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Small Fruit for the Average Farmer.

By CHARLES B. COOK.

MY experience with the small fruit business and also with the attitude in general which the average farmer takes towards this subject, leads me to believe that the less they can do with this branch of farming the better they are satisfied. Be that as it may, the average farmer does not have the variety of small fruits on his table that is his family's due, nor could he invest a few hours each summer to better advantage than in a line of this kind where a small area carefully planned and executed properly can be made to pay a much larger revenue per acre in satisfaction and comfort than any other piece of land of like area on the farm.

A good fruit and vegetable garden not only takes a comparatively small amount of time in proportion to its value, but an excuse in this line often stands between the family and some purchased material of this type for the simple reason that "we have a garden of our own."

Some members of many farm families have time that can be used to advantage in some line of garden work if they are given a little encouragement. Work in the small fruit garden is usually very fascinating if efficiently done. A small tract of land made rich and receptive to good varieties of small fruit and protected from the intrusion of poultry and other farm stock becomes a great item of delight as well as pecuniary value to the farm family.

Fruits are much cheaper and far more sanitary than drugs and while the American people are becoming celebrated as habitual dopers it is not a line that is solving the problems of life more than to emphasize the crying need for a better balanced ration for the average family. Fruits are among the most healthful articles of diet that can be produced anywhere and where grown at home they come to the table in the best possible condition if we do our part. Under the present system of canning fruit by the cold pack method so thoroughly and practically worked out by Prof. Benson, of the Agricultural Department at Washington, for the home at a nominal expense, fruits of this kind can be

had in the best possible condition every day in the year, and extra material can be worked up for the home market to splendid advantage. Many homes in all parts of the country are demonstrating the value of home canning from the commercial end of the lever and many boys and girls in canning clubs or under the direction of elders in the home are making splendid revenues in this line. The system eliminates waste on the farm, furnishing an enjoyable occupation to the younger members of the family and so teaches them the value of time at

climate that becomes ideally adapted to the small fruit business and fruits of the very highest quality can be grown to perfection.

Starting with strawberries, the Warfield and Dunlop for early, and Aroma as a late variety, will give a lot of high-class berries for a long season. A row of ever-bearing sorts can be set if desired, and berries in the fall of the year can be easily grown. Following this class of fruit, black and red raspberries are popular and well worth while. A lot of good varieties of blackcaps are found on the market

home garden. They cost little, and with a few sprayings at just the right time the worms and mildew can be easily controlled in the home garden for the area is small.

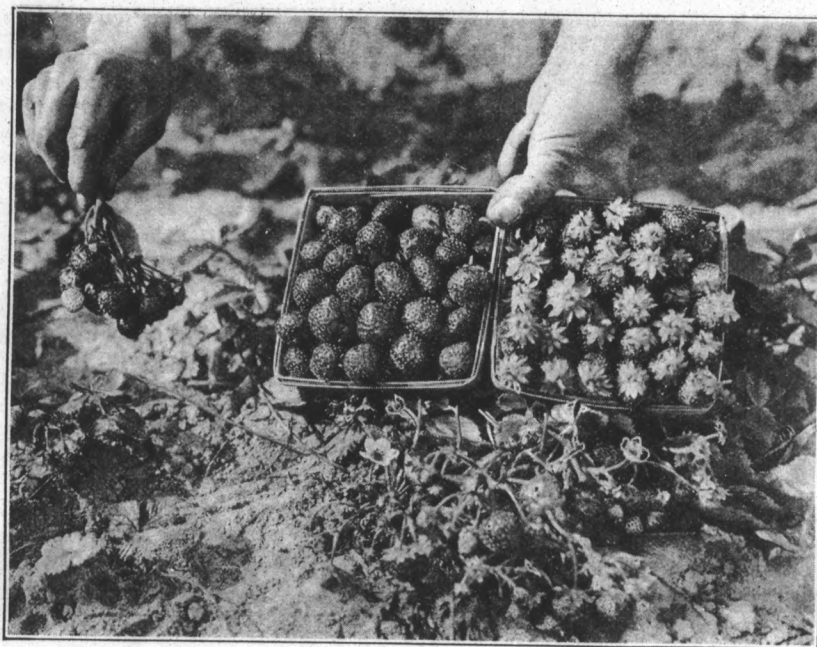
The common varieties so generally sold on the market at this time are to be recommended in general. They all have more or less admirers, so I hesitate to select any special ones in this list.

This whole fruit plant, after having been grown one year, can be heavily mulched down with straw or other coarse litter, and can be maintained with a surprisingly little amount of care, save to see that the mulch is renewed when necessary to keep out grass and weeds, to keep the vines properly trimmed and the fruit picked. This last operation is not a very great hardship as a rule, but in cases where this essential operation is neglected we would advise the operators to go out of this line of business as we fear the fruit plant might be condemned as a failure.

(The twenty-sixth of 52 special articles to be published in consecutive issues.—Eds.)

OUR IDEALS IN FARMING.

Everyone who owns or improves a farm has an idea of how he would like to have that particular farm look, and of the magnificent crops he would like to see growing upon it, of the bountiful supply of choice fruits, vegetables, etc., for family use, and a hundred other things of like character. Accordingly he plans for big crops, plenty of money, a good comfortable living and an improved appearance of his farm and the farm buildings. In a word, he plans to realize his ideals. There certainly is nothing bad in planning for something better than that which we already possess, hence we are always wishing for something better. Sometimes we get it and sometimes we do not. But it is the ones who never plan, and have no ideals in their farming, that are continually and steadily going down hill. It is true that the farmer has to contend with innumerable obstacles that come between him and his ideals.

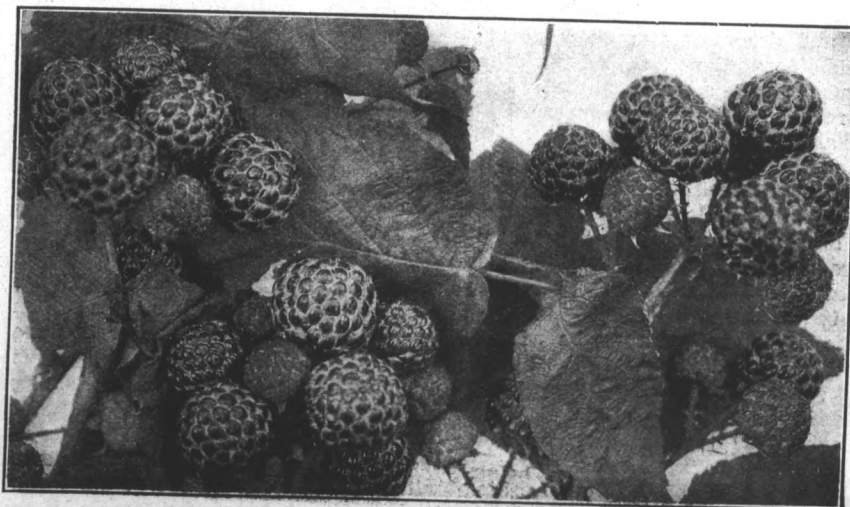
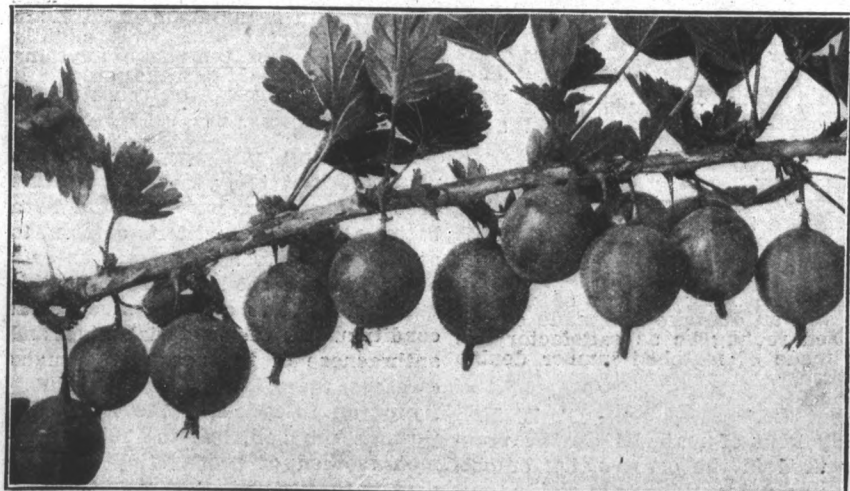


Strawberries Should Have First Place in the Farm Fruit Garden.

an age when good habits of industry well formed are worth a fortune for the work of tomorrow. This system also cuts out the long gap between the producer and consumer and makes it possible to get these home-made products of freshness and quality direct from the soil to the consumer with little expense.

A succession of fruits is always worth while, and only those of high quality should be grown. In Michigan the splendid lake front has made us a

and for reds, I suspect the old-fashioned Cuthbert still holds its own as a favorite with the masses. Blackberries must have a place in this home garden if we would get the best from our efforts and hardy varieties of good quality should be selected. Varieties that appeal to me as worthy of trial are Snyder, Taylor, Ancient Britton, and Eldorado. Many others of special quality for special localities are to be had on all hands. Currants and gooseberries must have their place in the



A Succession of Bush Fruits will Furnish a Healthful Addition to the Dietary and the Surplus May be Made to Pay the Cost of Production.

He fertilizes a piece of ground, gets it in excellent condition, puts in the seed at the proper time and hopes to get his ideal crop. But what happens? The seed fails to germinate, or the frost nips the young plants. Cutworms come along and get their work accomplished in great shape, potato beetles make their appearance, and later comes blight and rot. At the end of the season the farmer finds that instead of his ideal crop, he has one of the poorest he ever grew.

But notwithstanding all these obstacles, we farmers must not get "down in the mouth," but stick to our ideals—even if we never reach them—we will be better off for it some day. It is a very old saying that "he who aims at the sun, although he will not hit it, his arrow will fly higher than if he aimed at something on a level with himself." So it is best for us to form our ideals and do all that we can to realize them. This applies to the general business of farming, the appearance of the farm and its buildings, as well as the growing of crops. Form your ideal of just how you want your place to look and then as you have the means and opportunity get to work and invest in accordance to the plans you have mapped out. There is no greater asset on the farm than originality. Unless you have the ready money with which to hire labor it may be a somewhat slow process, but don't worry about this, do a little this spring, more next fall, and what you can next winter, always keeping your idea in mind and if you never fully realize it, your farm, at any rate, will be much improved and you will certainly be paid in some manner for your efforts.

In forming our ideals they must be based upon good common sense. It is never a wise plan to form ideals which we know we can never accomplish. It has been said, "there is reason in all things," and ideals are no exception to the rule.

If we want to grow good crops, if we want to have a fine thoroughbred herd of cattle, if we want to raise poultry successfully, or any other branch of farming that we want to specialize in, the first and most essential thing to do is to form our ideals and then go about the work cheerfully and it won't be long until we begin to realize that we have been fully paid for the efforts put forth.

Penn.

H. W. SWOPE.

A PLAN FOR DRAGGING LAND.

The first time that a plowed field is dragged, it is a good plan to follow the furrows. After that, in order to work the land down into a good seed bed, one may follow any plan he chooses, but the "herringbone" method is considered by the many farmers who use it to be the most convenient of all.

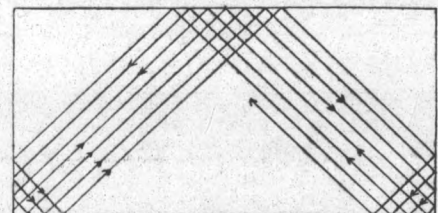
By this method, the dragging is done in a zigzagging direction, diagonally back and forth across the field. Suppose, for convenience of discussion, that a field twice as long as wide and with the greater length extending east and west, is to be dragged. The teamster starts in the southwest corner, and drives to the middle of the north side of the field. At the fence, he turns to the southeast corner. Here he retraces his course, parallel to and a drag-width to the west of the last track made. As this zigzagging is repeated, it will be found that when the work is well started, no turns at any angle greater than 90 degrees will be required. When the work is completed, the field will have been dragged twice.

The same method may be adapted to other shaped fields. If the field is a long one, more zigzags may be introduced so that the angle at which the fences are met is always 45 degrees. If the field is square, or nearly so, a start may be made on the diagonal, always making turns of 90 de-

grees; when the work is finished, the first diagonal travel will become nothing, while the entire length of the opposite diagonal will be traversed.

Among the advantages of this method are the fact that since no about-facing is required, the horses are spared the chafing of legs against tugs. Incidentally, a saving of time results; one man who timed himself on a field dragged back and forth as compared to zigzagging found that the first method took two days while the last took but a day and a half.

Then, too, the field after being dragged in this manner is in condition for



marking out the land for corn, potatoes, etc., to the best advantage, since the diagonal direction of the marks of the drag teeth will retain a line left by the marker, without any possibility of confusion of the two.

It is also claimed by those who have tried the herringbone method that the land along the fence row is put into as good tilth as almost any other part of the field. This is because of the fact that the horses and drag do not need to stop at the fence, and that the drag is bound to slew around at the turns and do more work than would be the case with the back and forth method of dredging.

While this method of dragging is as old as the hills, yet when it was brought up at the Benzie County Pomona Grange, it was surprising to see that not a few old farmers were not familiar with the plan. Attention to such details as this is bound to contribute towards that success which can only be obtained by efficiency in farm operations.

Benzie Co.

E. H. BROWN.

PRESERVATION OF FENCE POSTS.

Those who have not access to the more desirable kinds of fence post timbers, as red cedar, black locust, and osage orange, will find it profitable to treat the poorer species of woods to lengthen their period of usefulness. The cost of cutting and setting of posts is the same whether they are cedar or basswood, so after all, the real cost will depend upon their durability after being set in the ground. According to the experiments completed by the United States Department of Agriculture a few years ago, any fence post properly treated with creosote will last twenty years. Surely, any method as effective as that ought to be worthy of consideration and trial.

Of two methods commonly used one is charring posts in an open fire, and the other is painting them. These are of some value but not sufficiently effective to be worth while.

It has been found on examining untreated timbers that they rot first a few inches above the ground or a few inches below the surface. This is due to the fact that bacteria and fungi or plant organisms that cause decay have here the proper conditions for growth. To live, they must have air, moisture, and food materials. The wood is their food; this can be poisoner and water can be kept out to a certain extent. The best agent for this purpose is a product of coal tar called creosote.

Before the wood is treated with this solution it must be seasoned and the bark peeled off. Timber will season best if cut during the winter because it will dry out more slowly then, thus preventing the splitting and checking of the wood which occurs when it dries out too rapidly. It is also a good idea to bevel the tops of the posts with an axe, for drainage. Round timbers are much better for treating than

split ones because the creosote penetrates evenly. Where the heartwood is exposed as in the latter case the liquid penetrates it more slowly.

The following is the process found to be most effective and economical. The butts are placed in a tank of hot creosote for one hour and then transferred to a tank containing cold creosote, for two hours. This cold bath causes a deeper penetration of the preservative.

Creosote evaporates somewhat when heated, so to lessen the expense crude oil, which does not evaporate readily when heated, has been used for the first bath. The results have been proved to be the same.

The Massachusetts Agricultural Experiment Station have found that the treatment of posts in this way would cost on an average of five cents for each post. At this reasonable price, and with this efficient method, farmers who have only the inferior species of woods will undoubtedly find that it will pay to preserve the posts.

Ingham Co. A. A. SHILLANDER.

FERTILIZING CUCUMBERS.

I notice in your issue of April 17 an inquiry from L. M. H., relative to raising cucumbers, and also advice in regard to same.

When I commenced the business nearly a score of years ago I thought just as you advised about putting a small shovelful of manure in the hill before planting the seed. This I did in the following manner: I first allowed the manure to be thoroughly rotted before using, so as not to have the disadvantage of chunky manure in the hills. I then hauled out a load, and as I dug the holes about a foot deep with my spade, I threw in a small shovelful, worked it well into the soil before planting, and then dropped my seed onto fresh dirt, being careful to give it a good seed bed. I found that this method worked well, providing we had a reasonably wet season; but if the season happened to be dry the plants would flourish well for a time, and then dry out, on account of the moisture having been absorbed by the ground outside the hill. I then tried commercial fertilizer in the same way, and used about a table-spoonful, which I thoroughly mixed into the soil, also using fresh dirt in which to plant the seed. I also found that in a dry season the seed either did not grow, or if started soon died from contact with the excess of potash in the fertilizer. I then replanted, being sure that the hill was outside the old seed bed. Remember that these experiences were during dry seasons. The results would have been far different had the seasons been fairly wet.

I then tried enriching the ground by plowing under a liberal supply of good barnyard manure, and since then have had a fairly good crop even in a dry season, when others utterly failed, and bought their yearly supply from me. I carry on an annual city trade, and my customers speak boastfully of my cucumbers, and often ask me how I can raise them when all others fail.

Now, in regard to the use of hen manure, it must be sparingly used; as the excess of potash will injure the plants, or kill them entirely. It is a splendid fertilizer, but must be used with caution in order to bring good results.

Eaton Co.

J. L. CURT.

FARM NOTES.

Flues for Barn Ventilation.

With the King system of ventilation will an out-take flue made of galvanized roofing be as satisfactory as one made of matched lumber double boarded, with paper between the layers?

Kent Co.

F. L. Y.

Any kind of material can be properly used in the construction of out-take flue for ventilating a stable, providing it is made essentially air-tight.

Where galvanized iron is used for this purpose, it is desirable to make the flue of somewhat larger capacity than would be the case where made of some material which is not so good a conductor of heat, since the cooling of the air during its passage will slow up the air current in proportion to the loss of heat. This handicap can, however, be easily overcome by slightly increasing the capacity of the out-take flue. Galvanized metal is undoubtedly the cheapest available material for the construction of out-take flues, and will give very satisfactory results if properly installed.

Beans After Corn on Heavy Clay.

I have a field of nine acres, clay loam, with the exception of an acre or gravel and half an acre of the heaviest kind of red clay. This was an old timothy sod, heavily manured last spring, put into corn and potatoes. The ground was kept clean and I had a big crop. What I would like to know is, would it be profitable to plow this ground and put it in to beans this spring? I have been told I could not get a crop because ground would pack down so hard. I have another field of about the same soil but not so rich, this was corn also and kept clean. How would it be to cultivate this field and sow it to oats and rape for pasture? If not this, what would you suggest for pasture? And is it best to keep the cows and horses on this pasture all the time? I have six acres of new ground, have used for sheep pasture the last twelve years; this was never plowed, and is a heavy June grass sod. Would you advise beans for this field or corn and potatoes? If not these, what?

Oakland Co.

J. N.

Beans can be planted after corn with fair results on a clay loam soil. Probably the heavy spot in this field would be pretty hard to grow a good crop, although the manure and sod plowed down last year should make it less liable to bake down than if this vegetable matter had not been incorporated with the soil.

