by other concerns that have used anthracnose beans in their operations, has been vigorously contesting the case before a jury in the United States District Court, Grand Rapids, and the outcome has been followed with interest by shippers, elevator men and growers of beans, as well as the canners. The case is unique in this country, no similar issue ever having come before the courts before. A number of like cases against other canners are now pending, but this was the test case.

The defense in this case had collected a great mass of evidence showing that the spotted beans in this seizure

were not deleterious to health. Many chemists and food experts went on the stand for the defense, but Judge Sessions took the heart out of the defendant's case by ruling out all evidence relating to the fitness of these beans for human consumption. He held that the simple issue was whether the beans were so inferior that they were decomposed, in violation of Section 7 of the pure food act which reads: "An article is deemed adulterated if it consists in whole or in part of a decomposed vegetable substance."

"This is not an attack by the government on the bean industry of Michigan," said the judge in his charge to the jury. Your verdict will in no way affect the bean grower, jobber or packer or any other concern but the defendant company. No charge is made that the processes used were defective. The only issue is were the beans in this case so inferior as to be decomposed, coming under the pure food and drugs act."

With this charge the jury quickly reached a verdict for the government. It is expected that the case will go to the court of appeals. The defense contends that it is absurd to contest a case under the pure food laws with the food value of the product in question, in its relation to health, entirely eliminated. It is insisted that the government should carry the burden of proving that the beans are unfit for food. Beans affected with anthracnose, ground rot and blight have been eaten for years without harmful effects. France buys large quantities of canned beans in this country and in her contracts specifies that ten per cent anthracnose is allowable. It is not contended by the Michigan canners that spotted beans are of the highest class. They make up the cheaper grade of foodstuffs.

Under this decision it would appear that the bean industry of the state is affected and that nothing but choicest hand-picked beans will be marketable for canning purposes, with all else going for stock food.

Kent Co. ALMOND GRIFFEN.

POTATOES HAVE A HIGH VALUE.

From figures taken from the October issue of the Monthly Crop Report, published by the United States Department of Agriculture, it appears that the farm value of potatoes is far above the normal. The Report lists 33 states in which potatoes have an estimated farm value on October 1 in excess of \$1.00.

Potatoes are most valuable in South Carolina, where they are quoted as being worth \$1.70 a bushel at the farm, and they are least valuable in Washington, where they have a value of but 63 cents a bushel.

The 33 states in which potatoes are worth \$1.00 or more a bushel at the farm, and the value in each state is shown in the following table:

South Carolina	\$1.70
Oklahoma	1.65
Florida	1.56
Illinois	1.50
Arizona	1.50
Indiana	1.46
Ohio	1.43
Iowa	1.42
Alabama	1.40
Texas	1.40
Louisiana	1.39
Michigan	1.38
Missouri	1.36
Arkansas	1.34
Georgia	1.32
Mississippi	1.29
Connecticut	1.25
New York	1.22
Pennsylvania	1.22
Kansas	1.20
New Mexico	1.20
Massachusetts	1.15
South Dakota	1.15
Nevada	1.15
California	1.13
New Hampshire	1.12
West Virginia	1.12
Wisconsin	1.09
New Jersey	1.08
North Carolina	1.05
Tennessee	1.05
Kentucky	1.00
Vermont	1.00



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"5130" Blue, \$16.50

"4130" Blue, \$20.00

"3130" Gray, \$20.00

THE CLOTHCRAFT STORE

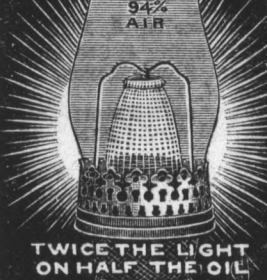
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Clothcraft Clothes for Men and Young Men, Ready-to-Wear, \$12.50 to \$25.00

Made by The Joseph & Feiss Co., Cleveland

New KEROSENE LIGHT BEATS ELECTRIC OR GASOLINE

10 Days FREE—Send No Money



We don't ask you to pay us a cent until you have used this wonderful modern white light in your own home ten days, then you may return it at our expense if not perfectly satisfied. You can't possibly lose a cent. We want to prove to you that it makes an ordinary oil lamp look like a candle, beats electric, gasoline or acetylene. Lights and is put out like old oil lamp. Tests by U. S. Government and 34 leading Universities show that it

Burns 50 Hours on One Gallon

common kerosene (coal oil), no odor, smoke or noise, simple, clean, won't explode. Three million people already enjoying this powerful, white, steady light, nearest to sunlight. Won Gold Medal at Panama Exposition. Greatest invention of the age. Guaranteed.

\$1000 Reward will be given to the person who shows us an oil lamp equal to the new Aladdin in every way (details of offer given in our circular). We want one user in each locality to whom we can refer customers. To that person we have a special introductory offer to make. Yours FREE under which one lamp is given free. Write quick for our 10-Day Absolutely Free Trial Proposition and learn how to get one free. MANTLE LAMP COMPANY, 117 Aladdin Building, CHICAGO, ILL.

Men With Rigs Make \$100 to \$300 Per Mo. Our trial delivery plan makes it easy. No previous experience necessary. Practically every farm home and small town home will buy after trying. One farmer who had never sold anything in his life before writes: "I sold 51 the first seven days." Christensen, Wis., says: "I have never seen an article that sells so easily." Noorine, Iowa, says: "I get per cent of homes visited tonight." Phillips, Ohio, says: "Every customer becomes a friend and booster." Kemerling, Minn., says: "No fiery talk necessary. Sells itself." Thousands who are coming money endorse the Aladdin just as strongly. NO MONEY REQUIRED. We furnish stock to reliable men to get started. Ask for our distributor's plan, and learn how to secure an appointment and make big money in unoccupied territory. State occupation, whether you have rig or auto; whether can work spare time or steady; when can start; townships most convenient for you to work.

Lime for Your Soil

The use of lime on your soil will both increase the yield and improve the quality of your crops. It corrects a widely prevailing condition, acid or sour soil. This condition, is the result of constant cropping of your land even when the crops are wisely rotated.

As Fine as Flour

Solvay Pulverized Lime Stone, which we are now placing on the market, is superior to any similar material you heretofore have been able to obtain. It contains a very high percentage of carbonates of lime and magnesia, and the fact that it is FINELY PULVERIZED makes EVERY particle active for sweetening your soil, thereby returning you larger crops.



Does Your Soil Need Lime?

The Solvay Process Company is a large, long established, reputable concern. We have prepared to assist you in every way in solving your soil problems and we are ready to give you the service of our engineers, chemists and our Solvay Test Farm at any time you desire.

Write at once for our literature regarding the use of Solvay Pulverized Lime Stone.

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Raise chicks in the winter with a Model Coal-Burning Hoyer, 52 in. Canopy, \$15.00. Only hoyer at \$15 with genuine magazine. Costs but 2c a day to run. Will burn hard or soft coal, or wood. Guaranteed. FREE—big poultry book tells how to raise more chicks—make bigger profits. Write now. Model incubator Co., 15 Henry St., Buffalo, N. Y. 39 Barclay St., New York City.

Wanted: First-class man take charge dairy farm, work year round. Good wages and board. Box-B 20, In care Michigan Farmer, Detroit, Michigan.

Good Eating Potatoes FOR SALE. John V. Harrison, Sec'y, Manton Potato Growers Association, Manton, Mich.

FERRETS

3000 FERRETS FOR SALE. Price list free. C. J. DIMICK, Rochester, Ohio.

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White and Brown Ferrets For Sale. Price list free. C. D. MURRAY, New London, Ohio.

DOGS

Fox Hounds of all ages, 500 Ferrets, send 2c stamp. W. E. LECKY, Holmesville, Ohio.

When Writing to Advertisers Please Mention The Michigan Farmer.

Markets.

GRAINS AND SEEDS.

November 7, 1916.