Oats and rape will make a fairly good pasture in the other field mentioned, but this would in the writer's opinion, be improved by the addition of some field peas, if sown early in the spring. A crop of this kind will not stand as close pasturing as will a good grass pasture, and much will depend upon weather conditions as to the best method of handling same.

The new land covered with heavy June grass sod would perhaps be more suitable for corn and potatoes than beans, although if plowed early and a first-class seed bed prepared, an excellent crop of beans might be expected. This crop would have the advantage of enabling the sowing of this new ground to wheat this fall. The only reason why the other crops mentioned might do better on this stiff sod is that they have a longer growing season in which to utilize the plant nutrients from the decaying organic matter. The wheat crop, however, will profit by this store of plant food to an extent which would perhaps make the beans as profitable a crop as could be planted on the land.

Beans After Beans.

I have a five-acre field, the soil of which is medium light clay; in 1911, 1912 and 1913 the field grew a good fair crop of timothy hay and in 1914 it produced a good crop of beans. I am wondering if it would be advisable to plant it to beans again in 1915. In 1914 the crop of beans was slightly blighted. Would this have anything to do with the 1915 bean crop? If beans will not rotate on this field, to good advantage, what will?

Isabella Co.

J. L. C.

It is not ordinarily good practice to plant the land two years to the same crop in any rotation. It would be a better plan, in the writer's opinion, to sow this field to spring grain as oats or barley and seed to clover, as this will restore it to a better mechanical condition. As the bacterial blight and anthracnose of the beans are fungus diseases, there is no doubt a possibility of an infection of the next crop through the soil, but the more common method of propagating the disease is through the medium of diseased seed.

Reclaiming Swamp Land.

RECLAIMING swamp or bottom land by dredging and draining is a subject which may be of interest to a considerable number of Michigan Farmer readers. Dredging a stream or making a channel through a strip of low land is a matter in which much labor and expense is necessary, and unless those interested have had experience in, or knowledge of, this line of work, many of them may question the wisdom of the enterprise.

Knowledge Gained from Experience.

I have gained such knowledge from having lived in this community long before and since the St. Joe river was dredged, which work was completed in this township and one and one-half miles into Ohio three years ago, our township being in the southern tier of towns in Michigan. The stream was shallow, very crooked and much of the land it passed through quite level. Overflows and floods were frequent. The stream, when within the banks, was 25 or 30 feet wide, but often during high water reached a width of a half mile or more. Since the dredging was completed the water has overflowed the banks but once, and then for only a very short time.

When the question of dredging was proposed most of our people thought it necessary, but that it would be so expensive that it would put a burden on the people affected, which they could not well bear. James Kelley, an interested farmer, appointed himself a committee of one to fully investigate the matter. He went to Ohio, where similar work had been done, and came home satisfied that it was the thing to do. He, with others interested, secured the necessary signatures to a petition to the drain commissioner, who, with surveyors, was soon on the job. But several citizens, believing it would work hardship and possible ruin to many, signed a remonstrance against it and employed attorneys to oppose the dredging. Those favoring also employed attorneys in defense. The final decision of the litigation was in favor of the petitioners. The opposition carried the case to the supreme court, who sustained the decision of the lower court. The fight added several thousand dollars to the cost of the work. Besides, each party had to pay their attorneys.

The Cost of Reclamation.

All went well until the Ohio line was neared. Ohio threatened an injunction and to compromise one and one-half miles was dredged into Ohio. The new channel was made 40 feet wide and averaged six feet deeper than the old one. But little attention was paid to the old channel in making the survey, the object being to make the stream as straight as possible, in one instance going in at the northeast corner of a section and going in a straight line, coming out at the southwest corner, disposing of one bridge at each corner, one three-way bridge taking the place of two. The whole cost, including five new bridges, was \$48,000, which amount was raised by taxing all land that drained into the river, either directly or through other streams. This tax was spread on land six or seven miles back from the river, which was supposed to have been taxed according to benefit derived. One man whose land it passed through, and who had asked damages, believing he could not pay the tax, sold the farm. The buyer received the amount of damage which was \$5 more than the tax. The tax was all paid and the writer knows of no person who was obliged to mortgage his land to meet his part of the expense and we think that nearly all will admit that it is one of the greatest if not the greatest single improvement ever made in the township, having drained or given an outlet for thousands of acres of land that without it was of little value.

which is now classed with the best in the state. Ohio carried forward the work the next season. Dredging the river made it practical to drain much swamp, which otherwise could not have been done.

Crops for Muck Land.

At this writing there is but little swamp land in this community that has not been drained and cropped. While nearly all kinds of crops are grown on muck land, some crops do much better than others. Peppermint, celery, potatoes and tomatoes do well. Oats, timothy and redtop fairly well, while beets have failed with us. Corn is harder to cure than that grown on upland as it contains an excess of moisture, but grows a large tonnage and makes fine silage.

Tile should be laid deep in muck land, it being composed of decayed vegetation which continues to decompose and settle, each year bringing the tile nearer the surface. Three or four feet is not too deep. Without good drainage the land is cold and crops do not succeed or are very liable to be cut by frost. The effect was plainly marked in our field of corn last season. It was grown on muck and about one acre which was not yet tilled frosted badly, while that on the balance of the field remained green.

It is often remarked that some muck land is good and some not, the black being good and the brown flaky and not good. The latter will become black as it decomposes, which is hastened by being broken up, cropped and marked, exposing it to sun and weather. We do not think that marsh hay plowed under would be of benefit to muck land for it has an excess of humus, although it will be seen by the analyses of swamp hay that it has a higher feeding value than wheat or oat straw or timothy hay, and is also more valuable as a fertilizer.

Hillsdale Co. W. G. Boyd.

INOCULATION FOR SOY BEANS.

I am going to sow two acres of soy beans. My ground has never been inoculated. The seed houses want \$2 an acre for the culture. Will it pay to inoculate the seed at that price?

Mecosta Co.

E. A. B.

All legumes will grow and produce good crops without inoculation, provided the soil contains an abundance of available nitrogen. After a time the plants become self-inoculated. This is when they begin to feel the need of more nitrogen than the soil is then furnishing them. But if we allow legumes to feed upon the nitrogen already in the soil from the want of inoculation, then we are not improving our opportunity, because we nowadays grow legumes for one reason, to accumulate some of the free nitrogen of the atmosphere.

I cannot tell you how well it will pay to inoculate for soy beans, but will say that I would not plant them without inoculation. Last year I purchased soil from a man down in Ohio, paying him 60 cents per 100 pounds and then paying the freight. This year I got what a soy bean grower terms "concentrated inoculation," that is, the nodules are stripped from the plants, together with a little dirt, and then pulverized fine and the seed inoculated by the glue method. I advise trying the commercial culture on one acre and carefully noting results, you can then tell whether you think it pays.

CONSERVE THE MOISTURE.

The Indiana Station has issued a warning to the farmers of that state to profit by the experience of last year and conserve the spring moisture by good cultural methods, in anticipation of another dry year. This is a wise precaution in any season and should be practiced by Michigan farmers.

Studebaker

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Natron, Oregon



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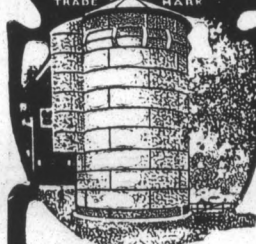
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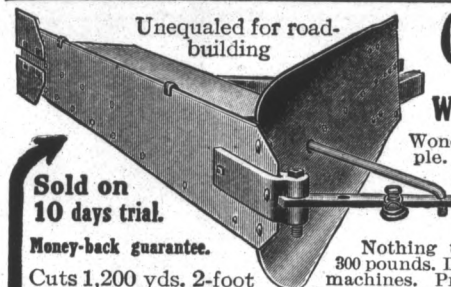
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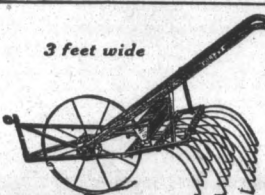
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STEEL Cutting Apparatus and Blower (instead of cast iron).

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Grooming the Farm Horses.

THE horses used on the farm are man's most intelligent and faithful servants. The horses are relied on from the beginning to the end of the war to perform such services as the horses alone can perform, and yet appearances in many cases indicate that there is a lack of appreciation of what the horses are, as far as necessities for work are concerned, and they are not given in return the care and treatment that they deserve. In some cases they are wilfully, and in others they are thoughtlessly, neglected. No matter for what reason the neglect comes, the appearances indicate a lack of interest on the part of the caretaker, and display a depreciation in value, both in a monetary sense, and in lack of capabilities of service.

I am aware of the fact that many who have a good estimate of the value of the services of the horses under their charge, fail to realize the full benefits derived from carefully and intelligently grooming their horses. It is usually looked upon as a perfunctory task, and only external appearances are considered. There are many benefits derived from properly grooming the horses, and I will mention some of them.

Appearance Not the Only Object.

If it were to only gratify a love for good appearances, that alone would pay for the trouble; but that is not all there is to the matter. The appearances are improved, because the hair is made to lay down and in the direction in which it is desired to have it. After a few groomings administered thoroughly and regularly, there is a glossy appearance to the hair. Why this change? There are good reasons for it. By rubbing and using friction on the surface, there is an increase in the circulation of blood to and underneath the skin. There is a greater supply of nutritive elements taken to the capillaries at that point, and there is exuded through the skin oily substances, and they cause the hair to lay down and put on a glossy appearance. The skin is more active in performing its functions, and the general health of the horse is promoted in several ways, as we will observe if we give the matter due consideration.

Rubbing or grooming the muscles attracts better circulation to them, and assists in building them up, while they are growing, and also aids in restoring them to their normal condition of usefulness after the horse has become fatigued by continuous efforts at work, or by traveling on the road. Fatigue is caused by worn-out myocyte (muscle) cells, and the animal is not relieved until the worn-out material is carried away through the circulation of the blood. The waste matter is carried off, and gotten rid of, through the renal secretions, (kidneys), and the skin. Rubbing and grooming assists the circulatory system in getting rid of worn-out tissue and, as we express it, helps the horses to get rested. We can see why rubbing the muscles of the legs and grooming the body at night gives the horses a double benefit. It aids them in getting rested and when they come out in the morning, they have a better appearance, and better action, than when the grooming is deferred until morning.

Groom at Night as Well as Morning.

If we groom the horses at the proper time and in the proper manner, we not only promote the circulation of the blood, but the nervous system is greatly helped. The nerve and brain cells are only refilled during the time the animal is sleeping. The sooner the animal becomes rested, the longer will be the period of sleeping, and the more thoroughly he will be restored to his normal life and voluntary activity. No other animal manifests distress from loss of sleep as does the horse. A little observation will prove

the correctness of this statement.

Grooming regularly and thoroughly not only improves the general appearance of the horse, aids in restoring strength and life, but digestion of the food consumed is aided and the assimilation of the nutritive elements is more thorough than is possible without it. Some of the observing horse-men of years ago, when horses were the center of attention and consideration, and not the automobile as now, used to say that good grooming was worth as much as an extra four quarts of oats per day to a team of horses. We have reason to believe that the real value of grooming regularly and thoroughly was under-estimated even in those days.

Considering the benefits that can be derived from giving the farm horse better care and more reasonable consideration, we can see that there ought to be a revival of interest in the horses kept on the farm. There ought to be more attention paid to systematic and thorough grooming. It will not only add to their beauty, which always has its value, but it will add to the capabilities for service during the whole working season of the year. All the benefits add to the efficiency and the term of years for which the horses can be useful on the farm, and to the actual value during the term of years for which they are kept for useful service.

Wayne Co.

N. A. CLAPP.

BREEDING QUESTIONS.

I wish you would answer the following questions in an early issue of your paper: Is a filly at the age of two years too young to breed? Does it spoil the shape of them to breed them at that age? Does it make any difference as to whether you breed a young mare to a light roadster stallion or a heavy draft in regards to trouble in foaling? I have a filly rising two years old that is out of a western mare, weighing between 1200 or 1300 lbs., and from a sire of the roadster class, weighing 1200 lbs. She is tall, built in proportion. Do you think she will raise a good colt from a Belgian sire weighing between 1700 and 1800 lbs? Chippewa Co. SUBSCRIBER.

Horses do not fully mature and get their growth until they are five or six years old, therefore, I do not believe it always a good plan to breed a two-year-old filly, unless she is unusually growthy and extra well developed for her age. Breeding for the first time, I do not believe it advisable to have too much difference between weight and size of sire and dam; however, three or four hundred pounds makes little difference at foaling time, unless it be the mare's first foal. After that, I do not believe that there is much danger with a mare having trouble at foaling time. Breeding a very young animal does change their shape and usually makes them more plain in appearance, besides, increases size of abdomen and lowers back slightly. The mare you refer to, if crossed to a Belgian, would raise a useful and saleable general utility horse, but I really believe there is just a little too much difference in their size and weight for first mating.

W. C. FAIR, V. S.

FEEDERS' PROBLEMS.

Forage Crops for Hog Pasture.

How much of each of peas, oats and dwarf Essex rape should I sow per acre for summer hog pasture? Genesee Co. SUBSCRIBER.

Peas and oats are used in various mixtures for forage purposes. For hog pasture less oats would be required in the writer's opinion, than where the crop is grown to maturity, say three pecks to a bushel of oats, a like quantity of peas and five pounds of rape per acre should make an excellent mixture. Something will depend upon the nature of the soil and how early it is desired to pasture the hogs on the crop.

IN THE HOG YARD.

Hominy Feed for Hogs.

How does hominy at \$1.50 per cwt. compare with shelled corn at \$1.50, as a food with which to fatten hogs? Can a man make anything fattening hogs with prices of feed as named and price of pork as at present, which is \$6, the hogs weighing about 140 lbs.? Can you tell me what ails my pigs, or rather, why my young sow's litter are a failure? I have three Yorkshire sows, one old one and two young ones. The first young one was bred December 3 to a young registered Yorkshire boar; the second was bred December 7 to the same boar, the old one was bred to an old Yorkshire boar December 9. The first farrowed March 28, having eight pigs, four of which were dead, the others having very little vitality so that two more soon died. The old sow farrowed April 2, having but four pigs, but they were large, strong pigs. The second young sow farrowed April 4, having 11 small, weak pigs without hair and with very little vitality, so that six have died and it will be a surprise if I raise any, though I am doing all I can to get them started. These sows were all fed the same and as I never feed my brood sows corn the last six weeks, I fed wheat middlings and buckwheat middlings with the hulls in, as a slop with milk, the buckwheat middlings being added to give variety. I usually feed oil meal but as that is so high this year I substituted the buckwheat middlings. These sows slept in the same pen and had the run of the barnyard in which I had made a rack from which they ate clover hay, of which they consumed quite an amount. I have raised pigs a good many years and never had bad luck like this before and am at a loss to account for it.

Newaygo Co. S. S.

If hogs will eat hominy feed as well as they will corn they will fatten readily, but skim-milk or wheat middlings should be fed with it, as this food product contains a large amount of carbohydrates and fat in excess of the protein. Neither corn nor hominy feed is the best kind of food for growing fattening pigs, but after the pigs are pretty well grown corn is the best finishing food, and hominy will do well; both are improved by a food like middlings or skim-milk fed as a slop. Is there Profit in Fattening Hogs at Present Prices?

I do not believe there is any profit in six-cent hogs with 80-cent corn and other feed in the same proportion, but of course, where one has the hogs, he must fatten them to make them marketable. It pays better to fatten them than to sell them in thin flesh.

Immature Pigs.

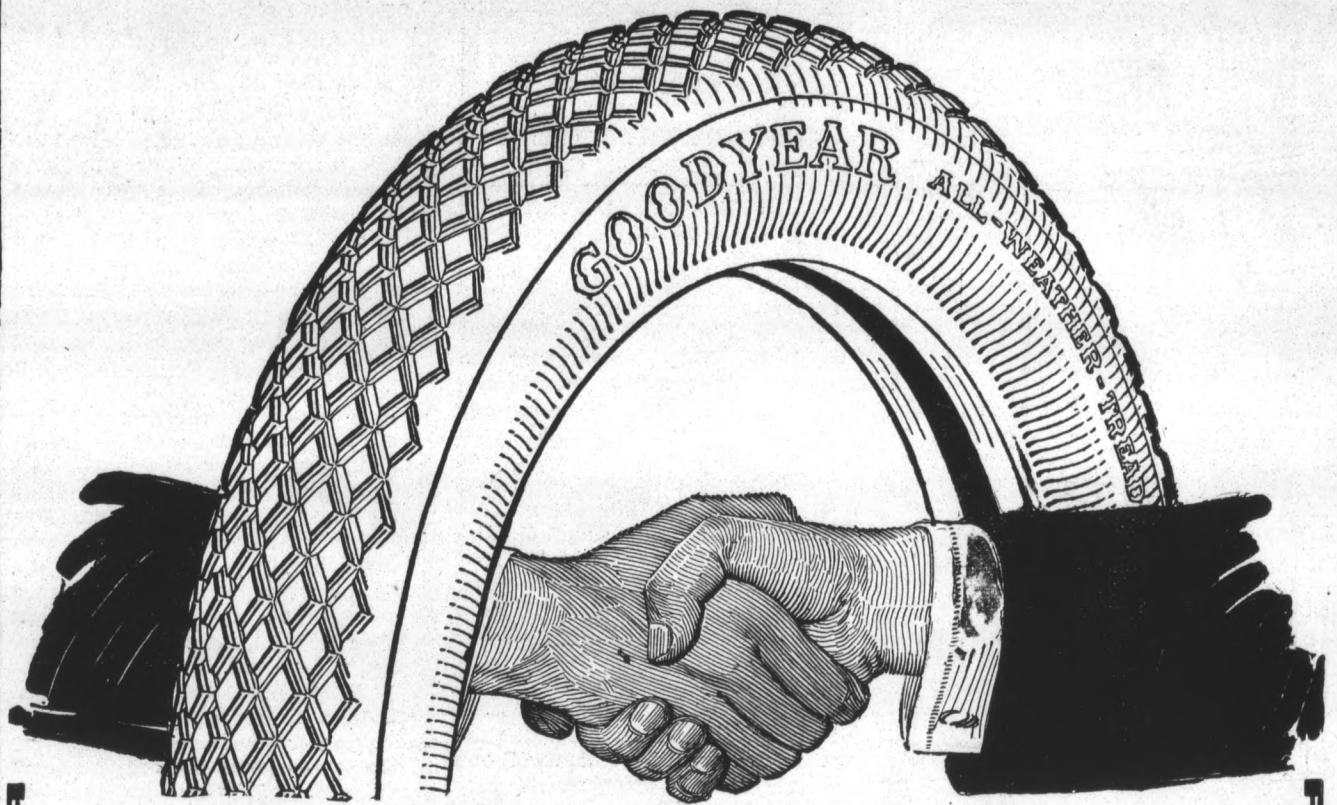
I can not tell the cause of these weak immature pigs. Certainly the sows have been well fed and cared for. There must be some other reason; possibly you have contagious abortion, this happens frequently. In the case of the old sow farrowing only four pigs. This will sometimes happen, but there is no explanation, it just happens.

COLON C. LILLIE.

Contrary to some reports, Kansas has no considerable numbers of cattle available for early marketing. B. H. Heide, live stock agents of the Chicago Stock Yards Company, returned to that city a short time ago from a visit to Kansas for the purpose of investigating the cattle supply, it having been reported that Kansas had a big cattle supply for the April, May and June market. The large supply failed to show up, and Mr. Heide said: "While Kansas has been a greedy buyer of thin cattle for months past, they are merely in storage, waiting to be placed on grass. Owing to high cost of feed and a disappointing winter market, Kansas did not shovel much corn into the feed trough during the winter. The cattle went in largely to replace stock sacrificed during the 1913 drouth, but they are being roughed through for summer and fall finishing purposes. Any impression that Kansas is full of fat steers is erroneous."

Now that the spring season has opened for the free marketing of Wisconsin dairy calves at Chicago, Tuesdays are lively days for veal calves, with the greater part of the calves received on that day, known as "calf day." Prices have had bad breaks under such generous offerings.

Texas grass cattle will reach northern markets later than usual, and few will be shipped out before the first of May. It is said that as many of these cattle will be shipped as a year ago, but they will be largely light in weight, with Mexicans prominent.



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The more you bought the better we built them, and the lower we sold them to you.

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Note that in two years we made three big price reductions. The last—on February 1st—brought the total to 45 per cent.

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Note that every hidden extra is retained. Our Fortified Tire is still "On-Air" cured to save blow-outs. Yet that one extra—used by no one else—costs us \$450,000 yearly.

It still has our exclusive No-Rim-Cut feature. It has in each base 126 braided piano wires to make the tire secure. It has hundreds of rubber rivets, formed before vulcanization, to combat loose treads.

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than ever in some sizes. It still has those sharp, tough, resistless grips.

Those extras—all exclusive to Goodyear—are all retained, despite our price reductions.

Still That \$100,000

And we still spend on experts—on laboratory work—\$100,000 yearly. That is to test tires built in different ways, to learn how to build them better. And every improvement we discover is adopted regardless of cost.

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As this multiplied output brought our cost down, your cost came down too. Last year we built about one tire for every car in use. This year you get in Goodyear a value never before known in tires.

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GOOD YEAR
AKRON, OHIO

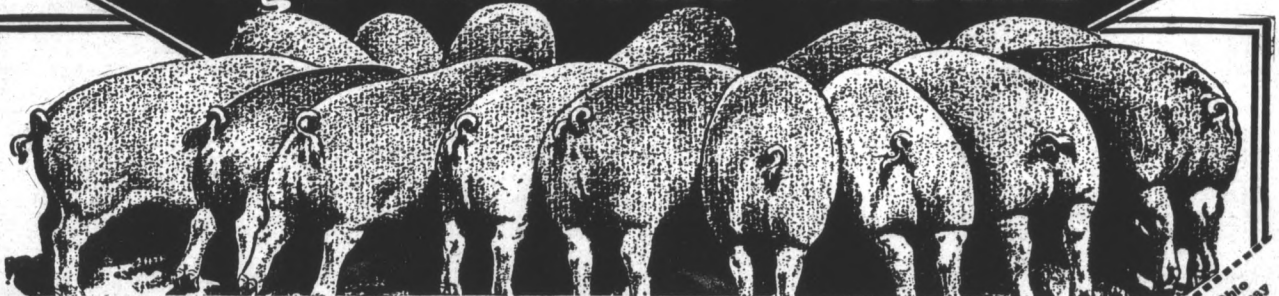
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Rim-Cuts—by our No-Rim-Cut feature.
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Prices 40 lbs. \$2.25, 100 lbs. \$5.00, 200 lbs. \$9.00, 300 lbs. \$13.00, 500 lbs. \$21.12. No order filled less than 40 lbs. on 60 day trial offer.

S. R. Feil, Pres. THE FEIL MFG. CO., Dept. MF Cleveland, Ohio. 60-day trial shipments are based on 1 lb. of "Sal-Vet" for each hog or sheep, and 4 lbs. for each horse or head of cattle, as near as we can come without breaking regular packages.

Read This Letter:

"Have fed Sal-Vet to my hogs and lost none. Neighbors both sides of me, east and west, have had cholera bad. One west of me, on adjoining farm, lost about forty hogs and pigs with cholera; the one east, on adjoining farm, lost all he had, excepting four."

A. J. HOFFMAN, Leipsic, Ohio.

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Just fill out the coupon—tell me how many head of stock you have and I'll ship you enough SAL-VET to last them 60 days—you pay the freight charges when it arrives. If SAL-VET has not done all I claim and you report results in 60 days, I'll cancel the charge and you won't owe me a penny.

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erloo, Kansas City, Council
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A SOLID PROPOSITION to send fully guaranteed, a new, well made, easy running, perfect skimming separator for \$1.95. Skims warm or cold milk; making heavy or light cream. The bowl is a sanitary marvel, easily cleaned.

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Dairy.

CONDUCTED BY COLON C. LILLIE.

LILLIE FARMSTEAD DAIRY NOTES.

Another year's work in the cow-testing association is completed and we have the herd summary as furnished by the tests. This summary for the whole herd for the whole year, is certainly very interesting to the owner of the herd, at least. I am not satisfied with results and, of course, will try and improve this year over last. The theory of herd improvement is very simple. Each year select out the poorest cows, and keep only the best and gradually the average of the herd will improve. This is correct if the theory is practiced with good judgment. The idea can not be followed absolutely. If you do you will discard some of your best cows. The trouble is cows do not perform the same every year. A cow will perform well one year and make a splendid showing and perhaps the very next year she will not do as well. One year she will stand at the head of the herd in profit production and the next year near the foot. Now it is obvious this cow ought not to be discarded because she makes a poor showing for one, and perhaps two, years.

Test Assists in Improving Herd.

Again, a heifer may not come up to our expectations the first period of lactation and yet develop into a grand producer. So, while the theory is correct in the main, yet it must be deviated from quite often, and good judgment must be used constantly in the selection of those to be discarded. Yet, with the cow tester's figures this selection is simplified very much without these figures selection for economical production is a mere matter of guesswork.

My herd averaged throughout the year 45.5 cows, that produced a total yield of 246,785 lbs. of milk that tested, on the average, 4.98 per cent of butter-fat. This was an average yield of 5,422 lbs. of milk per cow, or 270.6 lbs. of butter-fat, and a total yield of 12,313.8 lbs. of fat. The average price of fat was 31.7 cents per pound, which makes total cash income of \$3,925.41.

The herd consumed \$1,450.93 worth of roughage, and \$1,172.70 worth of concentrates or grain, making a total cost of feed of \$2,623.63 and a net profit above cost of feed of \$1,301.61.

This figures an average net profit per cow of \$28.60. Figuring on the profit from food fed there is \$1.49 worth of butter-fat for every \$1 worth of food consumed. The herd produced butter-fat for 21.3 cents per pound, and milk for \$1.06 per 100 lbs.

The Profit.

The herd last year was probably worth \$7,000 to \$8,000. If we figure it worth \$7,500 then there was a profit of 17.5 per cent on the value of the herd. Of course, I have figured the value from the standpoint of pure-bred cattle. If the value was estimated at half that figure, which would be considerably above the price of common cows, then there would be a profit of 35 per cent. It is worth remembering that these cows did not cost me any more than common cows would, for I raised them all myself. It is worth remembering, also, that I made a profit on the hay and silage I fed the cows. The alfalfa hay was charged to the cows at \$17 per ton and the silage at \$3.50 per ton. It should not, and did not, cost that much to produce these foods. I purchased nearly all the grain and sold it to the cows at \$1 per ton above cost, to pay for hauling.

As is generally understood in this cow testing work, the skim-milk, the calf and the manure is supposed to pay for labor, insurance, depreciation

of equipment, etc. As I have stated before, I am positive that if these by-products are intelligently handled they will more than do that.

Registered Merit Cow.

We are starting out on a new year in this work with better prospects than ever before. Last year seven cows qualified for the Register of Merit, and 12 are now well advanced in their year's work and are sure, if nothing happens, to qualify. We have just begun to milk six cows three times daily. One cow has increased the daily yield from 30 lbs. to 40 lbs. and others in about the same proportion.

I should have mentioned in connection with last year's report, that six cows did very poorly. One was sick a long time and nearly dried up. One spoiled her udder and gave no milk for three months of the year after she freshened. Another failed to breed for two years and gradually dried up and her work last year was very unprofitable. Another slipped and broke pelvic bone and did scarcely nothing. I sold them all for bologna sausage, at 4 1/4 cents per pound, live weight. Yet all these cows were figured in on the year's total and helped to lower the profit.

PIT SILOS.

Can you give me information on the practicability of the pit silo?
Benzie Co. R. J. F.

A pit silo is simply an excavation made any desired shape and depth for the purpose of storing and preserving green forage. In the early days of ensilage this was the popular kind of silo, in fact, at first it was the only kind. The idea of preserving green forage in a succulent condition resulted from accidentally covering green beet tops with earth. They were found to be preserved in an edible and succulent condition. From this people reasoned that pits or excavations would answer the purpose better, and these pits were covered with earth. Finally it was found that the preservation came from keeping air away from the fodder. If only a limited amount of air could get to the fodder it would heat up, ferment slightly, destroy the bacteria, and the process of decay would be checked and the food practically preserved. Then it was discovered that tight receptacles above the ground were more practical and produced the same result. Now, no one would think of making a pit silo. It would cost too much and require too much labor to get the ensilage out from below the ground.

MICHIGAN WILL HAVE A SPRING CATTLE SHOW.

May 26-27, at Lansing, Mich., are the dates and place at which the Central Michigan Holstein Breeders' Association will hold their first annual fair and exhibit of pure-bred Holstein-Friesian cattle.

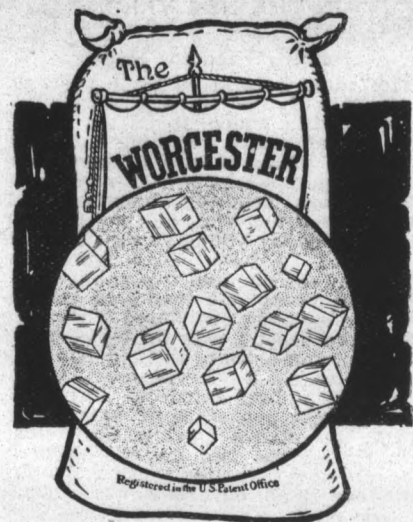
The Lansing Chamber of Commerce have secured the city market, located in the heart of the city, for the use of the association, and plans have already been perfected for stalls and accommodations for over 200 head of Holsteins.

This will undoubtedly be the largest exposition and show of pure-bred Holsteins ever held in the west, as central Michigan has long had the reputation of producing and developing some of the best Holsteins in the United States and many cows with A. R. O. records upwards of 30 pounds of butter, in seven consecutive days, and milking over 100 pounds daily, will be upon exhibition.

At considerable expense a judge of national reputation has been secured to pass upon the merits of the different animals.

The Michigan Agricultural College is co-operating with the members of the association, and have consented to exhibit their select herd; this has created a friendly rivalry among the members from the rural sections and in many instances whole herds will be exhibited.

Lansing being the capital, centrally located and very accessible by various steam and electric roads, it is assured the exhibits and attendance will surpass anything of the kind previously held in the middle west.



Worcester Salt Crystals magnified 45 times

IMAGINE how perfectly these fine, even grains of Worchester Salt would dissolve in your butter.

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Think of the "moisture pockets" and leaky butter you get if you use coarse grained common salt.

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Send us your dealer's name and address and we will mail you free of charge, our booklet, "Butter Making on the Farm."

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Largest Producers of High-Grade Salt in the World
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MAKE YOUR MILK CHECK GROW



Thomas Fox, of Fond du Lac, Wis., says:

"My equipment of Libbey stanchions, stalls, pens and carrier is a big money maker and money saver. It makes milk checks grow."

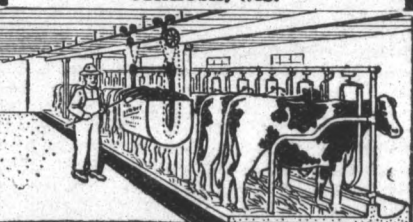
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Orchard Mortalities

ONE hundred and ninety trees missing and one hundred and fifty-two present is the record resulting from a count taken in a three-year-old sweet cherry orchard in Benzie county. Only forty-four per cent of a perfect stand, this in spite of the fact that two years ago every vacancy then existing was refilled with new trees. About the same ratio held true in a peach orchard on the same farm; where there should have been 425 trees to make a perfect stand only 196 were alive.

The orchards in question were well located on elevated land within sight of Crystal Lake; sweet cherries and peaches are profitable crops in all parts of that immediate vicinity, having a similar elevation. The cause for the failure of so many trees, even in the heart of a famous fruit growing region, is not far to find.

Serious Loss from Lack of Care.

The orchard and farm was owned by a cityman farmer, who hired a tenant to take care of the place. The orchards were cropped indifferently well, and quack grass got the upper hand in the tree rows. The tenant was only hired for a year; the trees would not come into bearing while he was on the place, and he was more interested in the corn and beans which grew in the orchard than in the trees themselves.

Probably most of the trees were so enfeebled by lack of moisture in their weedy environment that they succumbed to shot hole fungus, leaf curl, and winter killing. While such a condition proved alarming to the new owner who caused the census to be taken, yet it is not to be marveled at in view of the treatment the trees received.

Such a condition is not at all rare. Indeed, it would not be surprising if every young orchard, which is treated to a course in farm crops at the hands of a general farmer who is not sure of the diseases to which his trees are liable, should show nearly as large a number of vacancies.

Care Necessary to Grow Orchards Successfully.

Plainly, the man who undertakes to plant an orchard without realizing the cost and the need of maintenance, even before the trees come into bearing, is doomed to a rude awakening from any visions of a fortune in fruit which may have led him into planting the orchard. Trees do not "just grow;" they just die, unless cared for.

The condition just noted has a bearing on the question of supply and demand as related to cherries, or any tree fruit, during the coming ten or fifteen years. Unquestionably, very large plantings of all kinds of fruit have been made in the last few years. Take the Montmorency cherry, for instance; we are told of 97,231 trees which were counted in the summer of 1913, by authorities from the Agricultural College, in the vicinity of Traverse City and Northport, trees which had been planted in the Grand Traverse region within the last three years. There is the Dame and Boughie orchard at Northport, 200 acres of Montmorency in one block. Then over in Door county, Wisconsin, they tell of 700 acres of Montmorency in one block, with a total acreage, in the vicinity, of 3,000.

There is hope that overproduction will not be the case in the coming years when these trees come into bearing. By that time, we may anticipate that a large number of the trees, reported as planted now, will have succumbed in the way noted in the orchard mentioned above. Then, too, it is reasonable to suppose that the consumption of cherries as well as other of our northern tree fruits may be stimulated through the co-operative marketing agencies which will doubtless become a necessity when so much of the commodity is produced in a

given locality as promises to be the case in the next decade.

A Study of Supply and Demand.

In connection with the problem of tree planting, tree mortality, and future supply and demand for tree fruits, a principle of economics which was stated by Prof. G. F. Warren, of the Cornell College of Agriculture suggests itself. Prof. Warren had made a number of census studies of apple trees in New York; a grouping of the trees by ages showed that plantings had been made in waves of popularity, followed by periods in which comparatively few trees were planted. This condition is easily explained; an undersupply of apples would lead to high prices, and an increased planting, but twenty years later, the conditions would be reversed by the enormous crops from the newly-bearing orchards. History shows, according to Prof. Warren, that at these times of a flooded apple market, apple orchards were not assessed on the tax roll, they were so unprofitable. Many owners went so far as to cut orchards, in the prime of life, into fire wood.

A few shrewd orchardists planted trees at such times; their orchards came into bearing at a period when little competition from neighboring orchards made the marketing of the crops very profitable. Thus the lesson deduced by the student of economics is that the time when trees can be most profitably planted with an eye to future successful marketing is that time in which the fruit of that tree seems to be a drug on the market, and no one sees any reason for buying and planting more trees.

Periods of Over-production.

The pendulum swings from over-production to under-production approximately every year in the case of potatoes, cabbages, and other annual crops, provided the respective seasons are equally favorable for the growing end of the deal; the reason for this is that it is possible to control the acreage given over to the crop every year. In the case of horses, the market is swamped or starved in periods recurring less often, because it takes longer to bring a bunch of colts to maturity than a crop of cabbages. In the case of cherries, a six or eight year interval should suffice to produce great changes in the aspect of the market, while with apples like the Northern Spy, a fifteen-year interval would have to lapse before any great new acreage could be brought to influence the lowering of any high-priced demand for that noble fruit.

It is splendid to have a reason for doing as we have done. Usually the enthusiast who has gone into orcharding or any other branch of agriculture will have reasons for his venture. While it would seem to be true that there will always be a brisk demand for perfect fruit, yet it is well to remember that the business of agricultural investments is not all a gamble; there are certain economic principles as suggested above which will influence the market of the future.

The Influence of Pests.

Of course, there are other factors influencing the supply and demand for fruits besides the one of mere tree planting. There is the increase of population; the demand created by advertising; the loss of trees by such pests as the unforeseen San Jose scale and new pests to come, of perhaps a yet more serious nature. Altogether, the chances for shrewd reckoning into the future are very great with the fruit grower, and it would seem that his greatest re-assurance comes from his belief that he may overcome the fruit pests if he will, and produce an article which the public cannot help wanting to purchase at a price profitable to the grower. Truly, the best friend of the persevering orchardist, as well as the enemy of the indifferent but visionary one, is the cause, insect or fungus, which lays low the unguarded fruit trees. E. H. BROWN.

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every time you see a man drawing real joy out of a jimmy pipe, for it's better than five-to-one he's smoking Prince Albert tobacco.

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DETROIT, MAY 1, 1915.

CURRENT COMMENT.

Investigations made by the Department of Agriculture relating to the farmer's labor income, summaries of which have been published in these columns, have shown such a low average cash labor income as to prove an element of discouragement to many farmers, and to show the business of agriculture in a light which does not do justice to its advantages. For this reason a report recently made of an investigation conducted by the Department of Agriculture to determine the items of income from the farm not represented in cash or his labor income, will be of interest to the reader who has followed the reports of the other line of investigation.