Wheat.—The distraction of the interest of traders by the general election acted as a bearish influence in the wheat market the latter part of last week and Monday of this week. This was to be expected and wheat values as a consequence show a slight falling off. Notwithstanding this and the perils that usually attend marketing when products are abnormally high the trade is in a strong position. European demand continues steady, while crop conditions in Argentine show scarcely any improvement in the exceedingly dry season that is prevailing there. High prices are of course restricting consumption, and speculators appear to be debating how much more can be added to quotations without seriously restricting the movement of the grain. The acreage of new wheat sown in America is less than normal because of the dry weather condition at seeding time. One year ago No. 2 red wheat was quoted on the local market at \$1.13½ per bushel. Detroit prices for last week are:

	No. 2 Red.	No. 1 White.	Dec.
Wednesday	1.81	1.76	1.84
Thursday	1.84½	1.79½	1.87½
Friday	1.84	1.79	1.87
Saturday	1.82½	1.77½	1.85½
Monday	1.83½	1.78½	1.86½

Corn.—New corn is beginning to move in a small way and these receipts are causing a slight easing up of the tension upon this trade. The high level of values is encouraging farmers to sell large quantities of live stock which will without doubt decrease to no small degree the amount of corn that will be fed out by farmers. Just what the effect of this will be upon the market later in the year is impossible to say. There is no apprehension, however, that values will decline to any great extent so long as hostilities continue in Europe. One year ago No. 3 corn was quoted at 67½c per bushel. Last week's Detroit prices were:

	No. 3 Mixed.	N. 3 Yellow.
Wednesday	1.10	1.12
Thursday	1.10	1.12
Friday	1.10	1.12
Saturday	1.15	1.17
Monday	1.08	1.10

Oats.—Values in the oat trade have shown less tendency to fluctuate because of the more even supply and demand. The volume of primary receipts is only ordinary. A year ago standard oats were quoted at 41c per bushel. Last week's Detroit prices were:

	No. 3 Standard.	White.
Wednesday	56	55
Thursday	56	55
Friday	55½	54½
Saturday	55½	54½
Monday	55½	54½

Rye.—This cereal shows a jump of 11c during the week, with the trade firm at the higher prices. Cash No. 2 is now quoted at \$1.43 per bushel.

Beans.—Values in this department of the market continue firm at \$6 for immediate and November shipment. The amount of beans being offered is very small. On the Chicago market there is an active demand with supplies unusually light. Michigan pea beans, hand-picked, are quoted at \$6.90 @ 7.10 per bushel.

Seeds.—Prime spot clover \$11.10; December \$11.20; prime alsike \$10.40; timothy seed \$2.50.

FLOUR AND FEEDS.

Flour.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$9.80; seconds \$9.40; straight \$9.20; spring wheat \$10.50; rye flour \$8.30.

Feed.—In 100-lb. sacks, jobbing lots are: Bran \$30; standard middlings \$31.50; fine middlings \$35; cracked corn \$45; coarse corn meal \$42; corn and oat chop \$39 per ton.

DAIRY AND POULTRY PRODUCTS.

Butter.—The market for butter is firm and active. Prices are ½c higher. Creamery extra 35c; do. firsts 34c; dairy 30c; packing stock 27c.

Elgin.—Prices continue to advance and there is no indication of weakness in the market. The price, based on sales, is 36c.

Chicago.—A firm feeling continues to exist and late advances are well maintained. Creamery extras are quoted at 36c; extra firsts 35@35½c; firsts 33½ @ 34½c.

Eggs.—The market is firm at un-

changed prices. Receipts moderate. Firsts 35c; current receipts 33c.

Chicago.—The feeling continues firm with prices for firsts slightly higher. Real fine eggs are scarce. Firsts 32@33c; ordinary firsts 29½@31c; at mark, cases included, 25½@31½c; firsts, storage paid, 30½@30¾c.

Poultry.—Market is quiet and easy on account of liberal receipts. Prices are slightly lower. Live, spring chickens 15½@16c; No. 1 hens 15@15½c; others 13@14½c; ducks 15@16c; geese 15@16c; turkeys 24@25c.

Chicago.—Chickens of all kinds are lower on account of big receipts. Other kinds are unchanged. Demand is fair. Good turkeys 19c; others 10@12c; fowls, general run 13c; others 12@14½c; spring chickens 16c; ducks 14c; geese 12@14½c.

FRUITS AND VEGETABLES.

Apples.—Market is dull and steady, with prices unchanged. Barreled stock \$3.50@4 for fancy; choice \$2@2.75; No. 2, 75c@1 per bushel. At Chicago the feeling is steady. Receipts are lighter and demand good. Prices are unchanged. Fancy stock sells for \$2.50 @ 5.50 per bbl; No. 2 stock \$1.50 @ 2.50.

Potatoes.—At Detroit potatoes are lower and easier. Quoted, carlots, in bulk at \$1.60@1.65; sacks \$1.65@1.75. At Chicago the Michigan white are quoted at \$1.40@1.60; others \$1.35@1.70; liberal receipts caused a weak market.

GRAND RAPIDS.

Dealers report an easier feeling in outside potato markets and prices now range from \$1.30@1.50 at Michigan buying stations. Some of the growers are reported to be putting their tubers in storage, which is almost unheard of proceeding on a \$1.50 market. The Michigan bean market continues very firm, with prices in most markets on a \$6 basis. Fresh eggs are worth 35@36c. The poultry market is somewhat easier, with live fowls quoted at 14c. Grain prices at the mills are as follows: No. 2 red wheat \$1.77; rye \$1.20; oats 55c; corn \$1; barley \$1; buckwheat 90c.

LIVE STOCK MARKETS.

Buffalo.

November 6, 1916.

(Special Report of Dunning & Stevens, New York Central Stock Yards, Buffalo, N. Y.)

Receipts here today as follows: Cattle 240 cars; hogs 160 d. d.; sheep 40 d. d.; calves 1300 head.

With 240 cars of cattle today there was a good demand for what shipping cattle were here and they sold strong, 10@25c higher, but the trade was slow on the medium butcher cattle and common kinds and they sold no more than steady. There was a strong demand for the canners and the bulk of them sold strong to 10c higher. The bulk of the bulls sold about steady. We look for a liberal run of cattle next Monday and a steady market on best grades and slow trade on the medium kinds.

We had a liberal run of hogs today, demand quite good, and while a few of the choice grades of hogs sold a little stronger than Saturday, the average market was no higher. Bulk of the Yorkers and light mixed sold around \$9.75@9.85, with a few selected lots up to \$10, and one or two loads of strictly choice mediums around \$10.10 @ 10.15. Pigs and lights sold from \$8.75@9; roughs generally \$9; stags \$7.50@8.50. Market active on anything good, but rather slow on the medium grades of Yorkers, some of this kind going over unsold.

With a light run of lambs today our market opened active and 10c higher than the close of last week, and we look for steady prices balance of the week.

We quote: Best lambs \$10.75@10.85; cull to common \$9@10.25; yearlings \$7 @ 9; bucks \$5.50@6.50; ewes \$7.25@7.50; cull sheep \$3.50@5; wethers \$7.75 @ 8; top veals, \$12.75@13; heavy \$7 @ 9; common and light \$8@10.50; grassers \$5@5.50.

Chicago.

November 6, 1916.

Cattle. Hogs. Sheep.
Same day 1915...20,000 45,000 39,000
Same day 1916...22,616 30,553 20,081
Last week...68,661 238,264 110,993
Same wk 1915...54,425 128,943 86,334

Hogs shot up 15@20c today on lively early buying, speculators buying a good many offerings. Sales ranged at \$8.70@10.05, with very few around the top price. Light hogs show an increasing proportion of the receipts, last week's average weight being 199 lbs. Buyers were bidding lower for prime lambs, as well as for other kinds, and a small decline looked probable.

Shipments from here last week included 18,352 cattle, 20,918 hogs and

28,405 sheep, comparing with 24,229 cattle, 19,154 hogs and 47,728 sheep a week earlier.

Cattle receipts last week were liberal although smaller than the supplies in some recent weeks, the offerings comprising even less choice to extra good cattle of good weights than heretofore. This resulted in an advancing market for the best beefs and a declining market for the offerings that had been furnished scanty supplies of corn, while the grassers sold badly as a rule. Another high record for the year was furnished when some fancy heavy steers sold for \$11.75, there being 91 head in the lot, with an average weight of 1570 lbs. This is a record price for an open market sale for other than beefs fed for the Christmas trade. The greater part of the steers received during the week sold at \$7.65 @ 10.75, there being the best showing of choice beefs on Wednesday. The choice cattle went at \$10.75 and upward, good steers at \$10 and over, medium lots at \$8.50@9.95, fair little killers at \$7.50 and over, and sales down to \$4.85@5.90 for a class of little canning steers. Butcher stuff had an outlet on the basis of \$4.50@9.40 for the common to prime heifers, fat little yearlings going at \$8.75 and upward and cows bringing \$4.80@8. Choice yearling steers sold at \$11@11.40, good lots of such steers going at \$9.50 and upward, and ordinary lots at \$8 and over. Cutters had a good sale at \$4.20 @ 4.75, canners at \$3.25@4.15 and bulls at \$4.25@8. There was a lower calf market, light vealers selling at \$9@11.25 and sales down to \$4.50@8 for heavy calves. The market for stockers and feeders was not especially active most of the week, with sales at a range of \$4.50@7.50, and a limited number went at \$7.60@8, with a sale of 12 head of fancy feeders averaging 1234 lbs. at \$8. Western range cattle were in the usual demand, steers selling usually at \$6.50@10.10, the top marking another high record for the season. During the latter part of the week the market advanced sharply for canners and cutters, the latter going as high as \$5, while the best steers were 10@15c higher than a week earlier, but most pasture and short-fed steers sold 10@15c lower.