Everyone knows that a well managed farm supplies the farm family with much besides money, but which would, however, represent a considerable outlay of money in any other line of employment. Among these items are food, shelter and fuel, items which every city worker knows far better how to value and appreciate than does the average farmer. As these are a direct benefit, they must be included in a just estimate of a farmer's income. In order to obtain a more accurate knowledge of the average value of this contribution from the farm, the U. S. Department of Agriculture conducted an investigation which included 438 farm families located in ten states, representing different sections of the country. From data thus secured it was found that on the farms investigated the cost of maintaining each adult person averaged \$176 per year, divided as follows: Dairy products, \$21; pork, \$12; poultry and eggs, \$12; garden truck, \$10; beef, \$6; fruit, \$6; wood and coal, \$13; groceries, \$22; house rent, \$28; labor, \$46. Of this total sum it was found that only about 22 per cent represented a cash outlay, the remainder being furnished by the farm at a reasonable valuation.

When estimated by the family instead of the person, the investigators found that in one typical section in North Carolina the average annual value of food, fuel, oil and shelter enjoyed by the farm family was \$505, of which sum the farm furnished directly \$429, leaving a cash expenditure of only \$76. Of this sum food was the principal item, amounting to \$401.93, of which \$330.65, or 82.3 per cent, was produced on the farm. Of the animal products consumed 97.3 per cent were produced on the farm, of fruits 98 per cent and of vegetables 96.1 per cent were home grown. Of the other articles consumed and classed together as groceries, 24 per cent were produced on the farm.

In the general investigation, it was

found that \$125 was a fair rental charge for the average farm house, and that the enjoyment of a residence on the farm is equivalent to an addition of this amount to the farmer's income. The same is true of labor expended for the direct benefit and comfort of the family in producing things which would otherwise have to be bought.

These figures illustrate in a general way what the average farm furnishes directly in the way of substantial additions to the farmer's income and which cannot be represented by any showing which includes only the cash or labor income of the farmer and his family. It is only by considering in proper relation the three factors of cash receipts, direct income from the farm as above outlined, and interest on the investment in the farm plant, that any accurate deductions can be made relating to the profit derived from farming. In no other business is such a computation so difficult, owing to the fact that farming is a family business in the analysis of which so many factors must be considered.

While those in other lines of work who carry the idea that all the farmer sells is clear profit are, as we all appreciate, very much in error, so also are the figures collected showing the apparently meagre labor income earned by the average farm family misleading. It is only by taking into consideration all the factors of the problem as above outlined, that we can arrive at anything like an accurate idea or comparison, so far as the farmer's income is concerned. But when all of these factors are considered, we begin to get a fair idea of the reason why farming is such a safe and stable business as compared with other business enterprises, even though the majority who follow it do not become wealthy, as measured by the modern standards, and all too often do not fully appreciate the advantages which they enjoy in comparison with the average person engaged in other occupations.

The appropriations made by the last Congress for direct aid to agriculture

amounted to a total of \$27,551,782. The regular appropriation act for the fiscal year beginning July 1, 1915, sanctions the re-organization of the Department of Agriculture in accordance with the plan recommended by the secretary in his recent annual report. Provision is, for the first time, made for funds to be used in cases of emergency, such as the recent outbreak of foot-and-mouth disease, through the setting aside of a sum of \$2,500,000, of which, in cases of like emergency, the Secretary of Agriculture may use so much as he deems to be necessary in the arrest and eradication of contagious live stock diseases. The total above given includes a sum of \$1,080,000 available under the Smith-Lever Extension Act for co-operative agricultural extension work between the states and the U. S. Department of Agriculture. Other separate appropriations included in the above sum are a printing fund of \$500,000 and a meat inspection fund of \$3,000,000.

Of greater interest to the people of this and other northern states than perhaps any other item in this vast sum of appropriations is the annually increasing available appropriation resulting from the Smith-Lever act. The first year each state got a flat sum of \$10,000. In addition to a like amount each year, the several states get increased sums based upon their proportion of the rural population. Thus, Michigan will receive this year \$28,002 from the Smith-Lever fund, provided all conditions are complied with. Next year we will receive \$43,005, with a steady increase of like proportion until the fiscal year of 1922-23 when the total amount available from the Smith-Lever fund will be \$133,016.

There are many features of the agri-

cultural appropriation bill which might be discussed with profit, did space permit, but the development of the work under the Smith-Lever appropriation act will probably hold first place in the attention and interest of Michigan farmers until the proposition is worked out to the satisfaction of all concerned.

State Aid to Agriculture.

The greatly increased demands made upon our Michigan Agricultural College, both in the large increase of its student body and in the demand for extension work, has created a demand for more funds with which to carry on that work. That demand has been met in a most satisfactory manner by the present Legislature, which has just passed a bill to increase the mill tax appropriation for the agricultural college to one-fifth of a mill on each dollar of taxable property in the state. This will enable the college to meet the rapidly growing demands for instruction in the regular courses and regular extension work, as well as in co-operation with the United States Department of Agriculture in which work an offset against the Lever fund will be required which will equal the amount available from that fund, except the flat annual appropriation of \$10,000 given unconditionally to each state. In addition to this demand, more buildings and equipment will be needed to carry on the local work required to keep this institution in the front ranks of educational institutions of the kind. In addition to this appropriation there is at this writing a bill pending in the Legislature making provision for a special market bureau which is considered likely to be enacted into law besides the regular support of the State Dairy and Food Department, the activities of which are largely concerned with the agriculture of the state. It will thus appear that from the state standpoint as well as from the broader outlook, agriculture is being admirably supported, and that the result cannot but be a matter for congratulation to Michigan farmers.

Arbor and Bird Day.

In his annual proclamation declaring May 7 Arbor and Bird Day, Governor Ferris has again appealed strongly to the people and particularly to the youth of the state to preserve the birds and to plant trees to harbor our feathered friends, as well as to beautify the country. The following is the text of his proclamation:

The half has not been told concerning the destruction of insects by birds. The farmer in particular is indebted to the birds. True, there are birds whose reputations are not above reproach. Some of them eat a few cherries and berries. This is only a small compensation for the service they render man.

Throughout the civilized world, birds are objects of admiration. Their beautiful plumage, their sweet and cheering songs, awaken the noblest emotions. The man, woman or child who has the heart to needlessly harm a bird will do injury to the human family. Thousands of our most beautiful feathered songsters are killed annually by the domestic cat. We need fewer cats and more birds.

By training boys and girls to feed the birds in winter and house them against storms, we stimulate the nobler emotions. The killing of birds for sport brutalizes the hunter. Michigan should conserve bird life. This is distinctively human.

Many of the birds are like men dependent upon the existence of trees. A park without trees is a desert, unfit for birds or human beings. Farms without trees, school yards without trees, home without here and there a tree, roadsides without trees, are desolate and unfriendly. Plant a tree.

Let me ask the boys and girls to conserve the life of our wild flowers. Pick only a few here and there. Leave enough for seed.

Let the country, as well as the city, engage in systematic tree planting, in tree culture for the delight and benefit of all useful forms of life.

Therefore, I, Woodbridge N. Ferris, Governor of the State of Michigan, do hereby designate Friday, May 7, 1915, as Arbor and Bird Day, and do request that this day be observed by all schools, public and private, and other

educational institutions by the planting of trees for beautifying school grounds and parks, and by conducting suitable exercises for promoting the spirit of protection to trees and birds.

HAPPENINGS OF THE WEEK.

Foreign.

The European War.—Interest has shifted to the western war zone during the past week. Frequent attacks have been made by both the Germans and the Allies. The heaviest fighting has centered around Ypres, where several Canadian regiments are opposing the Teutons. The latest reports indicate that about 1,000 Canadians were killed, including 21 officers, during the latter part of last week, in this district of the battle front. The Germans are sending large numbers of troops to defend their positions in this quarter and to take up offensive work if possible because Ypres seems to be the key to French ports along the coast. At several other points in the west, minor engagements have resulted from advances by both the Germans and Allies, but the advantages have been of minor importance. On the east there is less activity, especially in Prussia and Russian Poland. In the Carpathian Mountains the Austrians and Germans have re-inforced the troops and are holding the Russians in check. To the south nothing of importance is reported. Last week the Allied fleet in the Dardanelles began a second attack on the forts defending that watercourse. Troops are being landed to assist the battleships. English colonial forces have had some success in forcing the Turks farther away from the Suez district. Rumors of peace talk are frequent, but nothing of an official character has been made public along this line. The latest news from Rome indicates that an agreement between Italy and Austria will probably be reached without recourse to arms.

It would appear that Japan is not to be diverted from her present program in China. Protests from the latter country and notes from the United States have failed to modify Tokio's demands for an extension of interests in China.

It is possible that an agreement will be made between the United States and Germany to provide for the exchange of potash for cotton. Such an arrangement will be of great aid to the agriculture of this country in helping the cotton growers and in supplying farmers everywhere with potash for fertilizer.

The inhabitants of ten villages near Van, Armenia, are said to have been massacred by Moslems.

The Republic of Panama is in need of money. There is a deficit in the treasury of approximately two million dollars, resulting from decreased revenues and large expenditures.

National.

Business conditions have further indications of being on a substantial basis. Last week after several days of the most active buying Wall Street has ever witnessed, there was naturally a chance for the leading issues to show a decided reaction, but instead, while buying was less active, quotations remained near the highest prevailing prices. Trade has also picked up generally, considerable improvement in cotton and woolen goods being apparent, while iron, steel and copper are in better demand. Building is also expanding in our cities, and money appears to be plentiful.

The state department at Washington delivered to the German embassy a note in reply to a memorandum criticizing the neutrality policy of the United States. The note contains a rebuke to the German Ambassador for the freedom of his remarks on the course taken by the United States toward the warring nations of Europe. The note also makes it plain that it will be a part of the neutral policy of the United States to not hinder the shipment of arms and war munitions to any of the belligerent nations.

Much interest is being given the libel trial of Colonel Roosevelt at Syracuse, New York, where the Colonel has been on the witness stand several days replying to queries of a political nature put by his own attorneys and those of Wm. Barnes, of Albany, the complainant.

In the three months ending March 4 there was an increase in loans and discounts in the 7,599 national banks of \$151,328,094, and an increase over a year previous of about \$142,000,000.

The D. A. R. in annual congress at Washington have re-elected Mrs. W. C. Story, of New York, as president for another term.

The union carpenters of Chicago are on strike for higher wages. The contractors' association has turned down an offer to arbitrate the matter. Several thousand workmen are involved.

The first shipments of steel for the government railroad in Alaska left Seattle, Wash., early last week for Cook Inlet, Alaska.

Magazine Section

LITERATURE
POETRY
HISTORY and
INFORMATION

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

The FARM BOY
and GIRL
SCIENTIFIC and
MECHANICAL

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

Some Activities of Social Center Club.

By HELEN G. ROTH.

THESE was a time when the mere mention of the name "Bertrand" was enough to provoke derisive laughter. The prosperous French town which flourished more than sixty years ago had long since fallen into decay, and the remains of the village sheltered a few ne'er-do-wells whose reputation for shiftlessness more than counter-balanced the quiet respectability of the old families in the neighborhood. "Be a Bertrand Booster" is today considered a slogan to be proudly lived up to, and the "knockers" follow this "band-wagon" and climb in, one by one.

Co-operation is the keynote in Bertrand, as in all community life. From the desire of a few of her people to co-operate with Niles in the dedication of the Boulder to mark the site of old Fort St. Joseph, came the present or-

ganization with its varied activities and interests. This is the way it came about. Several people, greatly interested in the early history of the locality, were anxious that Bertrand be represented in the parade which was to precede the ceremony of unveiling the Boulder; for the town which once flourished on the banks of the beautiful St. Joseph River was older than Niles and richer in historical lore; furthermore, the Boulder itself was taken from the woods nearby. Several weeks before the dedication, which took place July 4, the neighbors were called together at the Bertrand school house to plan for the coming event. A member of the Historical Society in Niles addressed the meeting, arousing enthusiasm and creating an interest in

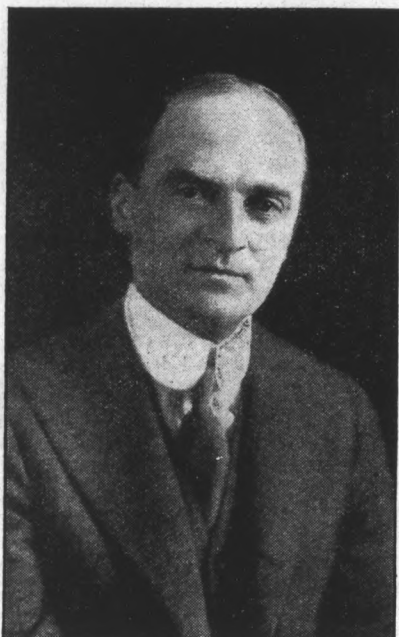
the undertaking. Two more meetings were held to complete arrangements, with the result that three historical floats, three decorated carriages, and three horse-back riders, all displaying Bertrand pennants and descriptive banners, joined in the Niles parade. That day saw the awakening of a new life in Bertrand. Those who participated in the celebration, those who were spectators, and even those who only heard the astonishment expressed on every side that Bertrand could produce such a display, felt a pride as delightful as it was new, at being residents of the old community.

At the last meeting held at the old schoolhouse before the celebration, it was discovered that the wornout organ was no longer capable of wheez-

ing out the notes of our national hymn. Then and there, a committee was appointed to look into the matter of securing a musical instrument for the school. This committee secured the co-operation of the school trustees who agreed to pay fifty dollars on a new piano. In spite of much opposition, a sum nearly as large was raised by popular subscription. A box social brought in twenty-five dollars; and on the first payment of fifty dollars, the piano was delivered. Through the interest of one of the Bertranders, a foreman in a piano factory, an excellent new piano was bought at considerable less than retail price, and a year's time allowed for payment.

A grand opening concert, with a program provided by local talent, drew a crowd which packed the school house and surrounded it on the out-

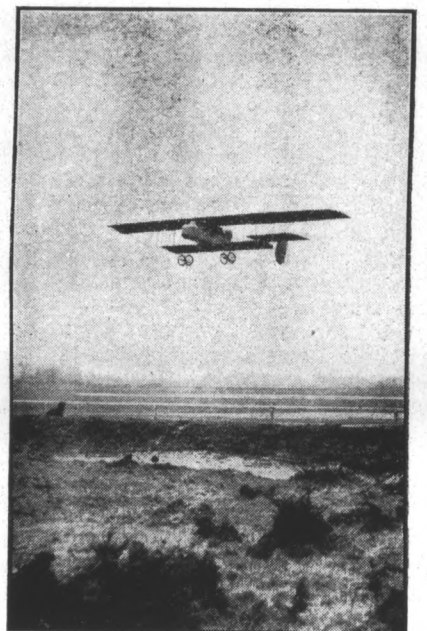
WORLD EVENTS IN PICTURES.



Edw. B. Lyman, who has Raised nearly \$2,000,000 for Belgian Relief.



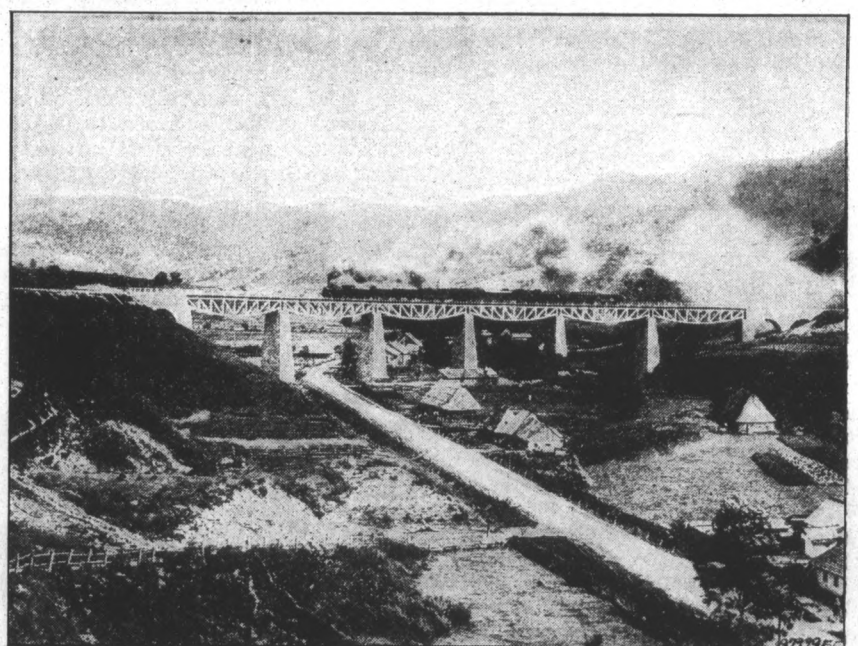
President Wilson and Mayor Mitchell Start Base Ball Season.



A French Aviator Just Starting on a Scouting Trip in Northern France.



German Military Doctor with the Turkish Army in the Desert.



Uzok Pass of Carpathians where Austrians and Russians are Battling.

Copyright by Underwood & Underwood, N. Y.

side. A voluntary offering, and the sale of ice cream, grape-juice and flowers, brought in fifty dollars, thirty-five of which was profit. The mayor of Niles and a representative of the Historical Society commended the people of Bertrand on the success they had attained, and the get-together movement was launched with a vim and enthusiasm which has never been allowed to die out.

With the advent of the new piano, in which everyone felt a proud sense of ownership, a Sunday evening song service was inaugurated; and this has become a permanent institution. The singing of gospel hymns is the only distinctively religious feature of these meetings, the program being varied, and conducted each week by a different leader. The average attendance is about seventy-five persons. Catholics, protestants, and those of no church whatever, meet on common ground, participating with equal interest and enjoyment.

Evening meetings called for better lighting facilities than the small kerosene lamps set high on the walls of the school room. The next move, therefore, was the installation of an improved lighting system at a cost of about sixty dollars. Consequently, when the formal organization of the Bertrand Social Center Club was effected in October, 1913, the real work of "getting together" was well under way—the club had a reason for organizing, and a solid foundation on which to build a permanent structure. John S. Bordner, Agricultural Expert of St. Joseph county, Indiana, and U. G. Manning, of the South Bend Chamber of Commerce, were present at the organization meeting to assist with suggestions from their experience in social center work. At this point it is well to emphasize the fact that the impulse for organization came from within, to meet the demands of a growing community. It was not an idea thrust upon the people from without. A constitution and by-laws were adopted and officers elected. The club holds a regular meeting on the first Thursday evening of each month. Routine business is transacted, and an instructive talk on some subject of common interest is given by an authority from the near-by cities or surrounding country. Collections taken at the monthly and Sunday meetings meet the running expenses. Large sums needed for special purposes are raised by socials and entertainments of various kinds.

In the year and a half of its activity the Bertrand Social Center Club has bought a new piano, a lighting system and several dozen folding chairs; planted shade trees along the main highway, and contributed three days of voluntary labor to the cause of good roads. It successfully conducted a Fourth of July celebration of its own in 1914, (without raising any preliminary subscription fund, and having a surplus of about fifty dollars in the treasury), entertaining about three thousand people with a pageant of scenes from the early history of Bertrand. A committee on relics is taking care of the records of history, past and in the making, and the preservation of old land marks in the vicinity.