Hogs were marketed last week with greatly increased liberality, and the larger offerings helped to develop more or less weakness in values, although the market held up much better on the whole for desirable offerings than might have been expected. Naturally, prices were better maintained for the choice barrows of butcher and heavy weights than for the lighter weights, the latter comprising the greater part of the daily receipts. Purchases made by eastern shippers were limited and comprised but a very small share of the daily sales. The best light shipping hogs had to be sold at a greatly increased discount from prices paid for the best butcher weights, while the packers made several raids on pigs, which sold off rapidly, the best lots selling as much as \$1.50 per 100 lbs. below the best matured hogs. Late in the week the market broke badly, with closing sales at \$8.55@9.85, comparing with \$9.50@10.35 a week earlier, while pigs sold at \$6@8.40. The best light shipping hogs sold 20c below the top price.

Lambs had some advances early last week, with good buying of the best lots and not enough to go around, but later in the week the demand fell off to such an extent that sellers had to accept decidedly lower prices. The late receipts from the ranges run very largely to feeding lambs, which have sold briskly at steady prices. Yearlings, sheep and lambs are selling far higher than in other years, and low prices appear to be a long way off. Prime lambs sold early in the week at \$11.25, closing at \$11, with sales down to \$8.50@9.25 for culls, while feeding lambs closed at \$8.75@10.30. Yearlings closed at \$7.75@9.25, wethers at \$7.50 @ 8.80, ewes at \$3@7.50 and bucks at \$5@5.75. Breeding ewes brought \$6@9.50, and feeders bought yearlings at \$7@8.45, wethers at \$6@7.50 and ewes at \$5@6.50.

Horses were marketed last week much less freely than one or two years ago, but there were enough, as the demand for the British armies ceased the last day of October. There was fair buying for the French and Italian armies at \$120@130 for riders and \$150@175 for artillery horses. The southern chunks brought \$45@85, with mares of this class at \$90@125, while feeders sold at \$150@210, drafters at \$240@280, city chunks at \$180@225, expressers at \$175@200 and wagoners at \$180@210.

MICHIGAN CROP REPORT.

Wheat.—The final estimated yield of wheat in the state is 16.19 in the southern counties 16.28, in the central counties 16.23, in the northern counties 14.64, and in the upper peninsula 22.10

bushels per acre. The estimated total yield for the state is 12,404,710 bushels. The condition of growing wheat as compared with an average per cent is 86 in the state, 82 in the southern counties, 81 in the central counties, 99 in the northern counties and 92 in the upper peninsula.

Wheat.—The total number of bushels of wheat marketed by farmers in October at 58 flouring mills is 123,413 and at 61 elevators and to grain dealers 128,922, or a total of 252,335 bushels. Of this amount 191,389 bushels were marketed in the southern four tiers of counties, 40,959 in the central counties, and 19,987 in the northern counties and upper peninsula.

The estimated total number of bushels of wheat marketed in the three months, August-October is 3,500,000. Thirty-four mills, elevators and grain dealers report no wheat marketed in October.

Corn.—The estimated average yield per acre of corn, in bushels is 21.05 in the state, 20.40 in the southern counties, 22.83 in the central counties, 23.46 in the northern counties and 24.22 in the upper peninsula.

Clover Seed.—Per cent of acreage of clover seed harvested as compared with average years is 103 in the state, 108 in the southern counties, 104 in the central counties, 89 in the northern counties and 100 in the upper peninsula. The average yield per acre in bushels is 1.51 in the state and southern counties, 1.64 in the central counties, 1.97 in the northern counties and 2.00 in the upper peninsula.

Beans.—The final estimated average yield per acre in bushels is 6.71 in the state, 6.21 in the southern counties, 7.11 in the central counties, 6.95 in the northern counties and 6.79 in the upper peninsula.

Potatoes.—The estimated average yield per acre, in bushels is 45.22 in the state, 28.92 in the southern counties, 38.48 in the central counties, 74.64 in the northern counties and 71.30 in the upper peninsula.

Commercial fertilizers.—The per cent of farmers who have used commercial fertilizers on their wheat this fall is 34 in the state, 39 in the southern counties, 38 in the central counties, 11 in the northern counties and 13 in the upper peninsula.

Live Stock.—The average condition in the state of horses and swine is 96, cattle and sheep 95.

The estimated total yield of the following farm products for the year 1916 are as follows,

	Total yield, bushels.
Wheat	12,404,710
Oats	52,763,474
Barley	1,968,684
Rye	6,008,953
Buckwheat	666,152
Corn	31,372,183
Potatoes	22,266,664
Beans	2,191,862
Peas	1,002,073
Clover seed	267,270
Apples	17,231,059
Peaches	2,125,648
Pears	1,007,394
Plums	396,031
Cherries	1,388,349
Strawberries	437,575
Raspberries and blackberries	625,571

Sugar beets 571,543
Hay and forage 3,087,773

The ten-year average from 1906 to 1915 inclusive, on corn, potatoes and beans is as follows:

Corn, 53,585,454 bushels; 32 bushels per acre.
Potatoes 28,776,634 bushels; 86 bushels per acre.
Beans, 4,965,627 bushels; 12 bushels per acre.

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The first edition is sent to those who have not expressed a desire for the latest markets. The late market edition will be sent on request at any time.

DETROIT LIVE STOCK MARKET.

Thursday's Market.
November 9, 1916.
Cattle.

Receipts 2805. In all departments at the local stock yards this week the run was large and considering the condition of all railroad terminals in Detroit, stock was handled fairly well and little complaint was heard.

In the cattle division the quality was some better than for several weeks and prices were full steady with the close last week and on canners a trifle better, the demand was hardly as good for stockers but this was due to election, many buyers staying home to vote. Good milch cows sold well and this class is wanted. Common grades a trifle dull but steady. There was but one load on sale good enough to bring over \$8. They were a bunch of 17 steers averaging to weigh 1140 lbs., and were bought by the Michigan Beef Co. from Bishop, Bullen & Holmes for \$8.25 per cwt.

The close was about steady as follows: Best heavy steers \$8@8.25; do. handy weight butcher steers \$7@7.50; mixed steers and heifers \$6.25@6.75; handy light butchers \$5.50@6.25; light butchers \$5@5.50; best cows \$6@6.25; butcher cows \$5@5.50; common cows \$4.25@4.75; canners \$3.75@4.25; best heavy bulls \$5.75@6.25; bologna bulls \$5@5.50; stock bulls \$4.50@5; feeders \$6@6.50; stockers \$5@6; milkers and springers \$4@9.00.

Bishop, B. & H. sold Bray & B. 5 cows av 1030 at \$4.40, 4 canners av 925 at \$4, 2 do av 1215 at \$3.75, 2 do av 800 at \$4, 8 do av 950 at \$4, 20 do av 723 at \$4, 1 do wgh 1220 at \$4; to Sullivan P. Co. 4 butchers av 737 at \$4.75, 15 do av 668 at \$5.25, 1 bull wgh 1800 at \$6.25, 19 steers av 985 at \$7; to Garber 30 butchers av 628 at \$4.70; to Fineman 23 do av 700 at \$5; to Sullivan P. Co. 12 do av 827 at \$5.50, 5 cows av 960 at \$4.50, 8 butchers av 837 at \$6.10, 2 cows av 1030 at \$4.50, 6 steers av 828 at \$6.50, 20 do av 1106 at \$7.25, 1 do wgh 780 at \$6, 7 cows and bulls av 983 at \$5, 3 cows av 1087 at \$6, 4 do av 782 at \$5.75; to Hammond, S. & Co. 3 do av 1137 at \$4.25, 25 steers av 855 at \$6.50, 2 do av 1065 at \$7, 2 do av 890 at \$7; to Goose 6 butchers av 605 at \$4.90, 10 do av 718 at \$4.90; to Parker, W. & Co. 23 steers av 1057 at \$7.25, 19 do av 1028 at \$7.25, 11 butchers av 636 at \$4.75; to Grant 6 do av 563 at \$4, 6 do av 800 at \$5, 13 do av 618 at \$4.70, 23 do av 555 at \$4.50; to Thompson 27 do av 682 at \$5.15; to Mich. B. Co. 2 cows av 1085 at \$5, 2 do av 1000 at \$4.25, 3 heifers av 753 at \$6.50, 3 cows av 1283 at \$6, 2 do av 1015 at \$4.85, 3 steers av 943 at \$6.60, 4 do av 665 at \$5.25; to Ross 3 do av 617 at \$5.50; to Parker, W. & Co. 11 do av 1006 at \$7; to Sullivan P. Co. 2 do av 885 at \$6.50, 3 do av 1170 at \$7.75, 4 butchers av \$12 at \$5.25, 3 do av 823 at \$6.35, 8 do av 1071 at \$5.35.