Not the least important of the results due to the new spirit of progress in the community is the advance in standard of the district school. Prior to 1913 it was often necessary for the trustees to go out after enough men to form a quorum which could put them back in office. Last year a lively interest was manifest in the large attendance of voters at the annual election, with the result that the teacher's salary was raised twenty-five per cent, and a new heating plant installed. This year the interest was increased a hundred fold, much excitement being aroused over the demand for a new and larger building to accommodate the increase in school attendance. The result was a compromise; another room added to one side, improving the building in every respect,

and the district now employs two excellent teachers at good salaries. It is only a matter of a few years until a large modern structure will take the place of the present building, as the community is rapidly being settled by small land owners, attracted from the

city by the good school and social life of the neighborhood.

The idea of the club is that of a closely related rural community, where the people are united in a spirit of progress which manifests itself in every activity of the neighborhood.

THE RED MIST.

By RANDALL PARRISH.

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The three of us talked on many subjects, although Taylor said little, except when directly addressed, and I noted that few references were made to the war. Occasionally Harwood would carelessly interject a question relating to Jackson, but I remained ever on guard, exhibiting a lack of information such as was natural to a soldier in the ranks, and thus more and more disarmed suspicion. I apparently knew little beyond the disposition of my own battery, and the fact that the main camp was still at Front Royal, engaged in constant drills. In return I ventured to question my host on the condition of things in Green Briar, but made no attempt to learn the number of troops in the region. That Harwood was in the Federal service I had no doubt, although he was not in uniform, and, if this was true, then it must be also a fact that Taylor was a Union spy. The meeting here had not been by chance, although a mystery involved the hidden reason why I, a known Confederate soldier, had been encouraged to accompany the mountaineer to this secret rendezvous. What could be Taylor's object in bringing me here to meet Harwood? Various theories flitted through my mind, as I sat there, endeavoring to carry on my share of the conversation, but none wholly satisfied my judgment. At last the meal ended, and the Major pushed back his chair, and motioned for Sam to clear the table.

"You two men are tired out," he said genially, "and you had better turn in and get a good night's sleep. We'll all of us ride on into Green Briar tomorrow. I'll talk with you a minute Taylor in the parlor before you go; but Cowan does not need to wait. Help yourselves to the tobacco. Oh, Sam!"

"Show this soldier up to the back bedroom, and see he has everything he needs."

"Yes, sah."

It was clearly apparent that Harwood desired a private word with Taylor, and so, after deliberately filling my pipe, I rose to my feet, stretching sleepily. The black returned with a small lamp in his hand, and led the way up the broad stairs. My last backward glance through the open door revealed the two sitting just as I had left them, except that Harwood was leaning slightly forward across the table, and speaking earnestly. A moment later I was left alone in a small room at the end of the upper hall. As the negro closed the door, clicking the latch into place, I glanced about me curiously. It was a narrow room, containing only a chair, a washstand and a single bed, a strip of rag carpet on the floor, and the one window so heavily curtained as probably to render the light invisible from without. I placed my bundle on the chair, and examined the door; it was securely latched, but there was no lock. Then I was not being held prisoner. Still smoking, I sat down on the edge of the bed, my mind busy with the situation.

It occurred to me now with new clearness of vision that Taylor had some special object in his friendliness. If he was a Union spy his natural preference would have been to travel alone. Instead, the fellow had almost insisted on my companionship; indeed

the taciturn, silent mountaineer had even endeavored to simulate geniality to that end. But for what possible reason? Suspicion no doubt of my real purpose—a vague questioning of my identity, the truth of the story I had told. One thing was certain—I must break away from these men at once, or face exposure. Good fortune had been mine so far, for Major Harwood had failed to recognize me, but if Taylor believed evil of me his tale would certainly influence that officer, and arouse his suspicion likewise. If I could get safely away from the house that night, my escape unknown until morning, I might never encounter either of them again. 'Twas likely Harwood had come from Charleston, where Ramsay was in command, and he would return there to make his report, while the mountaineer might be dispatched in any direction but scarcely into the mountain districts of Green Briar, where my duty would take me. Nor would they waste much time in following me—for, at best, their suspicions must be vague, uncertain. Nothing had occurred to render them definite. I had said nothing, done nothing, which was inconsistent with the character I had assumed. They would most naturally suppose I was eager to get on, and preferred to complete the journey alone. No doubt they would dismiss the whole matter with a laugh when they discovered me gone.

I extinguished the light, and looked out of the window. It was quite a drop, though not necessarily a dangerous one, to the ground. Those dim outlines of buildings were probably the stables, where I would find my horse. With no guards the trick of getting away unobserved would be easy enough, and I knew the road sufficiently well to follow it safely. But I desired to learn first what these two men were actually up to. Such information might prove more important than my investigations in Green Briar. I stole across to the door and opened it noiselessly, surprised to discover it had been left unguarded. Either the men below were careless, were innocent of wrong intent, or else were completely deceived as to my character and purpose. There was no one visible in the upper hall, and I leaned over the stair rail gazing down, and listening. A light still burned within the dining-room, but there was no sound of voices, or of movement. I waited there motionless for several minutes, unable to assure myself that the conference of the two men had been terminated so quickly. Surely they must be there yet—where the lamp burned no doubt, and would resume conversation shortly.

The silence continued, and I began to cautiously steal passage down the carpeted stairs, crouching well back against the side-wall. Little by little I was able to peer in through the open door—the chairs were vacant; there was no one there. The gleam of the lamp revealed a deserted room, the table still littered with dishes. What had become, then, of Harwood and Taylor? Could they have gone to bed already? Surely I must have heard then if they had climbed the stairs. If not, had they ventured forth together on some secret mission into the night? Or were they sitting beyond in the darkened parlor? This

last supposition was possible, and I must be fully assured that neither remained in the house, before I sought to trail them without. I crept to the half-closed door, and endeavored to gain glimpse within. The room was black and silent, although I could perceive dimly the outlines of furniture. Nothing appeared strange, except that the chair nearest the door had been overturned. Surely every article of furniture stood straight and stiff enough, when I glanced that way before, on my first entrance. I recalled clearly how rigid that parlor looked, every piece of furniture placed as if by mathematical lines.

Something—some vague sense of mystery, of danger, gripped me. I felt a strange choking in the throat, and reached for the revolver at my belt. It was not there; the leather holder was empty. My first sensation was fear, a belief that I was the victim of treachery. Then it occurred to my mind that the weapon might have fallen from the holster as I rested on the bed—a mere accident. At least I would learn the truth of that dark room. I stepped within, circled the overturned chair, and a groping foot encountered something lying on the floor. I bent down, and touched it with my hand; it was the body of a man. The whole truth came to me in a flash—there had been a quarrel, a murder, unpremeditated probably, and the assassin had escaped. But which of the two was the victim? An instant I stood there, staring about in the dark, bewildered and uncertain. Then I grasped the lamp from the table in the other room, and returned holding the light in my hands. The form of Major Harwood lay extended on the floor, lifeless, his skull crushed by an ugly blow. Beside him lay a revolver, its butt blood-stained. Beyond doubt this was the weapon which had killed him. I picked it up wonderingly—it was my own.

CHAPTER IV.

Into the Enemies' Hands.

THE truth in all its ugliness came to me then in sudden revelation. This was no accident, no result of unpremeditated quarrel between the two men. Harwood's death had been deliberately planned, and the effort made to cast suspicion on me, while the murderer escaped. This was why Taylor had insisted on our traveling together so long. It accounted for many things which had puzzled me in the conduct of my companion. And the plot had been successful so far as Taylor knew. The Major lay dead, with my blood-stained revolver—evidently the weapon which had struck the blow—lying beside him. Dawn would reveal the deed, and I would be discovered alone in the house. Only my wakefulness, my desire to investigate, had interfered with the complete success of this hideous plan.

But why had Harwood been murdered? What purpose did his violent death serve? Who was Taylor? And what had brought him all that distance to do a deed like this? The two men were apparently friendly; there was a secret understanding between them; they met in this lonely place by appointment. There could be no doubt as to that, for I had caught the swift sign of warning passing between them caused by my presence; and had felt the desire for my early retirement, so they might converse freely. Could it be possible some misunderstanding had arisen which had led to this tragedy? One fact alone combatted this thought the stolen revolver; the evident purpose of the murderer to cast the burden of the crime on an innocent man. That was no impulse of the moment, no sudden inspiration. Taylor had prepared himself for this emergency, had deliberately taken the weapon for that very purpose. Where had the fellow gone? In which direction had

(Continued on page 532).

Land O' Nod Stories.

By HOWARD T. KNAPP.

Where Frisky Gets His Candy.

BILLY BE BO BY BUM was not a coward, no, sir, not a bit of it. He was never afraid to go to bed by himself, and never coaxed his mother to leave the light burning after she had tucked him in his bed, all snug and cozy. And the time he had a tooth pulled, the dentist declared he was as brave as a little Major. So you see he could not be called a 'Fraid Cat.

But now, as he trudged through the White Forest, he could not help from glancing uneasily over his shoulder from time to time. For the wind, sighing through the branches of the pine trees, made the most mournful sound imaginable. It sounded for all the world as though the pines were whispering secrets to each other, secrets about everything that had ever happened in the big woods. Of course, Billy knew it was only the wind, but for all that he did wish he had some one to keep him company.

He had glanced over his shoulder for the forty-eleventh time, just to make sure no one was following him, when something struck him a sharp little blow on the head. It really didn't hurt so very much, but Billy was so taken by surprise that he nearly jumped out of his shoes. He looked all around, but there was no one in sight, neither could he see any of the Little People stirring in the branches of the big pine.

As he stood rubbing his head, wondering what under the sun could have happened, bang, he got another crack, this time a great deal harder than before. Billy was now so scared he never even waited to find out what struck him, but started for home as fast as he could go. But before he had run very far he stubbed his toe on a stone and tumbled head first into the soft leaves. As he scrambled to his feet and rubbed the dirt out of his eyes, he heard a chuckle right above his head, and there was Tinker Teedle Tee, the merry little elf, swinging on a limb, the weeny copper kettle he wore for a hat cocked over on one ear.

"'Fraid Cat, 'Fraid Cat," shouted Tinker, kicking up his heels and pointing his finger at Billy.

"No, I'm not," protested Billy, for

he did not like to be called names.

"Then why were you running away?"

"Because, because, well, something hit me an awful crack on the head, and I don't know what it was," Billy answered.

"Ho, ho, ho," shouted Tinker, laughing so hard he tumbled off his perch. But before he touched the ground, he spread his wings, and after circling around Billy's head, lighted on his shoulder.

"Well, Billy Boy, let's go back and see what hit you," said Tinker, and opening his wings, the elf darted on ahead. Now that Tinker was along, Billy wasn't the least bit afraid, so he followed the elf as fast as he could. When he caught up with him, Tinker was standing beside a big pine cone lying on the ground. The cone was the shape of a very large egg, only instead of being smooth, it was covered with scales, just exactly like those of a fish, only much harder.

"That's what hit you," said Tinker, pointing to the cone. "No wonder it hurt. If it had ever struck me, I would have been mashed as flat as a pancake."

"Was it blown off the tree by the wind?" asked Billy.

"No, sir," Tinker replied. "See how the stem is bitten off sharp and clean, just as though it had been cut by a knife. Frisky the Red Squirrel did that with his chisel-like teeth."

"But what did he want with a pine cone?" asked Billy. "It's not good to eat, is it?"

"No, but the seeds inside are," replied Tinker. "The seed of a pine tree tastes a whole lot like almonds, and Mr. Red Squirrel think they are just about the most delicious goodie in all the White Forest. The only trouble is he has to gnaw through the hard shell of the cone to get the seeds, and that's not easy work, even for his sharp little teeth."

"Do fresh cones grow every year?" asked Billy.

"No, siree, Bob. It takes from three to four years for the seeds to ripen and the cones stay on the tree all that time, unless they are blown off by the wind."

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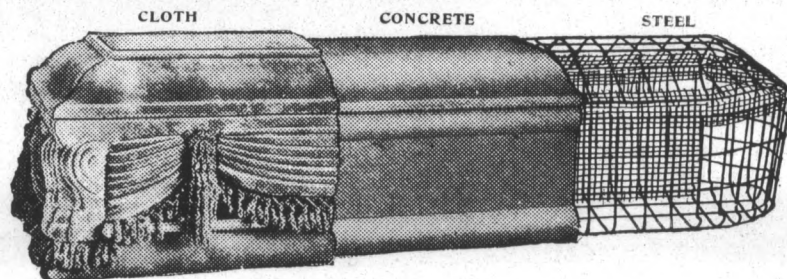
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broke out in the branches of the big pine, and there sat Frisky the Red Squirrel scolding away at them for all he was worth.

"Never mind old chatterbox," laughed Tinker Teedle Tee. "We are not going to steal your pine cone."

"So Billy and Tinker walked on, and Mr. Red Squirrel, giving his tail a saucy flit, scampered down the tree and started gnawing at the tough covering that hid the juicy pine seeds.

THE RED MIST.

(Continued from page 530).

he fled? A knowledge of this might help to clear up the mystery, might reveal, at least, whether he sought refuge with the Union or Confederate forces. And what had become of the negro?

All these questions flashed before my mind as I stood there, lamp in one hand and revolver in the other, staring down at the dead face. The first feeling of dazed bewilderment changed into anger, and a desire to revenge the death of this man who had once been my father's friend. I cared nothing at that moment for the uniform the Major had worn, that we were opposed to each other in arms; I recalled merely the genial nature of the man, his acts of former friendship, and his motherless daughter. Out of the mist floated the face of the girl, the girl who had waved to me in the road. The vision brought back to me coolness, and determination. I wiped off the blood stains from the revolver on the carpet, and slipped the weapon back into my belt, assuring myself first that it remained loaded. Then I felt through the pockets of the dead man—if robbery had been the object of this crime, that robbery did not involve the taking of money. I found a knife, keys, and a roll of bills untouched, but not a scrap of paper. On the floor, partially concealed by one arm, was a large envelope, unaddressed, roughly torn open. It was some document, then, that the murderer sought. This once attained, his purpose had been accomplished, and he had fled with it in his possession. What paper could justify such a crime? The negro—perhaps the negro knew.

Intent now on my one purpose of discovery, my mind active and alert, I returned the lamp to the dining-room table, and revolver in hand began a rapid search of the house. The front door was fastened and barred, proving Taylor had not left that way. There was but one other room on that floor, a kitchen in considerable disorder, as though the servant had made no effort to complete his work; but its outer door stood unlatched. The porch without was dark and deserted, yet through here, undoubtedly, the murderer had fled, seeking the stable and a horse. But what had become of the negro? Was he victim, or accomplice?

Satisfied now that Taylor had left the house, and escaped from the scene of his crime, I hastily searched the upper rooms, but found no trace of any other occupant. The servant was not there, nor had any bed, except my own, been occupied, or disarranged. Then Sam must have gone with the mountaineer in his hasty flight—must be equally guilty. This was the only conclusion possible, and the knowledge that I was left there alone rendered my own position more precarious. Harwood had mentioned no escort, yet surely he had never ventured into this doubtful region without having soldiers within call. No doubt they were quartered in the village, who, if he failed to appear when expected, would search for him. Before they came, and made discovery of the dead body, I must be safely beyond reach. If found there, no defense, no asseration of innocence, would ever save me from condemnation. Their vengeance would be swift and merciless. Thinking now only of my own escape unobserved, I crept back down the stairs, my nerves shaken, extinguished

the lights, without even venturing to glance again into the dark parlor, and felt my way into the night without. It was sufficiently dark to compel me to feel passage cautiously over the uneven ground, the path, circling an old garden, leading toward the stable. Twice I stumbled over the remnants of a broken fence, and once I stepped blindly into a shallow trench, and dropped my bundle. The recovery of it brought me a new thought—this would be Federal territory; or if not, already, my night's ride would bring me well within their lines before the dawn. My pass, my Confederate uniform, would only serve to increase the peril of possible capture. There might be those back yonder in Hot Springs who would recall our passage through the village, who would describe the artillery sergeant to Harwood's questioning cavalymen. A change of clothing would throw them off the trail. I slipped instantly out of the soiled suit of gray, and donned the immaculate blue, buckling the belt about my waist, and securely hooking the saber. Then I scooped out a hole in the soft dirt, and buried the old uniform, tearing the fragments broadcast. It was so lonely and still all about, not even a breath of wind stirring the leaves, that I felt a return of confidence, a renewed courage. The house behind me, and the stable before, were mere outlines, scarcely discernible through the gloom. Yet I had only to follow the path, guided by the remains of a fence, to attain the latter. It was not a large building, and the path led directly to the single door, which stood wide open. I could hear the uneasy movements of a horse within, which was a great relief, as I had been fearful lest the fugitives had left me without a mount. Obligated to feel blindly in the dark, and not knowing what the black shadows might conceal, I was some time in leading the animal forth, properly saddled. But there was no alarm, no occurrence to unnerve me, and while there were three horses in the stable, I found it easy to choose my own. Once safely in the saddle, I circled the gloom of the house silently, and followed the roadway to the gate.

Not a light gleamed in any direction and I could recall no other house near by. While it remained in view I could not remove my eyes from the mansion I had just left, or forget the dead body lying there in the dark. War had already taught me to look upon death by violence with a certain callousness. I had walked over battlefields, strewn with corpses, almost unmoved. But this was murder, foul and treacherous—the victim a man whom as a boy I had been taught to respect and revere. The shying of my horse at the gate alone caused me to note something black lying against the post. At first I deemed it a mere shadow, but the animal would not respond even to the spur, and I dismounted better to ascertain the cause of his fright. The negro lay there, dead as his master, a knife thrust in his heart. Then it was Taylor who alone had done the foul deed—and he had left no witnesses behind. Why had the fiend spared me in his bloody work? There could be but one reason—a thought in his cunning brain that I would be the one suspected—I, a helpless, unknown stranger, wearing the Confederate uniform, condemned by my own revolver lying beside the corpse—a hope that he would thus escape unfollowed. If he took such pains to cast suspicion on me, the man must have been aware that Major Harwood was not alone; that his death would be quickly discovered, and effort made to avenge it.