Veal Calves.

Receipts 893. The veal calf trade was active and good grades 50c higher than they were a week ago, selling at \$10.50@11, with an occasional extra one at \$11.50; heavy grades are still dull and selling at from \$4.50@6.

Haley & M. sold Sullivan P. Co. 11 av 425 at \$6.75; to Parker, W. & Co. 10 av 184 at \$10, 5 av 180 at \$11; to Goose 17 av 160 at \$11, 2 av 310 at \$7.50, 3 av 275 at \$8.

Sheep and Lambs.

Receipts 8082. The sheep and lamb trade was active at last week's prices, a large number of the good lambs bringing \$10.50; sheep also strong. Swift & Co. bought all they could get and the close was strong as follows: Best lambs \$10.50@10.60; fair lambs \$9.50@10.25; light to common lambs \$8@8.75; fair to good sheep \$6.25@7; culls and common \$4@5.

Erwin, S. & J. sold Nagle P. Co. 79 lambs av 75 at \$10.40, 58 do av 75 at \$10.35, 75 do av 5 at \$10.40, 47 do av \$10.35, 75 do av 75 at \$10.40, 47 do av do av 60 at \$9.75, 5 sheep av 108 at \$6.25, 2 do av 95 at \$6.25, 115 lambs av 75 at \$10.30; to Barlage 145 do av 55 at \$9; to Thompson 26 do av 60 at \$9.25; to Sullivan P. Co. 12 do av 55 at \$8.50, 19 sheep av 98 at \$6.25; to Parker, W. & Co. 21 do av 105 at \$6.80; to Thompson 13 lambs av 55 at \$8.75, 19 do av 50 at \$8.75; to Young 51 do av 65 at \$10.

Hogs.

Receipts 12,829. In the hog department the market on pigs was 25c lower than on Wednesday, selling at \$8@8.25. Good grades were strong and 10c higher, selling at \$9.30@9.75. The quality this week was slightly better than for several weeks.

Veterinary.

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

Cough.—I have a young mare mule that has had a cough since last April, but it does not seem to affect her wind in the least. E. J. A., Daffoe, Mich.—Give her a teaspoonful of ginger, a tablespoonful of powdered licorice and a teaspoonful of salt at a dose in soft feed twice a day.

Chronic Looseness of Bowels.—We have a cow that calved one month too early, since then she has been troubled with scours and our local Vet. fails to help her. About six months ago I lost a cow that showed similar symptoms and I am afraid this one will go the same way. J. H. P., Aloha, Mich.—Give your cow a teaspoonful of powdered sulphate iron, ½ oz. ground ginger, 2 drs. powdered catechu and a teaspoonful of subnitrate of bismuth at a dose in feed two or three times a day. The feeding and watering of your cow will have a whole lot to do in bringing about a recovery.

Paralysis.—Have a heifer which dropped her second calf August 14, apparently was all right for a week, but for the last three or four mornings she appears stiff all over and stagger some when walking; however, after exercising a few minutes she appears to get over it. Our local Vet. attributes her ailment to the excessive hot weather which we have had lately, but I am more inclined to believe it paralysis. Two years ago I lost a heifer which acted very much like this one. F. S., Port Huron, Mich.—Give her 30 grs. of potassium iodide, 30 grs. ground nux vomica and 60 grs. of potassium bromide at a dose three times a day.

Stocking—Worms.—I have a horse that stocks in hind legs when standing in stable over night. I have noticed another horse pass a few worms. C. S., Copemish, Mich.—Mix together one part of powdered nitrate of potash, one part ground nux vomica, three parts bicarbonate soda and five parts ground gentian and give each horse a tablespoonful at a dose in soft feed twice a day.

Looseness of Bowels.—My 18-year-old horse, which has been usually well, is now troubled with looseness of the bowels. Our local Vet. floated his teeth, but this has not helped him and I forgot to say that he is unusually thirsty. M. D., Mancelona, Mich.—A horse of his age should be carefully fed for a while on food that is easily digested, but not too constipating. Ground oats, three parts, and dry wheat bran with a good quality of timothy hay should be a fairly good ration, while this looseness lasts. He should be watered often. Give him a teaspoonful of subnitrate of bismuth, and a tablespoonful of powdered charcoal at a dose in feed three times a day.

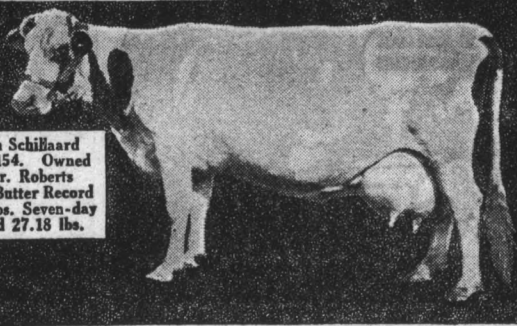
Constipation—Acute Indigestion.—I have a calf that has been troubled more or less with constipation ever since it was born. It is now seven weeks old and had an attack of indigestion, causing so much bloating that I punctured it in left flank, midway between the last rib and point of hip. The operation was successful, but the wound has not yet healed. Is there much danger of blood poison; furthermore what had I better apply to help heal the wound? T. C., Hanover, Mich. Paint edges of wound with tincture of iodine and dust on boric acid; also apply oakum and a bandage. When the operation was performed, you should have shaved off hair, painted skin with tincture iodine and thoroughly sterilized the instrument. Very little danger of blood poison.

Split Hoof.—I have a two-year-old colt, unbroken, still running in pasture but right hind hoof is split on side and has been in this condition for the past 60 days. Will you kindly tell me what to do for her? M. C., Branch, Mich.—First of all the colt should be handled, the edges split, portion of hoof thinned, the rear part of hoof lowered and hoof separated at coronet at right angles to crack, in order that the hoof may grow down solid, instead of in two parts. Apply any one of the commercial hoof ointments that are regularly advertised in this paper to stimulate a more rapid and healthy growth of horn.

Indigestion.—Both of my mares are thin and somewhat out of condition. One of them has had three attacks of colic, at which time she seems to lose her appetite. J. W. B., Levering, Mich.—Are you feeding your mares enough nutritious and laxative food? Mix together one part powdered sulphate of iron, two parts bicarbonate soda, two parts ginger, two parts powdered charcoal and three parts ground gentian and give them each a tablespoonful at a dose three times a day. They should each have a small amount of salt daily.

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DORR D. BUELL, Elmira, Michigan.

FOR SALE—Registered Percheron Stallions, Mares and Fillies at reasonable prices. Inspection invited. F. L. KING & SON, Charlotte, Mich.

The Fairfield Stock Farm, Percheron and Belgian horses, Shorthorn Cattle and Oxford Down sheep. H. B. Peters, Carland, Mich.

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FOR SALE Stallion colts by Imposant—79403 (78855) weight 2340 lbs. From mares as good. Ages from two months to three years old. As you can find any where. Chas. Osgood & Sons, Mendon, Michigan.

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Before you buy any more fence, write for facts about our 26-inch ECONOMY HOG FENCE at 14 3/4¢ per rod. Many other styles and prices. **Keystone Steel & Wire Co. 5904 Industrial St. PEORIA, ILL.**

Milk and Public Health

By FLOYD W. ROBISON

MILK occupies a position in the food of the race of very unique importance. We are concerned more, because of this, perhaps with the healthfulness of the product than with the wholesomeness of any other single food product. It is not at all difficult to understand why this should be so. If there is any time in the life history of an individual that special precaution and great protection should be thrown around the individual it is during the early stages of his life when he is entirely unable to take care of himself. The human infant is perhaps of all creatures the most helpless during the early stages of his life and he is entirely susceptible to any abnormalities of diet. Depending as he does sometimes entirely, and in every instance at least partially, upon the product of the dairy cow during the stage of his life when he is particularly susceptible to environment, it becomes imperative that the condition of the food supply upon which he is compelled to subsist should be scrutinized with great care.

As the product, milk, under correct conditions, is the most perfect food at his disposal and an absolute necessity for his sustenance, just so great becomes its menace to health if it is contaminated or has become subject to infection of any sort.

How Could we Get Along Without Cow's Milk?

Due to the peculiarities of our civilization very few children are reared completely without subsisting in part upon the products of the cow, this foster mother of the human race. What we should do in the absence of the dairy cow it is exceedingly difficult to imagine. We get something of an idea of the dilemma the human race is in when we appreciate the consternation caused by any shortage of milk in any of the large industrial centers.

Milk is used during infancy and early childhood almost constantly. During the first ten years of a child's life milk is practically one of the very essential and regular items of its diet.

Tuberculosis is a Man-made Disease.

It seems that during the transition period from the allowing of stock to roam at large on the plains and large ranches and larger farm units to the time when they are housed in well lighted, carefully ventilated barns, there has been a period of the stabling of the domestic animals which has been exceedingly prejudicial to the health of the animals. This period has been responsible for tremendous inroads due to one disease alone, namely, tuberculosis.

Tuberculosis Can be Banished from a Herd.

There was probably comparatively little tuberculosis among animals when they were allowed to roam at will on the plains and ranches. There is comparatively little tuberculosis at the present time in modern, well-lighted dairies. But in the same dairies where the housing conditions are imperfect; where facilities for quartering and detaining diseased animals are not at hand, tuberculosis has made some fearful inroads. Much of the progress of this disease has been possible through a lack of knowledge on the part of the dairyman of its existence and likewise lack of any information as to the proper way to combat the same. Whether or not it is significant, it is at least worthy of note that the most common disease of the dairy stock is this disease which has caused the greatest consternation among human beings.

Tuberculosis is a disease of a peculiar transmissible type. It is not a normal parasite of the human or animal body. Once introduced, however, it finds in the animal body admirable conditions for its future development, and its transmissibility through the

medium of milk, although bitterly denied by many scientists, is now generally accepted as a proven fact. As living animals and human beings are the customary hosts of this disease we may be prepared to understand that it is through these two sources that most of the opportunity for the propagation of the disease comes.

The Eye is not a Safe Judge from External Appearance.

It is not always easy to detect with the eye an animal affected with tuberculosis. The dairyman has at his disposal, however, a method which is practically perfect as far as the detection of this dreaded disease is concerned and while at the present time it is only the especially inspected herd which is guaranteed free from this disease, the time is coming, and coming rapidly when it will become necessary for all dairy cows to stand this tuberculin test before their milk will be permitted to be sold for human food.

Supervised Pasteurization is a Safe-guard.

There is one adjunct which at present will be permitted but should be performed, as we have said before, under very rigid supervision and that is the pasteurization of the milk, which if carried out properly and conscientiously will remove the danger of the transmission of this disease. But as a people we are coming more and more to the desired point of having our products in the first instance free from any infection or menace to the human health.

The general appearance of animals affected with tuberculosis, is commonly understood to be a general emaciated condition, but to guide himself by this symptom alone is exceedingly unsafe as apparently the animal body, if the disease is sufficiently slow in its progress, is capable of adjusting itself until much harm may be done before the disease is noticed by the external appearances of the dairy cow. Of course, it is exceedingly possible that an animal may be in rather advanced stages of what we may call pulmonary tuberculosis without actually having elaborated any milk which itself contains the germs. Likewise, inasmuch as it is exceedingly difficult to detect with certainty the presence of the organism, tubercle bacillus, in the milk, it certainly is not within the bounds of safety to wait for the laboratory diagnosis from an analysis of the milk.

Scientists have Differed Regarding the Transmissibility of Tuberculosis.

The fight against tuberculosis in the dairy stock has been a prolonged one and a rather bitter one. Certain physiological chemists have maintained for some time that milk from tuberculous animals could not be fed with safety to human beings, particularly to children. Other chemists and bacteriologists have persistently denied that it was possible to transmit from the animal body to the human body the germs of this disease or at least to transmit the disease in this way; some maintaining that the tuberculosis in human beings followed the activity of a different type of organisms than those in dairy cows. But since it has been discovered that many germs have a wonderful capacity for adapting themselves or adjusting themselves to the peculiar conditions under which they are placed, much of the opposition has been abandoned and it is now quite generally conceded, in fact, we may say popularly conceded, at the present time that there is certainly great menace through the consumption by infants and even by adults, of milk from tuberculous animals.

Farmers Have Not Had Faith in Test.

One great difficulty with rapid progress in securing the elimination of this disease from dairy stock has been the reluctance of the dairyman to con-

sent to a test of his herd which might result in the destruction of many of what he supposed to be his best animals. At first instance this seems peculiar, that any dairyman could be so oblivious to the proper appreciation of the conditions at hand as to insist upon selling milk from an animal infected with tuberculosis. Many farmers have hesitated to have their stock tested for tuberculosis fearing the result of the test. We believe this is not due to the desire on the part of the dairyman or farmer to sell milk to consumers from diseased animals. As proof of this we can cite many, many instances from definite knowledge where farmers have observed an animal to be in ill health, they have been the first ones to reject the milk from that animal.

It is not a callousness on the part of farmers and dairymen although we may readily see that the result of the testing of the stock may have dire financial consequences to the dairyman; but we feel sure that it is not on account of this that he has hesitated so long to have his stock examined but through a lack of confidence on the part of the dairyman in the results of the test. He has not been convinced that stock which to him has every appearance of health could possibly be diseased and he has not been at all willing to permit the destruction of stock of this type merely because under certain conditions temperature reactions have been obtained in the diagnosis of the disease. So that instead of blaming the farmer or the dairyman we feel that those responsible for the origination of the methods of the detection of the disease have not taken the dairyman sufficiently into their confidence in the matter.

The Diagnosis has not Always been Correct.

Very frequently physicians and veterinarians make an incorrect diagnosis of a case and they have not been willing to permit the destruction of a herd of cattle simply because the cattle responded to this or that particular test. In this respect we see no reason for condemning the dairyman whatsoever, and we think many public writers and speakers who have seen fit to condemn the farmer in this respect have not taken the various points of view and the various conditions sufficiently into consideration. With the willingness, however, of government and state to compensate the dairyman at least in some degree for his financial loss, he has been made to understand that the state views with grave apprehension the spread of this disease, and while the state is willing to step in and offer to share with the dairyman his loss, they are then talking in a language which convinces the dairyman of the extreme importance of the matter. We think it is not desirable that the full value of dairy stock be paid where condemned because this would furnish no special inducement to the dairyman to so house and care for his stock that this disease may be eradicated or prevented at once, but it is well to recompense him to some extent, or at least to a sufficient extent to show that the state is so convinced of the desirability of the stand it is taking that it is actually willing and anxious to pay money, and a substantial sum of money at that, to assist him in eradicating the disease from his herd.

The Practical Way is the Shortest Route.

Enough attention has not been given to this subject directly along these lines but in our judgment it is the line of procedure to be followed to secure results in the shortest time and with the effective co-operation of the farmer and dairyman. When the dairyman realizes an animal infected with tuberculosis not only is making the product which he sells unsafe and a menace to health, but that the presence of this animal in his herd is an infection center for the whole herd, he then becomes exceedingly anxious that the test for the detection of tuberculosis should be performed, and when the state is willing to step in and pay this expense, little difficulty is experienced in accomplishing the desired result.

Grange.

Our Motto:—"The farmer is of more consequence than the farm, and should be first improved."

STATE GRANGE OFFICERS.

Master—John C. Ketcham, Hastings.
Overseer—C. H. Bramble, Tecumseh.
Lecturer—Dora H. Stockman, Lansing.
Secretary—Jennie Buell, Ann Arbor.
Treasurer—Frank Coward, Branson.
Executive Committee—C. S. Bartlett, Pontiac; Geo. B. Horton, Fruit Ridge; J. W. Hutchins, Hanover; W. F. Taylor, Shelby; Wm. H. Welsh, Sault Ste. Marie; N. P. Hull, Dimondale; Burr Lincoln, Harbor Beach.

HOLD GOOD CONVENTION.

Representatives of Oceana Granges met in convention recently at Pentwater. The location was not convenient, but the hearts of the patrons there are always warm, and they know how to entertain their sisters and brothers in a manner to make them forget how far they have come, or the labor of going back. Worthy Master Ketcham's good circular regarding a Grange revival was read in full, as I trust it was at many such gatherings.