There was nothing I could do, but flee swiftly through the night. My own position was now far too desperate to permit of my giving any alarm, or seeking to trace the murderer. To fall into Union hands would be my death warrant, irrespective of Harwood's fate, and my duty lay in carrying out the orders of "Old Jack." To allow



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myself to be captured would spoil everything. Satisfied that the negro was indeed dead, I led my trembling horse past the motionless body, seeking as I did so to learn, if possible in which direction the murderer had disappeared. But in this I failed, the night being so dark there was no tracing of horse's hoofs on the hard roadway. I swung back into the saddle and turned to the left. I had no knowledge as to where this road—apparently not a main highway—led, but I was acquainted with the pike running west from Hot Springs. To venture back through that hamlet might, indeed, expose me to discovery, yet once beyond the village I should be traversing familiar ground, and could proceed with greater confidence. Besides, the hour was late; there was small chance that I would encounter any stray traveler, or find any pickets posted.

I rode toward the town as rapidly as I dared, watchful of every deepening shadow, until I came to the first straggling houses. These were dark and silent, and not so much as a dog barked as I walked my horse cautiously forward toward the main street. I saw but one dim light streaming out through an uncurtained window of what looked like a law office, and passed close enough to learn that a group of men within were playing cards. I could glimpse their shadows, but was unable to determine if any among them were in uniform. Yet few men were at home in those days, and it was highly probable these belonged to the Major's escort. I passed the place unobserved, and rode on into the night, feeling I had escaped from immediate danger. At what I took to be the tavern corner I discovered the road leading to the left, and turned in that direction, assured that it would lead directly into the heart of Green Briar. At a little stream unbridged, I watered my horse, which drank greedily, and then climbed the opposite bank. The road ran through thick woods, the darkness intense, and as the way was silent and seemed deserted I gave the animal the spur.

I must have loped along thus for ten minutes, all thought of pursuit already dismissed, and my mind occupied with plans for the future, when the woods suddenly ended in a bare ridge, the ribbon of road revealing itself under the soft glow of the stars. I know not why I heard no sound of warning, but at the instant, a half dozen shadows loomed up, blocking the path. I barely had time to rein in my horse before we were intermingled, the surprise evidently mutual, although one of the newcomers was swift enough to seize my animal's bit, and hold him plunging in fright. I clung to the stirrups, aware of the flash of a weapon in my face, and an oath uttered in a gruff voice.

"In God's name! where did you come from? Here, Snow, see what this fellow looks like."

The speaker had a wide brimmed hat, drawn low over his face, and a cape concealed his uniform. But Snow wore the cap of the Federal cavalry, and I knew I had fallen into Yankee hands.

CHAPTER V.

I Join the Federal Cavalry.

I SHOOK off the grip of the latter's hand from my arm.

"I have no objection to telling you my name and rank," I said coldly, "but lower that gun first; I am in uniform."

The rather contemptuous tone of voice employed had greater effect on the fellow than the evidence of his eyes. His arm fell to his side, although he still retained a grasp on my bridle.

"So I see," but with no cordiality in the words. "But that is hardly convincing. Federal officers are rare birds who ride these roads alone. Who are you, sir, and why are you here?"

"Perhaps I may be privileged to ask first by what authority you halt and question me?"

He laughed, and waved the weapon he still held toward the others of his party.

"Our force alone is sufficient authority I should suppose. However, I will set your mind at rest—I am Captain Fox, in command of a detachment of the Twelfth Pennsylvania Cavalry."

"Oh, yes," I responded more pleasantly, "of General Ramsay's command. You had left Charleston before my arrival. You know Major Harwood, no doubt?"

"We are of his escort," both suspicion and command lost before my cool assurance. "You are in the service, sir?"

"Third United States Cavalry; on recruiting detail. I was to meet Harwood at Hot Springs, but was told he had gone to Green Briar."

"By whom?"

"A scout I met by chance; he gave the name Taylor."

The Captain swore grimly, glancing across my horse into the face of the trooper opposite.

"By all the gods, that's rather odd!" he exclaimed in apparent surprise. "That was the name of the man the Major expected to meet, wasn't it Snow?"

"It was, sir."

"And he told you the Major had gone west to Green Briar? That isn't true, for this is the Green Briar road, and we have met no one. Were there no soldiers in Hot Springs?"

"I saw a group playing cards, but there were no sentries. The men had no knowledge of where Major Harwood had gone; only that he had left the village."

"Well, this stumps me!" his voice grown suddenly harder. "It doesn't sound straight, for we left him safely in Hot Springs an hour before sundown, and he had no purpose at that time except to wait there for Taylor. Do you carry any papers?"

I drew the official envelope from my pocket, and held it out to him calmly. He opened the flap.

"A little light, Snow—yes, a match will do."

The flame lit up their faces—the officer a thin-faced man with moustache and imperial, his teeth oddly prominent; the trooper older in years, but smooth-shaven, with deep-set eyes and square chin. Their uniforms were dusty and well worn. The others, clustered behind, remained mere shadows. The Captain took in the nature of the document at a glance, and I marked a change in his expression before the match went out.

"Oh, I see—you are Lieutenant Raymond. Got to us earlier than you expected. Find many recruits north?"

"No," I answered, taken completely by surprise, but managing to control my voice. "That was why I thought I might accomplish more in this section. Those counties have been combed over." I hesitated an instant, and yet it was best for me to learn what I could. "I was not aware, Captain, that my projected visit had been announced."

He laughed, and the second match went out, leaving us again in darkness.

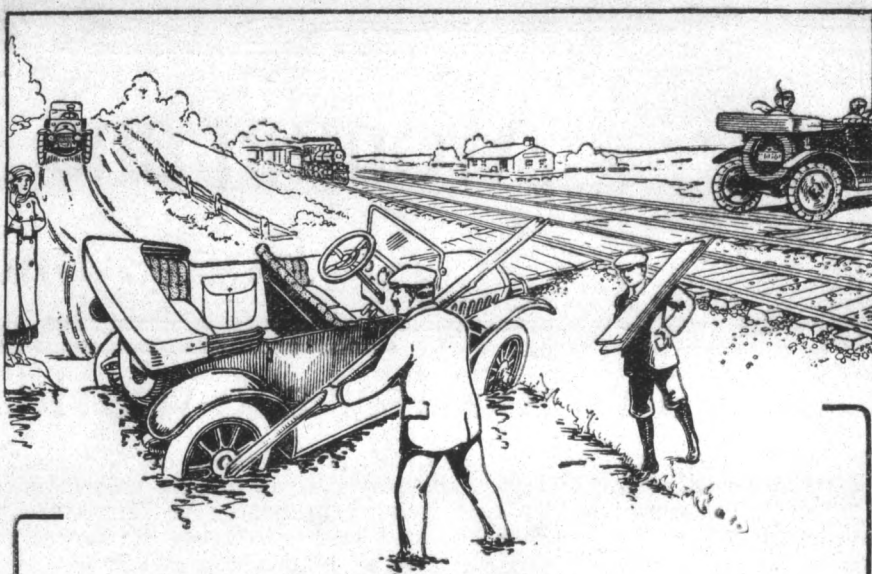
"Nor was it, officially; merely a friendly letter from an officer on Heitzelmann's staff to our Major, asking for you a friendly reception. Camp gossip brought the news to me. You knew Harwood?"

"No; only General Ramsay advised me to confer with him, because of his intimate knowledge of this section. He belonged, I believe in Green Briar?"

"Yes, we were at his place yesterday; south of Lewisburg. What sort of a looking man was this fellow Taylor?"

I described him minutely, hoping for some recognition, but the Captain did not appear to recall any such character.

(Continued next week.)



Loss of Traction May Mean Loss of Life

Skidding is entirely due to a loss of traction. In other words, the momentum of the machine is in excess of its traction when an attempt is made to alter the direction of travel on a slippery surface. The moving body overcomes the very slight adhesion of the rear tires, and they slide in the direction they were originally moving, instead of following the path of the front wheels.

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Woman and Her Needs

At Home and Elsewhere



Don't Try to Alter the World

LITTLE things, yes, little things, make up the sum of living." I must ask you to take time in the morning to comb your hair so you won't need to wear one of those dust caps at the breakfast table."

I do not know who first said that, but whoever the philosopher, he only made a universal discovery. All of us find out sooner or later that it really isn't the big things in life which count, but the little unnoticed daily happenings which make or break us.

So often we think happiness depends upon something big. If we only could have a fortune, or if we could take a trip around the world, or if we could become the social leader in our set we think our happiness would be assured. How often we've said, "If I

What's that you have on your head? I must ask you to take time in the morning to comb your hair so you won't need to wear one of those dust caps at the breakfast table."

"What's this? Lamb chops? Lamb, indeed. That lamb died of old age. If you can't tell lamb from mutton, my dear, you had better hunt up a butcher who is honest enough not to cheat you."

Every breakfast is a nightmare, because practically every member of the family will come in for a rap from father for something which really does not matter. If he enjoys the meal



Flowers Add Much to the Enjoyment of Farm Life.

could only have this one thing I'd ask he is the only one who does. The rest are kept in a constant state of apprehension lest some chance remark or act turn his attention to them. He leaves the house with parting shots for mother who has hung something over his coat or forgotten to mend the rip in his glove or sew on the button which is half off, and then the family livens up a bit. But the depression he has cast over them is never entirely gone. No one ever breathes a deep, free, happy breath because of father.

Happiness is pretty closely dependent upon the little things of life. In all too many homes it is driven out by the constant ill-temper of only one member. There is one family where it is father who completely destroys the happiness and comfort of the entire family of five. And it is by no single bad habit that he wrecks his own home. He doesn't drink nor gamble nor stay out nights nor beat the family nor starve them. In fact, he is rather inclined to be over-generous with his money, goes to church on Sundays, stands for everything which is good in the community, and is looked upon as a model citizen. If you asked his opinion he would tell you he was a model husband and father, and his family were mighty lucky to have him as its head.

But at the same time every member of the family breathes a sigh of relief when he leaves mornings, and there are no expressions of joy when it is time for him to return at night. The trouble is that father is a chronic fault-finder. You might even go farther and say he is a confirmed grouch. Mother knows that the breakfast-table conversation will run something like this:

"For Heaven's sake, what ails this coffee? It tastes like dishwater. It seems to me, with all the money I provide you might get decent coffee, at least. But if you did it would probably be spoiled in the making."

"Charles, leave the table at once and wash your face. How many mornings must you be told about it?"

"Mary, sit still in your chair. That constant wiggling is enough to drive a man insane. I should think your mother would teach you that repose is most desirable in young ladies. Insist that your children shall adapt

As a matter of fact, why should we stand them? Why should we submit to the fault-finder just to keep the peace? Why not say right out that life is a process of adjustments to little things and that no one can expect to have his own way about everything. Insist that your children shall adapt

themselves to circumstances, instead of trying to change everything and everyone to suit their own whims. You will be saving a deal of discomfort for your own immediate family, not to mention the family of the next generation.

DEBORAH.

PLEASURE AND PROFIT FROM THE FLOWER GARDEN.

BY MRS. E. O. SWOPE.

Recently in making out a seed order, among other seeds ordered were those of the geranium and dahlia. I just wonder how many of the flower lovers of the Michigan Farmer know that both the geranium and dahlia can be grown from seed as easily as tomatoes. In fact, this is the way the new kinds are started, one often getting very rare combinations of colors. If sown early in the house, and transplanted into good garden soil after danger of frost is past, they will bloom the first year, and in the case of geraniums will make nice plants for the house the following winter. If not wanted in the windows, they can be packed back into boxes and stored in the cellar until spring, when they must be trimmed back and set out in the ground, where they will produce more flowers than they did the first year.

While geranium flowers are not so popular as those of the dahlia, there is always a call for the plants, both for house culture and for the flower garden, and small plants can be started from slips. The dahlia is just as satisfactory for the flower garden, furnishing an abundance of flowers, and the more they are gathered, the more flowers will come. They are very much like the sweet pea in this respect, and they will do better if all dead flowers are removed. They will bloom until killed by frost. The roots should be lifted and stored in the cellar before hard freezing weather comes. A cellar that will keep potatoes will be all right for dahlia roots. In the spring these roots should be set out of doors, when the sprouts will start, showing which are all right;

After having the flowers on the market through the summer, take some of your surplus roots to market during the next spring and see how readily they will sell. You will be surprised to see how many flower lovers there really are near you. These roots will bring from five cents each for the mixed varieties to ten cents for the specially named sorts.

Now first, a word about setting out the roots. Do not put into the ground until it is warm, or they are likely to rot and not grow. The first of May is about the right time in this latitude, about the middle of May being right for the more northern latitudes. Set about four feet apart each way. If the roots are six feet apart it is better, especially if we have to go among them much, as the tops of most varieties grow large.

I wonder how many know that there are hundreds of different kinds of dahlias. A neighbor of mine had several hundred different kinds last year. They were beyond description when out in full bloom. These people get roots from many different countries, and their beds are very near perfection in every respect. They sell flowers in many of the larger eastern cities, and the demand is always greater than the supply.

A flower that can be started from cuttings is the rose. The Dorothy Perkins is a nice variety and an easy one to get started. I have started this in April when the ground is moist, and it will root quickly. But it can be started in June if the ground is not too dry. From an ordinary sized bush a large number of cuttings can be taken, as it is a rank grower, and needs lots of trimming. In a year they are ready for market, and will bring 15 to 25 cents if well grown. They will grow for anyone and almost anywhere. This variety is a good one for the northern states, and is a favorite in Michigan.

LETTER BOX.

Household Editor:—I am sending you a couple of pictures of my dahlias



Dahlias Blossom Abundantly when Planted in Rich Soil.

thus you need have no gaps in your rows from some of them not growing. You need not set a whole bunch in one place, as each root that has a sprout started will grow, if separated from the main stock.

These dahlias can be made a source of profit as well as a pleasure, as the flowers sell readily at 25 cents a dozen to the larger country markets and to automobile parties, etc., six dozen flowers making a gorgeous bouquet.

and would like to tell the flower lovers of the Michigan Farmer how I raised them. It may be out of date now, but we are all so busy in the spring that I am afraid I should forget it. I had been spading an old hog lot near the house so my chicks could get worms, and I thought the ground looked so good it would do for my dahlia bulbs. I spaded across, then dropped bulbs about a foot apart, then I spaded across and did not put

any in, so it made every other row about a foot each way. This made them rather close, but I wanted to get rid of those bulbs as quickly as possible.

ble. I think I just hit the right way for I never had such beautiful flowers. They were just one mass of bloom from July until October.—Mrs. J. M. C.

The Needs of a Farmer's Wife.

I AM not going to speak of the physical needs of a farmer's wife, but of what I consider of more importance, her mental needs. "As a man thinketh in his heart, so is he," and what she thinks of her work, rather than her manner of doing it, is what counts. Whether she does it because she has to makes all the difference.

To one who likes the country, has a genuine love for all growing things, a farm life would be the pleasantest of all, but to be a success she must like it. I knew a lady who lived in a city who supported herself and little son by sewing hooks and eyes on cards for one of the department stores. That seemed to me a very hard and uncertain way of making a living and I thought how much better it would be if she would come out in the country. I asked her how she would like living on a farm.

"Oh, my," said she, "I wouldn't do that for anything. I couldn't stand it."

She said she had gone out and kept house for her sister who lived on a farm, for a week while she was away, and it nearly killed her. She had to run every time a hen cackled to get the eggs, to make butter, to keep the hens out of the garden and do a dozen other things all at once. Oh, no, she couldn't, she just couldn't do it. Evidently she didn't like the work and saw only the hard side of it.

I think the "always at it," never get through, never have a minute off, part of farm work, is the most discouraging; the thought that there is no place to stop, the doing the same things the same way every day. The most trying, perhaps, of all our tasks is the planning and cooking of meals. The answer to this question, "What shall I get to eat?" has destroyed the peace of mind of more than one woman, and I think if the inscription on every woman's tombstone read, "Died of too much cooking," it would be more nearly true than any other thing. It certainly would be if she stopped to think of the three meals a day, 365 days, 1095 meals, she had to get in a year. But don't think of it, for if you do you may not be able to get every one of them. "Sufficient unto the day, is the evil thereof." Don't get them till it's time. Perhaps you might go visiting or be sick a week or two and not have to get all the 1095 meals. Try, anyway, to think only of the one just ahead. Change your thoughts. It often happens that the thing we are dreading most is not so bad after all, when we get to it.

And how many of us are working beyond our strength, doing unnecessary things, just for fear of what the neighbors will think or say. Who among them will know or care a year from now whether we washed on Monday, ironed on Tuesday, baked on Wednesday, patched on Thursday, swept on Friday, baked on Saturday for a Grange supper at night, or a big family dinner on Sunday? Or whether we spent half that time enjoying ourselves doing something else, coming out at the end of the year with strength enough to go all over it again? The way we live, our lives, mean more to our families and to ourselves than to anyone else, so why worry about what the neighbors will think?

A lady once said to me, "I am willing to help my husband all I can, but I won't do his worrying." Sensible. I hope she stuck to it. We have no right to ask anyone to help us worry. Everybody has troubles of his own. I really think that anyone having a bad case of worry ought to be quarantined. It is not only dangerous but contagious. We should keep our

worries to ourselves as we would a great secret. Every year we tear our houses to pieces for a general cleaning out. We paint, paper, calomine, make everything clean and fresh, putting in new things, changing everything as much as possible. Now, wouldn't it be well when we have everything settled to our satisfaction, to have a mental cleaning out? "Cleanliness is next to Godliness." I believe that means clean minds as well as clean dwelling places. Then let us get the dust and cobwebs out of our brains, get rid of all the rubbish that has collected there in the past year. Replace the old thoughts with new ones, changing our minds as completely as we do the houses in which we live. Let us fumigate our minds from those little worry thoughts, just as we do our closets for moths, for they really are mental moths of the deadliest kind, and especially fatal to farmers' wives. All kinds of formulas are being sent out yearly for destroying the moths and insects that kill our trees and vegetation, but no one has ever thought of anything for this worst of all, the worry moth, more destructive by far than any other kind. It eats holes in our pleasures. It paralyzes the brain and destroys the body. It has been said that one could always tell a farmer's wife by her tired look. Probably that is because she always has a bunch of these worry moths with her and is worrying for fear the hawks will take her chickens, the little pigs tear up the garden, the children will set the house on fire or leave the screen door open and let all the flies in. Little things, all of them, but killing in effect.

Now no one would think of running a cream separator, a sewing machine or any other piece of machinery without keeping it well oiled. Change to minds is what oil is to machinery, and farmers' wives are especially in need of that kind of oil to keep them running and in good condition. The greatest and best change of all, and what you most need, is a change of mind. That sounds very simple and easy, but you will find it the hardest of all things to do. The old worries and old habits beset us on every hand. But try this. Try doing the old things in a new way. This is a day of progression. Perhaps you might discover a new way even in dishwashing. That would benefit the world. Take a day off whenever it is possible and be sure, very sure, before you go to put all those little worry moths in a box, lock them up and lose the key. Perhaps you won't have that tired look and no one will know you are a farmer's wife. Here is another. Get your lecturer to let you write and read a paper for a Farmers' Institute or a Grange meeting. That will start a new set of worry moths to working, maybe kill off some of the smaller ones. At least they won't get a chance to do much damage for a week or two. Get all the sunshine you can inside and out. Go out in the fields once in a while, away from everything for a few quiet moments by yourself. Perhaps when you return you will feel something like this:

The little cares that fretted me,
I lost them yesterday
Among the fields above the sea,
Among the lowing of the herds,
The rustling of the trees,
Among the singing of the birds,
The humming of the bees.