The delegates to the State Grange meeting were elected and the convention passed some very good resolutions. A resolution, well worded, favoring the Torrens System came first. One for the tonnage tax was also passed. Another, favoring investigation of "The Income Tax," as adapted to Michigan conditions, was also passed. A strong resolution pledging the Granges of the county to do all they can to make Michigan dry, and to use their best efforts to defeat the so-called "Home Rule amendment," came last, and all were passed without opposition.

Bro. Robert Walton of Heart Grange, was called for and gave a good talk. He said the need of the hour is for a better market for the people on the farm. The commission men, he said, were co-operating in the cities to prevent direct selling. But we must go ahead and solve the great problem of distribution. We must find a shorter road from the producer to the consumer.

He regretted that a few of our Granges were very weak. He urged all to do their uttermost to keep each Grange in line, doing its work for the good of all.

Next year the convention will meet at Hart. The next meeting of Oceana Pomona will be with Oceana Center Grange, in November.

W. F. TAYLOR.

AMONG THE LIVE GRANGES.

A Good Attendance recently at Pomona Grange meeting, over 100 members of the Grange enjoying the hospitality of Evans Grange. The meeting was a most profitable and pleasant one and the addresses by State Master Ketcham, of Hastings, E. R. Cochran, of Courtland, and the president of the Kent County W. C. T. U. were much enjoyed. Resolutions were adopted and favored the stand of the State Grange on the so-called "Home Rule" amendment in which they score the stand taken by the promoters of this amendment very strongly during the afternoon session. H. G. Smith, Kent county's agricultural agent, gave a very interesting talk on how to get better seed and in the evening presented to the Grangers a brief report of what had been done in the state in his line during the past year. The Barnaby Family of Musicians from Bowen Center were greatly appreciated. Mr and Mrs. T. H. McNaughton were elected delegates to the State Grange.

COMING EVENTS.

Gratiot County Pomona meets with Elm Hall Grange at Riverdale on Saturday, November 11. Fifth degree session in the forenoon. Open session in the afternoon. A play, presented by Pleasant Valley Grange during the evening. This promises to be a love feast of good things. Mrs. O. J. C. Woodman, of Paw Paw, state speaker.

Farmers' Clubs

Address all communications relative to the organization of new Clubs to Mrs. J. S. Brown, Howell, Mich.

FARMERS' CLUB FAIRS.

Washington Center.

More than 200 attended the Washington Center Farmers' Club Fair and chicken-pie dinner October 12 at Sunny Slope, the home of Mr. and Mrs. B. S. Gilman.

The exhibits were on display at the Town Hall. The display of fruits, vegetables and poultry did not come up to the standard of former years, yet the collection was better than expected. What was lacking in that line was made up in the line of fancy work which filled the full width of the hall. Mr. Lindenman and O. L. Smith could not be present as was expected, but after the dinner hour the crowd was well entertained by songs from the Daggett School, and readings by Mr. Ackley and Franklin, and Messrs. Lee Morrison, and Kiesling. A vote of thanks was given to those who kindly entertained us. The program was closed by all joining in singing the Star Spangled Banner.

Columbia.

The October meeting of the Columbia Farmers' Club, held at Mountain Ash Farm with Mr. and Mrs. H. J. Peterson, was one of much interest. This being the annual fair many beautiful articles of needlework were displayed by the ladies, including the prize crocheted bed spread displayed at the Jackson Fair, also embroidered baby dress, fancy slippers, fine specimens of tatting in various articles, and other work that caused much admiration. The men's exhibit was rather small compared with the ladies.

C. B. Cook of the M. A. C., brought much enthusiasm to the meeting, and the fact of his making a fast drive from Jackson, after missing his train there, carried added appreciation of his part in the day's program. He spoke along the line of Farm Extension work, saying: "The people that are not organized are the victims of those that are, rural America must organize. There is a deep seated unrest in the country. The extension work is increasing and will solve many of the rural problems." The small town of Memphis, Michigan, was cited as an example of organized effort that benefited both town and country. Every community should develop the particular product adapted to its individual territory and organize to develop the same.

The need of sanitary plumbing in the country homes is one of the greatest importance, through the efforts of the Farm Bureau, the cost has been reduced to a moderate rate and the septic tanks installed through their direction are proving very satisfactory. O. E. Robey, of the College, has this line of work in charge. He thought the retired farmers, instead of moving to town and often times not doing their share to build up the same, ought to make the rural home all that it is possible for the town home to be.

He touched on the benefit of vetch as well as alfalfa as a soil crop, and said in closing that Michigan ought to come up to her neighbor state, Wisconsin, in the matter of rural organization. The state is paying \$20,000 for her share of extension work.

After an enjoyable dinner was served, Sumner Ladd spoke briefly on the two amendments to be voted on and the company sang the Club song, "Michigan, My Michigan," composed by Dr. E. N. Palmer. In spite of the stormy day, all expressed themselves as having spent a pleasant and profitable meeting, the only regret being the illness of the hostess, who could not enjoy the company.

MILK AND PUBLIC HEALTH.

(Continued from preceding page).
Better Prices, Adequate Inspection
Makes Milk Safe.

We say, therefore, that within a comparatively short time, through a public appreciation of this whole problem, it will be possible for consumers to feel absolutely secure insofar as the perfect healthfulness of the product, milk, is concerned, and now with the advent of more reasonable prices to the farmer for milk and its products, with the probability that the farmer and dairyman will receive nearer the compensation he should receive, we can see no reason why the consumer should not receive a very pure, clean, safe and high-grade milk as his proper right.

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FOR dropping a bighorn across a canon, or stopping a charging grizzly—range, precision and penetration combined with quick, positive action are the qualities that have made these rifles famous.

Remington UMC High Power Autoloading Rifle—Five shots, (simply press trigger for each shot), solid breech; hammerless; positive safety devices; take-down simple and easy without tools.

Remington UMC High Power Slide Action Repeater—the only big game arm of its type—Six shots; solid breech, hammerless, magazine ensuring compactness, balance and absolute safety.

Big game hunters place more responsibility upon their arms than any other sportsmen in the world. The prestige of these two Remington UMC High Power Rifles with this group of critical sportsmen is significant—and each open season shows a steady increase in the number of men who shoot these modern rifles.

Clean and oil your gun with REM OIL, the combination Powder Solvent, Lubricant and Rust Preventative.

The Remington Arms Union Metallic Cartridge Company
Largest Manufacturers of Firearms and Ammunition in the World
Woolworth Building, New York

Canadian Wheat

to Feed the World

The war's fearful devastation of European crops has caused an unusual demand for grain from the American Continent. The people of the world must be fed and there is an unusual demand for Canadian wheat. Canada's invitation to every industrious American is therefore especially attractive. She wants farmers to make money and happy, prosperous homes for themselves while helping her to raise immense wheat crops.

You can get a Homestead of 160 acres FREE and other lands can be bought at remarkably low prices. Think of the money you can make with wheat at its present high prices, where for some time it is liable to continue. During many years Canadian Wheat fields have averaged 20 bushels to the acre—many yields as high as 45 bushels to the acre.

Wonderful crops also of Oats, Barley and Flax. Mixed farming is fully as profitable an industry as grain raising. The excellent grasses full of nutrition are the only food required either for beef or dairy purposes. Good schools, markets convenient, climate excellent.

Military service is not compulsory in Canada, but there is an extra demand for farm labor to replace the many young men who have volunteered for the war.

The Government this year is urging farmers to put extra acreage into grain. Write for literature and particulars as to reduced railway rates to Superintendent Immigration, Ottawa, Canada, or

M. V. McINNES,
176 Jefferson Ave. Detroit, Mich.
Canadian Government Agent.

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Made Easy—\$35 to \$50 buys this wonderful

Ditcher Terracer

Will prevent crop failures. Cuts V-shaped ditch, cleans old ditches, remarkable dirt mover. Does work of 50 to 100 men. All-steel. Reversible—throws dirt either side. Adjustable for narrow or wide cut.

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in every county to sell our big line of goods direct to farmers. Experience not necessary. We fully instruct you. Farmers, laborers, mechanics or any men willing to work can make

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YOU raise Guinea Pigs—more profitable and easier produced than squabs or poultry. I will start you. Questions gladly answered. P. L. Ward, Hillsdale, Mich.