The foolish fears of what might come,
I cast them all away,
Among the clover scented grass,
Among the new mown hay,
Among the husking of the corn,
Where drowsy poppies nod,
Where all thoughts die and good are born,
Out in the fields with God.

MRS. G. BARTHOLOMEW.

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natural curled hair, the design of the seats, and the buoyancy and sensitiveness of the self-lubricating springs, make you unmindful of distance.

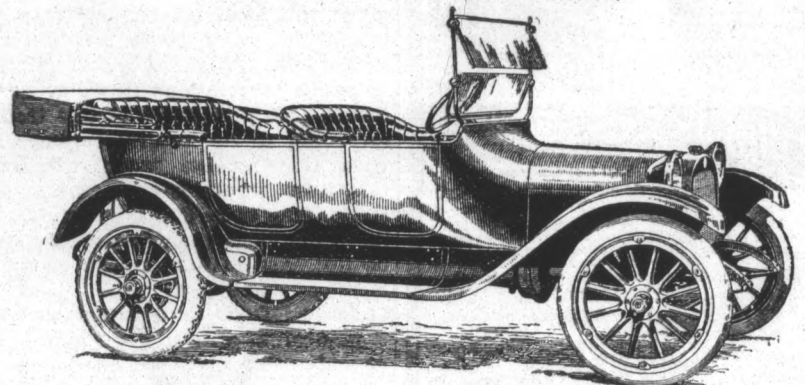
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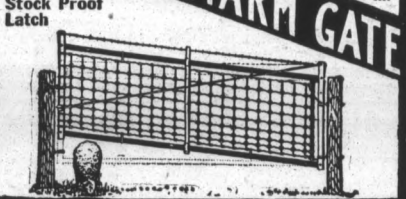
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Farm Commerce.

Does Co-operation Hurt Home Town?

IN the inception and advancement of the co-operative movement in this section, the most frequent and powerful argument used by the opposition has been the cry that the formation of these associations would ruin the business of the home town. So insistent and so often has this argument been advanced that a consideration of the proposition will prove worth while. Let us see if, in the light of facts, the contention has any foundation. Certainly, all will agree that the ruin of the business of the town in any locality, would be a short-sighted and dangerous policy to pursue.

The Opposing Factors.

When the first co-operative association in this section was organized, the local paper, the business men of the village, and above all, the local stock buyers, spared no effort in their power to defeat the project. But in spite of this opposition, the association was formed and began doing business as a co-operative shipping association. Subsequent events have proved that the stock buyers alone had fought the movement with good reason. As for the general business of the town, it has continued to prosper. Indeed, if anything, the business in this town has increased, due to the fact that farmers for miles around have taken their live stock to that station for shipment, and as a consequence, have given the local merchants trade that would not have come under normal conditions. With the formation of shipping associations in other nearby towns, of course much of this trade is returning to its natural center. But, with this foreign trade withdrawn, this town where a co-operative association has been doing a thriving business for more than two years, shows no decrease in the amount of general business carried on.

Greatest Good to Greatest Number.

In dealing with the question under consideration, let it be remembered that co-operation in this section has for the most part, taken the form of shipping associations. One co-operative creamery has been doing a successful business for a number of years, and talk may be heard of co-operative kraut factories and other kindred concerns. Now, all this is in the line of the farmer's business. It eliminates a few well-paid men, of course, middlemen, such as stock buyers and operators of creameries and kindred concerns. But in the nature of the case, it is difficult to see how co-operative business along these lines will

ruin or hurt the prosperity of any town.

The arguments, indeed, are all on the other side. In its very nature, co-operation stands for the greatest good to the greatest number. It gives to the producer something like his just share of the profits of his labor. It does not take the money out of the community, but rather, keeps it there and distributes it among many instead of placing it in the hands of a few. More profits for the farmer means more business done in the locality in which he lives. Any movement which tends to distribute wealth among the producers of a community, must tend to increase rather than diminish the prosperity of that community.

Seeks Just Business Conditions.

But in fairness to those who have exerted their influence in checking the co-operative movement, let it be said that co-operation may and has taken other forms beside those mentioned. In one town, a co-operative meat market has gone into operation. Warehouses for the storing of mill-feed, barrel salt, etc., are among the undertakings which might decrease the business of individuals in a town. But it is safe to say that these features will be developed only so far as the farmer feels he is not getting a square deal. Market men and dealers in the above named commodities need have little fear of ruined business unless their own business methods provoke the association into forming rival establishments. In the main, these co-operative associations consider such enterprises as out of their sphere. They do realize, however, that in organization there is strength, and that a strong co-operative association places them in a position to safeguard their interests. When local dealers know there is a power in the community which is able to put them out of business, square dealing is very likely to result.

A Few May Suffer for the Good of Many.

In the farmers' co-operative associations which are sweeping over this section with amazing rapidity, every student of the times recognizes a new and inevitable product of our modern industrial life. Just as modern conditions have produced the labor unions and made them essential to the welfare of the laboring class, so now, they are producing the co-operative associations essential to the welfare of the tillers of the soil. The man who tries to stem the tide or fight this movement, has failed to grasp the significance of the co-operative

idea. If a few middlemen suffer, thousands of producers gain.

The co-operative movement is doing more to solve the problem of giving the producer his just share, than any other movement has ever done. Modern conditions have made the step imperative. Laborers in other lines organized long ago. Business men have for a long time, had their organizations. Why should not the farmers organize for mutual profit and protection? The cry that the movement will ruin the home town, can not check its progress. Moreover, as has been shown, the cry is groundless. To bring the greatest good to the greatest number; to bring the producer and the consumer closer together; to protect the tillers of the soil against those who would take from them more than a reasonable share; these are some of the basic principles of the co-operative movement.

It is folly to stand in the way of an institution so obviously fair and just. To take what is offered for his products and to pay the price set by others for commodities he must purchase, this condition has long been a galling one to the farmer. The co-operative movement is relieving the strain. The movement is doing another thing, too, teaching business methods. If the movement has its disadvantages, these have yet to appear. Measured broadly and comprehensively, co-operation would seem to be a mighty good thing, not only for the farmer, but for the home town and for the entire community.

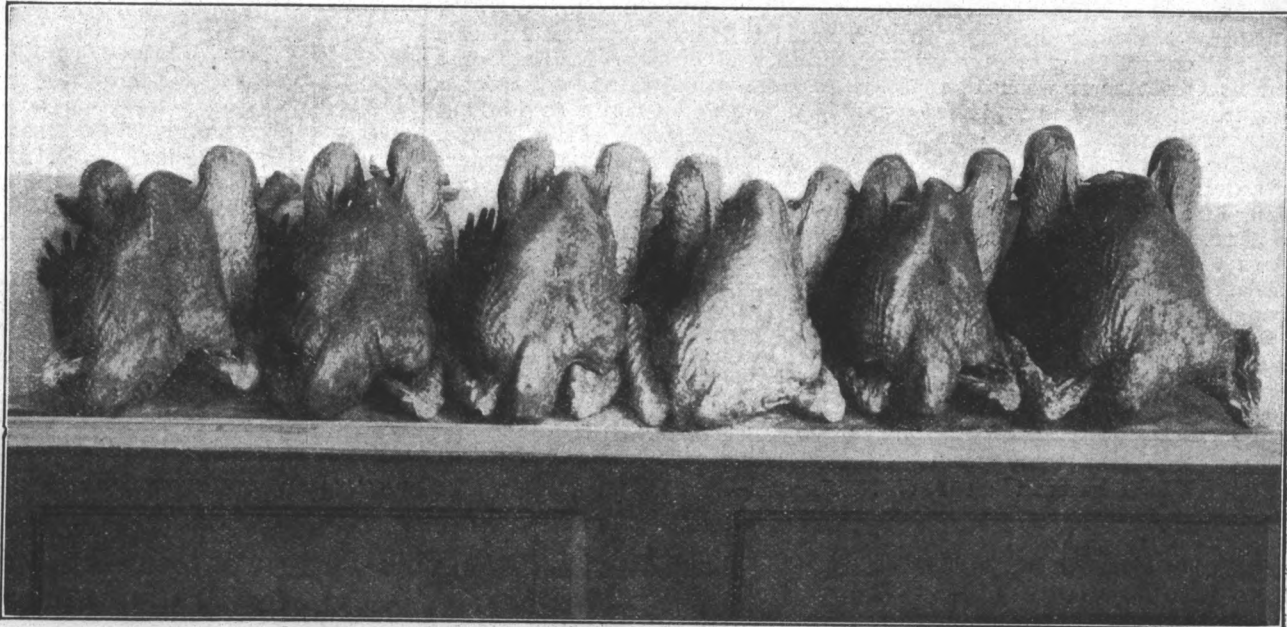
Hillsdale Co.

J. A. KAISER.

GROWING USE OF MOTOR
TRUCKS.

Henry Smith, of Kent county, treasurer of the Michigan State Horticultural Society, prominent florist, fruit grower and farmer, is using motor-drawn power almost exclusively now between city and farm and says that he would not think of going back to horses. His farm, orchards and battery of greenhouses, with the largest area under glass in the state, are located on the Bridge street road, a mile west of the city, and the long steep hill that must be climbed in leaving the city, is without question one of the worst existing anywhere. Many thousands of dollars have been spent in reducing this grade but the hill still is formidable, whether one is going up or down.

Mr. Smith has been using a four-ton truck for the past year and has been able to save much time and money with this machine. The truck climbs the hill without any trouble. Much time is saved since now the loaded machine makes the trip down town, is unloaded and back again at the farm within an hour. Pneumatic tires are used and a bushel of apples set on the



Some Farmers Having Egg and Butter Customers in Cities, Enlarged their Direct Selling Operations this Spring by Adding Dressed Poultry for which they Realized Handsomely on Account of the Good Prices Ruling.

A Whole Winter To Try It

**BURNS
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**HEATS
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**Made, Sold, Installed By
Factory-Trained Experts
The WOLVERINE FURNACE**

—is the perfection of warm air furnaces. You test it a whole winter free. If it doesn't give perfect satisfaction, we take it out and it doesn't cost you one cent. It saves a large percentage on fuel—heats every room. Easily operated. Does away with all heating troubles. If you are thinking of changing the heating system in an old building or installing a heater in a new building, let us send a factory-trained expert to talk it over.

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No Dealers or Jobbers**

The WOLVERINE has $\frac{1}{2}$ to $\frac{3}{4}$ more heating surface and because of our exceptional construction heat is easily thrown to portions of building exposed to wind and weather.

A Winter's Trial FREE!

After a WOLVERINE is delivered to you, we send an expert furnace installer, factory-trained, to assemble it. Remember this: We not only sell furnaces—but we guarantee in writing to install a complete heating and ventilating system that will heat your home satisfactorily.

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Our big new FREE catalog is an education on heating. Read it carefully, then you'll know why the Wolverine is the furnace you ought to have. Write today.

Marshall Furnace Co.,

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We have no dealers or jobbers. You deal direct with us.

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Are low in cost, easily built, and give satisfaction everywhere. Built with out forms, with only the usual scaffolding and ordinary farm labor. Walls not injured by silage juices. Water-proof, fire-proof, storm-proof, rat-proof. Nothing to rot or wear out. Need no painting or repairs. For farm buildings of every kind, use Hy-Rib construction. Hy-Rib combines within itself reinforcement, forms, lath and studs. Silo Catalog Free. Containing useful information, and examples of farm buildings. Write today. Agents Wanted.

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688 Trussed Concrete Building, Detroit, Mich.

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Steel Shingles**

"We pay the freight"

are fireproof, weather-proof, cold and heat-proof. Cheaper than wood shingles and easier and quicker to lay. Do not rot, curl, crack, buckle nor fall off. Need no repairs. Always look well. Water-tight lock-joint permits laying on low pitch roofs. Any one can put them on.

Every Shingle Guaranteed. Made of full 28-gauge steel, painted or galvanized and come singly, eight to sheet or in clusters, 5 ft. x 2 ft.

Buy Direct and save middleman's profits. Orders shipped day received. We pay the freight. You know steel roofs are best. Get the right kind and save money.

Send for the New Big Catalog and make your choice from the many designs and sizes. It shows how to get the best roof for least money. Send Today.

Kanneberg Roofing & Ceiling Co.
Est. 1896
1557 Douglas Street
Canton, O.

Name.....
Address.....

running board without being tied on will ride safely. For very heavy hauling Mr. Smith would recommend hard rubber tires. He says the cost of upkeep of the machine is very small. The truck is used in hauling fruit to market, and is home again early in the morning, and when horses were used the rigs did not get back before noon.

Mr. Smith uses smaller cars for lighter delivery service. Since trucks cost \$1,500 to \$2,000, he says that people ought not to make the investment unless they have a reasonable amount of work for them. They pay, and pay well, if you can use them. He does not use a trailer.

Frank Baldwin, a farmer living on the river road, nine miles from Grand Rapids, is using two trucks in hauling fruit and farm produce to market. He started with one machine and was so well pleased with results that he has added another one.

A local canning company used motor trucks in strawberry harvest last year, making two round trips between Grand Rapids and Kent City, a distance of 22 miles, between 6:00 p. m. and daylight. These same machines were in use all day in Grand Rapids by a trucking concern, and so were utilized night and day for some time. This is the ideal with motor trucks, or machinery of any kind, to keep them working all the time, with no rusting periods between. The possibilities with the truck are almost infinite.

Kent Co. ALMOND GRIFFEN.

Crop and Market Notes.

Michigan.

Calhoun Co., April 20.—Oat sowing is well under way, and some are plowing for beans and corn. There will be a considerable amount of beans planted. Rye looks fine and there is a large acreage. Not much wheat sown last fall. Sheep shearing is under way, with a nice crop of wool, and sheep are looking fine.

Cheboygan Co., April 19.—Wheat and rye came out of the winter in good shape, and prospects are for good crops. No oats sown yet but farmers are preparing the ground for seeding. Potatoes 24c; corn 40c per basket; wheat \$1.30; oats 75c per bu; butter 30c; eggs 20c.

Delta Co., April 19.—Weather fine and farmers have begun plowing. Lots of hay but not much grain in farmers' hands. Large quantities of potatoes on hand, and not much demand for them. Potatoes 25c; wheat \$1.62; oats 62½c; barley 85c; Canadian peas for seed \$3.

Emmet Co., April 19.—Cool, backward weather is delaying farm work. Meadows and winter grain have come out in fair to good condition. It is probable that the acreage planted to potatoes will be decreased and the amount of beans planted increased.

Gratiot Co., April 20.—Weather conditions ideal. Roads are splendid. Oat seeding has begun, and it is expected that the acreage will be larger than usual. Much grass seeding is being done on both wheat and oat ground. Wheat is looking better than usual for this date. There has been but little rain, farm work has been rushed and is well advanced. Corn and bean ground is being fitted. Butter-fat 27c; milk \$1.25 per cwt; eggs 18c.

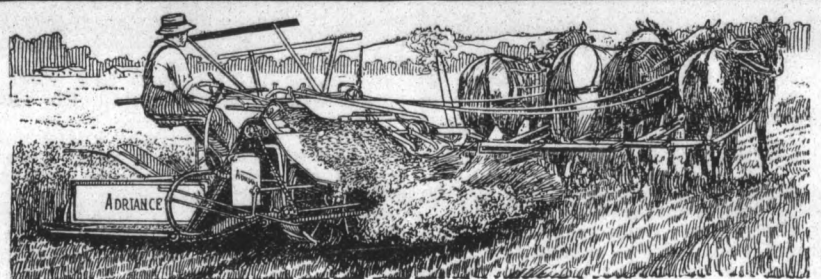
New York.

Niagara Co., April 20.—Fine spring weather and spring work is progressing in fine shape, on account of no rain. Condition of meadows and winter grains good. Peaches have been sprayed, and the peach buds seem to be abundant, other fruits ordinary. Some wheat in farmers' hands, selling at \$1.40; oats 70c; hay \$13; clover seed \$10; beans, white \$2.75; red beans \$3; eggs 18c; butter 25c. Cabbage all cleaned up.

Pennsylvania.

Crawford Co., April 20.—It has been rather dry, and roads are fine. Meadows and grain were injured somewhat by the late freezing, but wheat looks well now. Spring work has commenced and some have oats sowed. It is (Continued on page 538).

"Try-a-bag" of fertilizer. Our brands are soluble and active, and not only increase yield, but improve quality and hasten maturity. Agents wanted. Address American Agricultural Chemical Co., Cleveland, Cincinnati, Detroit or Baltimore.—Adv.



Adriance Harvesting Machinery

Investigate before buying and you will have but one choice—ADRIANCE BINDER. Considered by those who know to be the surest tying and the simplest knotter made—no toggles or delicate parts to get out of order. Any boy can adjust an Adriance knotter. Only one set screw to tighten or loosen as the case may be.

Binder is driven direct from gear shaft. Chain has nothing to do but drive the binding parts. No extra strain on the elevator chain, which means no chain trouble. Rollers have self aligning boxes which always run free no matter what position. No twisting strain can cause them to bind and cut out bearings.

Lever tightener for all canvases—don't have to unbuckle them at night.

Main wheel has roller bearings. Reel controlled by one lever for all positions. Adriance has no side draft, and is by far the lightest draft binder on the market. A trial will prove our claim.

Adriance Mower—A powerful grass cutter. Spring hitch relieves the jar on the horses; crank shaft has bronze bearings; knife always in line; steel bearing plates for knife; no broken knife heads. The every day mower—lightest draft. Try it.



Our Branch Houses and Dealers in all parts of the country carry complete stocks of repairs.

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need not be dull and forlorn. You can make it just chock full of cheerful work if you wear the

**FISH BRAND
REFLEX
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Dressy? Not a bit. Just a coat for good hard service, easy fitting, light, and waterproof—absolutely. Reflex Edges stop every drop from running in at the front.

\$3.00 EVERYWHERE

Black, Yellow or Olive Khaki. Protector Hat 75 cts.

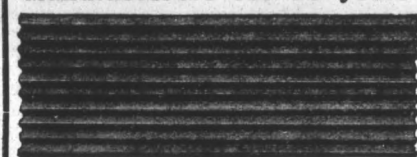
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Montgomery Cherry \$14 \$10 \$7 Apple Trees 7 5 3
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Write for Special Prices on Stock not listed above. We advise our customers to send in extra orders. This is an exceptional opportunity to buy the same Kelly Trees which have given you satisfaction for years. These prices are subject to recall at any moment. Better write today.
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Before you buy a buggy, by all means get our 1915 Catalogue and learn how to save \$25 to \$40 on the best vehicles made.