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OUR PRICE ONLY \$3.25

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Michigan Farmer, wky., 3 yrs. \$1.25
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Ladies' World, mo., 1 yr. 1.00
Am. Poultry Advocate, mo., 1 yr.50
Every Week, 1 yr. 1.00

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Reserve Your Intended Purchases

Having Sold Our Farms, We are Obligated to Dispose of All Stock and Implements.
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Several good A. R. O. cows and several fine heifers in calf.

One 4 yr. Old Herd Bull, A. R. O. 24.15 lbs.

A dozen or more High Class Grade Cows.

Three Fine Matched Teams of Horses.

The Grade Cattle will be sold first day, the thoroughbreds and horses the second day.

ROUGEMONT FARMS,

Farm on Beech Road, 1 mile north of Beech Station on P. M. R., 16 miles west of Detroit, 3 miles from Redford on Electric Line.

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One 4 unit B. L. K. Milking Machine, Three Gasoline engines, Two double gang riding plows, 700 lb. Sharples Separator, One Blacksmithing outfit, and a hundred other items, all overhauled and in the best working condition. Sale begins 10 A. M. each day.

All goes to the highest bidders. No reservations. One year's time at six per cent on approved notes. Send for illustrated catalogue.

H. M. Ferry, Proprietor.

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Offers Two Young Holstein Bulls

No. 1. Sires three nearest dams average 30.618 lb. butter from 658.1 lb. milk in 7 days. Dam's record: 19.204 lb. butter from 360.1 lb. milk; her dam a 26.5 lb. Jr. 4 yr. old daughter from a 27 lb. cow. Born January 19, 1916.

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R. B. McPherson, Howell, Michigan

AUCTION SALE Jersey Cattle

At Avondale Stock Farm

One mile East of Wayne, on Michigan Ave. **Saturday, Nov. 18,** commencing 2 o'clock p. m. 9 Jersey cows, fresh or about to be fresh, every one of these cows are producers. Terms cash.

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

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Aberdeen Angus Bulls For Sale

12 head of choice young bulls old enough for service. All sons of Black Monarch 3rd. Grand Champion Bull Michigan State Fair 1914, 1915 and 1916. Black Monarch 3rd has been sold to W. E. Scripps, Wildwood Farms, for the record price of the Breed in Michigan, \$1200, U. L. Clark, Hunters Creek, Mich. Sidney Smith, Mgr.

NOTICE: The first check for \$35 takes a 50% white, 10 lb. 3 yr. old dam. Write **W. C. HENDEE & SON, PINCKNEY, MICH.**

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Berkshires. Of various ages, either sex, open or bred, price. Elmhurst Stock Farm, Almont, Michigan.

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A choice lot of spring pigs, both sex, pairs and trios, not akin. Prices reasonable. Send for pedigrees. **THE JENNING'S FARMS, R. F. D. 1, Batley, Mich.**

Heavy Boned Duroc Jersey Boars

March and Apr. farrow, weighing 200 to 250 pounds will be sold as cheap as any man can sell first class stock. M. A. BRAY, Okemos, (Ingham Co.) Mich.

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FEMALES---FOR SALE---FEMALES

25 Head Registered Holsteins

Many with A. R. O. records, some up to 23 lbs. Mostly 2 to 5 years old—a few yearlings. No better breeding anywhere. From Granddams of: King of the Pontiacs, DeKol 2nd., Butter Boy 3rd., and King Segis. Will be sold at auction prices. Send for list.

Bigelow's Holstein Farms

Breedsville, - - - Michigan.

Duroc Jersey Herd Boars

Special Offering of High Class Fall Boar Pigs. Breeding and Individuality good enough for breeders who appreciate the best.

Also some good farmer's boars. This is the best lot of fall pigs we have ever had to offer. A cordial invitation is extended to visit the farm and inspect the stock. If you wish one of the best young Jersey bulls in Michigan we have him for sale. For further particulars, address,

Brookwater Farm, Swine Dept., Ann Arbor, Mich.

DUROC JERSEYS Choice pigs sired by Brookwater Cherry King 47586 ready to wean. Priced right. J. Robert Hicks, St. Johns, Mich.

Duroc Jersey Boars Two June 1915; 12 April 1916. Write for description. I guarantee satisfaction. J. H. Banghart, East Lansing, Mich.

For Sale, Duroc Jerseys, choice breeding spring pigs either sex. Prices right. John McNicoll, Station A, R. 4, Bay City, Mich.

DUROC JERSEYS: A nice bunch of Spring Glits, also of the breed. Jo Orion II, Perfect Top Col., Oakland Ohio Chief, Principle IV & Model Pal. Newton Barnhart, St. Johns, Mich.

Duroc Jersey Boars of the large, smooth big boned type. E. D. Heydenberk, Wayland, Michigan.

Duroc Jerseys Big Type Boars with breeding and prize winning stock, prices reasonable, satisfaction guaranteed. F. J. DRODT, R. 1, Monroe, Michigan.

DUROC Jerseys. Spring boars from the most noted sires of the breed. Jo Orion II, Perfect Top Col., Oakland Ohio Chief, Principle IV & Model Pal. Newton Barnhart, St. Johns, Mich.

Durocs Fall yearlings, boars and glits, weight 200 lb. \$30 to \$35. Some good spring stuff at \$25, weight 175 lb. H. G. KEESLER, Cassopolis, Michigan.

Duroc Jerseys If you want fall pigs don't forget to write to S. C. STAHLMAN, Shepherd, Michigan.

Choice Duroc Boar Cheap if taken at once. F. E. Eager & Son, Howell, Mich.

Duroc Boars and Delaine Rams of choice breeding at reasonable prices. Carey U. Edmonds, Hastings, Mich.

MARSHALL Herd of Durocs offers ten stretchy 200 lb. March boars and glits at \$25 each for next 10 days. C. Burlingame, Marshall, Michigan, R. 4.

Duroc Boars: Defender; Cherry King; King The Col; Hoosier families. All ages, all weights; Plenty of bone. Orlo. Dobson, Quincy, Mich.

Duroc Stock hogs. Spring glits, tried Sows, August Pigs. Percheron Stud Colts. E. J. ALDRICH, Tekonsha, Mich. R. 1, Bell Phone.

Duroc Boars, A fine lot of spring boars bred right and priced right. W. C. TAYLOR, Milan, Michigan.

Big Type Boars: ready for service Bred Glits—Fall Pigs. Registered in buyers name, shipped C. O. D. Prices very reasonable. J. Carl Jewett, Mason, Mich.

O. I. C. Serviceable Boars shipped C. O. D. Registered in purchaser's name. H. W. MANN, Dansville, Mich.



I HAVE started thousands of breeders on the road to success. I can help you. I want to place one hog from my great herd in every community where I am not already represented by these fine early developers—ready for market at six months old. Write for my plan—More Money from Hogs. G. S. BENJAMIN, R. F. D. 10, Portland, Michigan

CHESTER WHITE March pigs either sex. Booking orders for Sept. 1 pigs. 2 year old sows farrowed 9 pigs Sept. 5. Herd boar is 2 yr. old. Ship C. O. D. W. A. Sney, Mt. Pleasant, Mich. R. 4.

CHESTER WHITES Some splendid March boars for sale, also fall pigs. F. W. ALEXANDER, Vassar, Mich.



O. I. C. and Chester White Swine, all ages. A few service Boars and open glits, 400 fall pigs either sex, sired by Grandells Wonder, Grand Champion at Ohio State Fair, Schoolmaster the champion of champions and highest prize boar of the breed and others. Get a sow bred to Gullaway Edd Grand Champion Mo. State Fair, we are booking orders. We had the undefeated breeders age herd at six state fairs. Get our catalogue, buy the best it pays, we have them. We ship on approval. Rolling View Stock Farm, Cass City, Mich. R. 2.

O. I. C. Stock all Sold JULIAN P. CLAXTON, Swarts Creek, Mich.

O. I. C. SWINE: If you are interested in you with a choice pair or trio, O. I. C's, let me start you farrow about September first. A. J. GORDEN, R. No. 2, Dorr, Mich.

O. I. C. Choice Spring glits not bred and spring boars. Out of Prize winning stock. Write for low prices. A. V. HATT, Grass Lake, Mich.

O. I. C. Swine and Hog. Holsteins, few boar pigs of May farrow at a reasonable price, quality considered. ELMER E. SMITH, Redford, Michigan.

O. I. C. HOGS Fine April Glits and Males. Pairs no relation. At a bargain if taken at once. J. R. Way, Three Rivers, Mich.

O. I. C's. 4 last fall boars big growthy ones, also last spring pigs either sex, not akin. Farm 3 1/2 mile West of depot. Otto B. Schultze, Nashville, Michigan

O. I. C. & Chester White Strictly Big Type. April boars large enough for service, also have May boars that are good ones. Can furnish in pairs not akin. Have been breeding the big type for 15 years. The kind that fill the pork barrel. Newman's Stock Farm, Mariette, Mich. R. 1.

O. I. C's. 14 choice young boars ready for service. Cloverleaf Stock Farm, Monroe, Mich. R. No. 1.

O. I. C. Serviceable boars of the big type at reduced prices for the next thirty days. G. P. ANDREWS, Dansville, Michigan

O. I. C. Year old boar 2nd prize winner at Grand Rapids fair also spring glits and boars ready for service. A. J. Barker, Belmont, Mich. E. R. 1

FOR SALE Thoroughbred O. I. O. Swine, sows bred, glits and boars. O. D. Somerville, Grass Lake, Mich. R. 2.

O. I. C's Service boars and glits. Price reasonable. Satisfaction guaranteed. Ship any day. A. R. GRAHAM, Flint, Michigan

O. I. C. or Chester White Swine, both sex, not of kin. Write for catalog and prices. E. B. MILETT, Fowlerville, Michigan.

O. I. C's. Have only a few boars of May, June and Sep. farrow. G. J. THOMPSON, ROCKFORD, MICH.

Big Type Poland Chinas Spring boars, at reasonable prices. Order soon to save express. A. A. WOOD & SON, Saline, Michigan;

Francisco Farm Poland Chinas

Big Types With Quality
Ten 200 lb. Spring Boars from prize winning stock. They're long, strong, big-boned, rugged fellows. Pictures, circular and price list on request. P. F. POPE, MOUNT PLEASANT, MICH.

Large Strain P. C.—Two nice fall Glits to farrow in Aug., Sept. and Oct., get one of these sows with pigs by side. H. O. SWARTZ, Schoolcraft, Michigan.

AT HALF PRICE
Genuine big type Poland China Hogs, Bred Sows, Spring Pigs, Boars ready for service. Special, the best big type fall yearling boar in Michigan. Also registered Percheron Stallions and Mares. J. C. BUTLER, Portland, Mich., Bell Phone.

FOR SALE: Poland China boars ready for service. A few high scoring Black Minorca cockerels, will make large birds. Satisfaction Guaranteed. R. W. Mills, Saline, Mich.

Large Type P. C. Largest in Mich. Young boars ready for service. Of Mar. and April farrow, from large litters, weighing up to 275 lbs. Come and see, expenses paid if not as represented. W. E. LIVINGSTON, Parma, Mich.

BIG TYPE POLAND CHINAS

All ages. Our herd sire was Champion and Grand Champion at the State Fair last fall. Our sows are great big stretchy, splendid individuals with best breeding. Pigs from such matings will please you. **HILLCREST FARM, Kalamazoo, Michigan.**

For Sale Poland Chinas either sex, all ages. Something good at a low price. P. D. LONG, R. F. D. No. 8, Grand Rapids, Mich.

BIG TYPE POLAND CHINA Spring boars that will please you, priced right. G. W. HOLTON, Route 11, Kalamazoo Michigan.

For Big Type P. C. Spring Boars and Glits bred for Armstrong Bros., R. 3, Fowlerville, Mich.

WALNUT Alley Herd, Big type Poland Chinas headed by Hadley Desmoins No. 210925 and Smothe Jumbo Jr. No. 248887. Sows represent blood of two A wonders. Pigs of either sex ready. A. D. Gregory, Ionia, Mich.

Big Boned Poland China boars shipped C. O. D. call or write for photo, weights, pedigree and price. E. R. Leonard, St. Louis, Michigan.

Large Stiled Poland China spring and fall pigs also Oxford sheep. Prices right to quick buyers. Robert Neve, Pierson, Mich.

Poland Chinas. Big and medium type and large litters. They have good bone and length, well quartered. L. W. Barnes and Son, Byron, Mich.

BIG Type Poland Chinas. The smooth, easy feeding kind that will grow big and get fat. Apr. pigs weighing up to 225 lbs. E. H. Moore, Ransom, Michigan.

Poland Chinas. As big and good as grow, either sex. You win if you buy from Robert Martin, R. 7, Hastings, Mich.

BIG Type P. C. Three extra good yearling boars, good B1000 lb. prospect. Sired by Big Type King our 1000 lb. boar. Spring pigs either sex. Special three Mouw breed boar pigs. W. Brewbaker & Son, Elsie, Mich.

Large type P. C. Sows and glits all retained for my Feb. Sale. A few choice Spring boars ready to ship. W. J. HAGELSHAW, Augusta, Michigan.

Big Type. P. C. Boars. Big boned husky fellows. Special extra good yearling herd boar Iowa bred. E. J. Mathewson, Burr Oak, Mich.

Hampshire Swine. Bred Sows and glits for August and September farrow. Bred for spring sex both. FLOYD MYERS, R. No. 9, Decatur, Ind.

HAMPSHIRE Boars, sows, glits and pigs. Choice stock A. E. BACON & SON, Sheridan, Michigan.

GROWTHY THE DISEASE PROLIFIC "MULEFOOT" RESIST- PROFITABLE HOG ING

FOUNDATION STOCK FROM BEST BLOOD OF BREED THE CAHILL FARMS KALAMAZOO - - - MICHIGAN

HAMPSHIRE HOGS Only a few spring boars left. Taking orders for bred glits. John W. Snyder, R. 4, St. Johns, Mich.

Hampshire Hogs A few spring boars old enough farrow and open tried sows and glits. Winning blood lines. Jos. E. Miehler, R. 3, Shipshewana, Ind.

Halladays' Hampshire Swine Both sexes, all ages. Prices reasonable. O. H. Halladay & Son, Clinton, Mich.

Yorkshires For Sale Boars from large early farrowed litters. Waterman & Waterman, Meadowland Farm, Ann Arbor, Mich.

SHEEP

Hickory Knoll Rambouillets For sale two good young stock rams. A. E. GREEN, ORCHARD LAKE, MICHIGAN.

Breeders' Directory—Continued on page 471

A CAUSE AND ITS EFFECT

*An observation of interest to owners
and prospective owners of motor cars*

TO start with a clearly defined purpose and to pursue that purpose with an unwavering determination and an intelligence, born of experience, is to insure ultimate success.

The paths of business are strewn with the remains of those who have failed to recognize the importance of this fundamental.

The history of business is replete with obituaries of those who started to go, knowing neither where nor how.

The Maxwell Motor Company was founded to build a certain type of motor car; to build it just as well as experience, money and human ingenuity would permit, and then to produce it in large volume so that a low price could be possible.

The Maxwell Motor Company has worked ceaselessly to this end. Every part of our plan has been rigidly enforced. No available resource that could aid in the achievement of our purpose was overlooked.

The dominant, underlying note in the policy of our company has been, and always will be, to build a motor car of honest materials and by honest methods. We know that merit and value make the only permanent foundation for our structure of success.

Merit and value imply comfort, an attractive design, an efficient motor, a sturdy chassis, the use of the best materials, complete equipment of tried accessories and economy in first cost and aftercost.

Each one of these qualities is part of the Maxwell Car. We do not put forth any one of them as a compelling

reason why the Maxwell should be the car of your choice.

We are selling motor cars—complete motor cars—and consequently do not base our appeal on motor speed or power, wheelbase, bulk, weight or lack of weight, appearance or any other single feature.

For example, the Maxwell engine, per pound of weight to be moved, is the most powerful automobile engine in the world. But we do not sell you a car on that account alone. We sell you because the Maxwell has every desirable feature—among which power is but one.

We hold that our manufacturing and selling policy is right. In proof thereof, we point to our record of accomplishment, which is nothing short of phenomenal.

Since the founding of our company, three years ago, we have doubled our output annually; we have improved our car constantly and three times we have reduced our price.

Having behind us the tremendous value of public good will, an organization of dealers and distributors that is second to none and an improved product that is making good in a big way, we will build (entirely in our own factories) and sell this year, 125,000 automobiles.

We are proud of our record. It is something rightly to be proud of. Things do not simply happen. There is always a reason for such an unusual success. Feeling certain that our plans and policies are correct, we will continue to follow them as faithfully as in the past.

Nathan E. Haundus

President

Roadster, \$580; Touring Car, \$595; Cabriolet, \$865; Town Car, \$915; Sedan \$985.
All prices f. o. b. Detroit. All cars completely equipped, including electric starter and lights.

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