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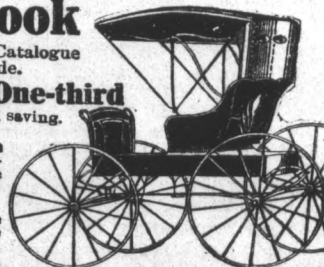
We sell you direct from the factory making you a substantial saving.

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Economical, reliable, steady, satisfactory engine service built into every Galloway gasoline and kerosene engine. Heavy weight, large bore and long stroke—low speeded. Compare it with any engine! Then decide! Don't buy an engine of any make at any price until you know all about Galloway engines. H-6
ENGINE PRICES LOWER
Great volume, perfected design and simplicity make Galloway prices possible. Built from best material on modern automatic machinery, all parts standardized. Sold to you at one small profit. No unnecessary parts. Built-in quality steadily increases our volume. All styles and sizes from 1-2 h. p. to 16 h. p. at proportionate prices. A postal gets big Galloway engine book free. Engines shipped from Minneapolis, Council Bluffs, Kansas City, Waterloo or Chicago.
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CREOSOTED TAMARACK POSTS

EVER-LASTING FENCE POSTS treated through-out under heavy pressure, prices compare with the best cedar. We operate a Wood Preserving plant, treating ties, poles, posts and timber of all kinds with pressure treatment.

NOTE—We do not use a dipping process.

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Michigan White Cedar FENCE POSTS

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Capital Stock—\$100,000. Surplus—\$100,000

Home Office—Charlotte, Michigan.

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Wilson's Phosphate Mills
From 1 to 40 H. P. Send for catalogue.
WILSON BROS. Sole Mfrs., Easton, Pa.

Markets.

WEATHER FORECAST.

For Week Beginning April 28. By U. S. Weather Bureau.

In the region of the great lakes mild temperatures for the season are probable until after the first of May, when lower temperatures will set in. The week will give local showers at its beginning and again after April 30, but on the whole it will be one of generally fair weather.

GRAINS AND SEEDS.

April 27, 1915.

Wheat.—The bulls have had general control of the grain market during the past week, and prices are ruling a little higher. Foreign demand is strong. Opposed to the European situation is the general crop prospects in this country. While the grain is suffering in some sections from lack of moisture, the country as a whole has promise of a big harvest, providing conditions continue normal. The American visible supply decreased nearly 4,000,000 bushels last week and is 16,500,000 bushels below the supply of a year ago. The price then for No. 2 red wheat was 98½¢ per bushel. Quotations are as follows:

	No. 2	No. 1	
	Red.	White.	July.
Wednesday	1.59	1.55	1.35
Thursday	1.58	1.54	1.35
Friday	1.60	1.56	1.37½
Saturday	1.61	1.57	1.38½
Monday	1.61	1.57	1.37
Tuesday	1.59½	1.55½	1.34½

Chicago, (April 26).—No. 2 red wheat \$1.64¼@1.65¼; May \$1.64½¢; July \$1.37½¢.

Corn.—Corn has changed with wheat. Country offerings have been fair, but the visible supply shows a decrease of over 4,000,000 bushels. Argentine crop is somewhat disappointing. Weather conditions have been favorable for planting. One year ago No. 3 corn was selling at 68¢ per bu. Quotations are as follows:

	No. 3	No. 3	
	Mixed.	Yellow.	
Wednesday	79	80	
Thursday	79	80	
Friday	79	80	
Saturday	79	80	
Monday	79	80	
Tuesday	78	79	

Chicago, (April 26).—No. 2 yellow 78½@79¢; May 77¼¢; July 80½¢.

Oats.—Prices about steady with last week. Rains have helped the new crop in some sections. Demand is fair and primary receipts showed a slight increase on Monday. A year ago standard oats were selling at 41¼¢ per bushel. Quotations are as follows:

	No. 3	
	Standard.	White.
Wednesday	61	60½
Thursday	61	60½
Friday	60½	60
Saturday	60½	60
Monday	60½	60
Tuesday	58½	58

Chicago, (April 26).—Standard oats 57¼@57½¢; May 56½¢; July 55½¢.

Rye.—Quotations have been marked up four cents on the local market the past week. There appears to be very little of this grain in sight. Cash No. 2 \$1.16 per bushel.

Beans.—Inactive and 5¢ lower. The Detroit quotations are: Cash \$2.95; June \$3.05. Chicago trade is ordinary and firm. Pea beans, hand-picked, choice, quoted at \$3.10@3.25; common \$2.90@3; red kidneys \$3.25@3.65. At Greenville beans are steady at \$2.70 per bushel.

FLOUR AND FEEDS.

Flour.—Jobbing lots in one-eighth paper sacks are selling on the Detroit market per 196 lbs., as follows: Best patent \$7.90; seconds, \$7.70; straight \$7.30; spring patent \$8.10; rye flour \$6.70 per barrel.

Feed.—In 100-lb. sacks, jobbing lots are: Bran \$28; standard middlings \$30; fine middlings \$32; coarse corn meal \$32; corn and oat chop \$30 per ton.

Hay.—Quotations higher and firm. Carlots on the track at Detroit are: No. 1 timothy \$17@17.50; standard \$16@16.50; No. 2, \$15@15.50; light mixed \$16@16.50; No. 1 mixed \$15@15.50; No. 1 clover \$13@13.50.

Chicago.—Offerings are moderate and demand good. Prices are higher. Choice timothy \$18.50@19.50; No. 1, \$17@18; No. 2, \$15.50@16.

New York.—Steady. No. 1, \$22@22.50; No. 2, \$21.50@22.

DAIRY AND POULTRY PRODUCTS.

Butter.—Market is easy and lower prices are expected. Demand moderate. Extra creamery 29¢; firsts 28¢; dairy 21¢; packing stock 17½¢.

Chicago.—Trade is good at slightly lower prices. The supply is good and

no accumulation is reported. Extra creamery 28¢; extra firsts 27½¢; firsts 25@26½¢; seconds 22@24¢; packing stock 18¢.

Elgin.—Market is easy and quiet at lower prices. Quotation for the week is 28¢.

Poultry.—Small supply keeps market firm at unchanged prices. Live.—Springers 17½@18¢; hens 13@18¢; ducks 17@18¢; geese 12@13¢.

Chicago.—Market is steady at unchanged prices. The supply and the demand are good. Fowls 14½@15¢; springs 13@18¢; broilers ¾-lb. weight \$3.50@4; 1@1¼-lb. weight \$5.

Eggs.—Demand only fair and prices are lower. Fresh stock sells at 19¼¢ per dozen.

Chicago.—Market steady at slightly lower prices. Liberal receipts are being readily disposed of. Miscellaneous lots, cases included 17@19¼; ordinary firsts 17½@18¼¢; firsts 18½@19¼¢.

Veal.—Quoted steady at 12½@13¢ for fancy, and 10@11¢ for common.

Pork.—Market is steady for dressed hogs, light weights selling at \$8 per cwt; heavy \$7@7.50.

FRUITS AND VEGETABLES.

Apples.—Market is firm at unchanged prices. Demand is satisfactory. Baldwins \$3.25@3.50 per bbl; Greenings \$2.75@3; Steele Red \$3.50@3.75; No. 2, 40@50¢ per bushel.

Chicago.—Market is fair except for fancy goods which are held firmly. Baldwins \$2.50@3.25; Greenings \$3.50@4; Northern Spy \$2.50@6.

Potatoes.—Market steady at slightly higher prices. Carlots 45@47¢ per bushel. At Chicago the trade is fairly active, but lower prices were necessary to make sales. Michigan white in bulk, are quoted at 35@40¢ per bu; at Greenville farmers are receiving 25¢ per bushel, with the outlook lower. All markets dull.

WOOL.

Boston.—The center of interest in domestic wools has moved to the producing sections. Last year's clip is well cleaned up, and cash sales are largely filled with foreign offerings. Regarding the new crop, growers are maintaining a firm position, and while jobbers and speculators are inclined to hold back on making contracts, there seems to be a feeling among them that they will meet the producer more than half way. In the southwest, considerable wool has been contracted at good prices. Manufacturers are receiving large orders from Europe, which is working to the advantage of the producer, because the supply of last year's crop is practically used up. The market for fleece wools is firm and in the fleece states growers are holding for the top quotations. At Boston nominal quotations are: Michigan unwashed delaines 26@27¢; do. combing 29@34¢; do. clothing 24@30¢.

DETROIT EASTERN MARKET.

Considering the season, there was a fair number of teams on the market Tuesday morning. Potatoes were in fair supply and held at from 50@55¢, depending on quality. Parsnips 75¢; carrots 50¢; Ben Davis and russet apples \$1@1.15; rhubarb 35¢ per bunch for good; eggs 23¢; no butter in sight. Loose hay ranges from \$19@21 per ton.

GRAND RAPIDS.

Potatoes brought 40¢ on the city market Monday morning. Other prices for home-grown stuff are as follows: Lettuce 6¢ per lb; radishes 25¢ per doz; asparagus 30¢ per bunch; pie plant 3¢ per lb. Eggs are off half a cent for this week's buying, being quoted at 18¢. Creamery butter is off a cent and dairy butter is worth 24@25¢. In live poultry fowls and chickens have reached 15¢. The hay market is firm at \$12@14 this week. Wheat is bringing \$1.52; oats 58¢; corn 76¢; rye 90¢; buckwheat 80¢.

LIVE STOCK MARKETS.

Buffalo.

April 26, 1915.
(Special Report of Dunning & Stevens, New York Central Stock Yards, Buffalo, N. Y.)

Receipts here today, as follows: Cattle 154 cars; hogs 95 d. d.; sheep and lambs 56 d. d.; calves 2500 head.

With 20,000 cattle reported on the market in Chicago and prices strong 10@15¢ lower there, and with 154 loads on sale here today and at least 70 loads of the cattle weighing 1,200 and up, all cattle here weighing 1,200 and upwards sold fully 25@40¢ per cwt. lower than last week and at the close of the market there are 10 to 12 loads of weighty cattle, averaging from 1,350 to 1,450, holding over unsold. Handy butcher cattle of good quality and good fat, weighing from 1,100 down, sold from strong to 10¢ per cwt. higher than last week and everything of the light weight good

quality kind was readily taken early in the day at strong prices. Our advice is to be careful and very conservative in buying these heavy cattle in the country, as it looks to us from this time on that cattle weighing from 1,100 down of good quality and finish will sell decidedly better than the heavy weight cattle.

We had a full steady market on all grades of hogs today, but trading was a little bit slow owing to liberal supplies and lower prices all over the west. We had about 95 cars of hogs on sale here and demand enough to clean them all up. All good grades sold at 8¢ per lb; strictly pigs \$7.85; light stuff quotable as high as 8¢ per lb; plain and coarse heavies \$7.50@7.75; roughs \$6.50@6.75, and stags from \$5@6. Late market was about like the opening and very few of anything that had quality left at the close. Weather very hot here and quite a number of hogs arrived dead. Shippers should use caution in loading from this on. Try and have the hogs cooled off before putting in the car.

The market was active today on lambs and sheep, with prices quarter lower than the close of last week; most of the choice handy lambs selling at \$9.75. Look for steady to strong prices last of week with moderate receipts.

We quote: Lambs \$9.65@9.75; cull to fair \$6@9.60; yearlings \$7.75@8.35; bucks \$3.50@5.50; handy ewes \$6.50@7; heavy do \$6.50@6.75; wethers \$7.50@7.75; cull sheep \$3@5.50; veals, choice to extra \$8.75@9; fair to good \$7@8; heavy calves \$5@7.

Chicago.

April 26, 1915.

Cattle, Hogs, Sheep.
Receipts today..20,000 42,000 11,000
Same day 1914..19,822 33,592 21,777
Last week.....42,940 105,781 61,693
Same wk 1014..48,217 94,536 100,165

It is hot today, and cattle are drinking water freely. This makes buyers disposed to bid lower prices, and while at a late hour little had been done, telegrams were sent to the country calling the general market 10@15¢ lower, except for fat light cattle, which were scarce last week. Hogs open the week a dime lower, with a \$7.60 top. Sheep and lambs are headed upward, with a reported sale of prime woolled lambs at \$11, a fresh high record.

Cattle were offered more freely most of the time last week, and there was an uneven market, for while the fat class of light-weight cattle sold at better prices, the heavier beefs proved bad sellers, warm weather making

the demand poorer. The poorer class of thin, light steers went at \$6@7.60, while a medium grade of steers brought \$7.65@8, with sales of good steers at \$8.05@8.25, choice heavy beefs going at \$8.30@8.50. The bulk of the steers crossed the scales at \$7.50@8.25, with the better class of little yearlings taken at \$8.50@8.65, while a sale was made of 24 yearling steers and heifers mixed that averaged 832 lbs. at \$8.80. Good yearlings sold at \$8.05 and upward, and sales were made all the way down to \$7.25@7.50 for a coarse class of yearlings. Butcher cows and heifers were good sellers at \$5@8.50, fat little yearling heifers selling far the highest, while a drove of as choice heavy heifers as has been shown in weeks had to go for \$7.90. The top for choice cows was \$7.25, while cutters went at \$4@4.95, canners at \$2.50@3.95 and bulls at \$4.50@7.50, prime little yearling bulls going the highest. Large supplies of calves arrived from the Wisconsin dairying districts and had a good outlet, prices ranging at \$4.50@9.50, according to weight and quality. The week closed with most of the heavy cattle selling 10@15¢ lower and light and handy kinds 15@25¢ higher than a week earlier. Fat heifers advanced sharply.

After prime hogs had risen to \$7.85, the market reacted, closing on Saturday at \$7@7.70 for rough heavy packing to prime light shipping hogs, pigs going at \$5.50@7.50. Prime heavy hogs sold about 20¢ below the top price. Prices closed 5¢ higher than a week ago.

Sheep, yearlings and lambs have continued their upward course, bringing the highest figures ever recorded, as follows: Lambs \$8.25@10.80; heavy lambs \$8.75@10; yearlings \$9@10.15; wethers \$8@8.90; ewes \$6.25@8.50; bucks \$6.25@7.25. Top for lambs for the week was \$10.85, and clipped lots closed at \$6.50@9.

(Continued from page 537).

expected that an increased acreage of oats will be put in. Quite a lot of maple syrup was made this spring, selling for \$1 per gallon. Fruit buds do not look very promising. Milk brought \$1.05 per cwt. during March; butter 25¢; eggs 18¢.

Ohio.

Highland Co., April 20.—Meadows in fair condition, but need rain. Farmers are getting along well with their spring work, and many are preparing the ground for corn, of which a large acreage will be planted. Wheat \$1.50; oats 59¢; rye \$1.10; corn 80¢; cattle \$7.25@8; hogs \$5.50@6; chickens 8¢; dairy butter 25¢.

REGAL

Cars That Pay Their Way.

When you buy an automobile you want one that will pay its way. One that will get you to market quicker with your produce, that will enable you to transport goods much more quickly from the railroad station to your home, that will "Stand Up" under the severe usage given a car while visiting different sections of the farm. Besides all these profitable uses you want one that will give you pleasure. Regal cars do all of these things. You will find among the Three Regals one that meets your requirements.

THE LIGHT FOUR REGAL—provides you a handsome stream line, five passenger car—unusual in size—appearance and performance—but light of weight and economical to operate, selling at \$650.00.

THE STANDARD FOUR REGAL—supplies a larger, more powerful and luxurious car—the standard in size—beauty and equipment among four cylinder cars, selling at \$1,085.

THE DE LUXE EIGHT—offers the highest development in gasoline motors—the powerful, flexible, balanced eight. The smooth vibrationless operation of which makes a ride in it a new and pleasing sensation in motoring—Price \$1,250.

All these models are five passenger capacity—fully equipped, including electric lights and starter—have crown fenders, demountable rims and one man tops. Write for literature and name of nearest dealer.

Regal Motor Car Co.

2005 Piquette Ave.
DETROIT, MICH.



Light Four \$650



Build Your Silo Once Only

Eliminate all chances of blow-downs, decay and destruction by fire. Do away with painting, adjustments and repairs. Build for permanency, or in other words, build economically. Plan now to erect a

NATCO IMPERISHABLE SILO

"The Silo That Lasts for Generations"

Made of vitrified hollow clay tile which will endure forever, and reinforced by steel bands held in the mortar between each tier of tile. It is windproof, decayproof, verminproof and fireproof. The Natco is the best silage preserver known, for the vitrified hollow clay tile are impervious to air and moisture, and prevent freezing. Write to nearest branch for list of owners in your State and for catalog A

National Fire Proofing Company

Organized 1889 Pittsburgh, Pa.

Syracuse, N.Y. Bloomington, Ill. Madison, Wis.
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Spraying Pays

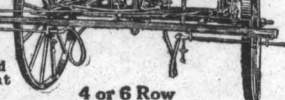
Not only as protection against bugs and blight, but every spraying makes healthier plants and larger yields of better quality. Machine pays for itself on ten acres, first year.

IRON AGE Sprayers

have double acting pumps, wood tanks, thorough automatic mixing of solutions, wind shift, pressed brass nozzles and strainers. For one or two horses. See your dealer and write us for new "Spray" catalog and spraying guide. Both free.

BATEMAN MFG COMPANY

50 or 100 Gallon Tanks



Orchard Attachment if wanted

4 or 6 Row

NO CLIMBING OF TOWERS IN OURS
Every bearing is constantly flooded with oil. Two quarts of oil in the gear case of the 8-foot Auto-oiled Aermotor will keep the gears and every bearing flooded with oil for a year or more. With its duplicate gears and two pitmen lifting the load straight up it is unbreakable. It runs in a breath of air. The galvanized helmet covers the gears, keeps out rain, keeps out dust, keeps in oil. If you are tired of climbing a windmill tower; if you are tired of buying repairs and having them put on; if you are tired of waiting for a big wind, let us furnish you this self-oiling, ever-going mill to go on any old tower. It costs but little and you will get the difference between no water in a light wind and an abundance of water in almost no wind. Write Aermotor Co., 1146 S. Campbell Ave., Chicago

DUPLICATE GEARS RUNNING IN OIL
Oil Annually
EVERY BEARING FLOODED WITH OIL

It is unbreakable. It runs in a breath of air. The galvanized helmet covers the gears, keeps out rain, keeps out dust, keeps in oil. If you are tired of climbing a windmill tower; if you are tired of buying repairs and having them put on; if you are tired of waiting for a big wind, let us furnish you this self-oiling, ever-going mill to go on any old tower. It costs but little and you will get the difference between no water in a light wind and an abundance of water in almost no wind. Write Aermotor Co., 1146 S. Campbell Ave., Chicago

Big Spreader Sale

CERTIFICATE FREE ON NO. 5 SPREADER
A chance of a lifetime to own a real spreader. Heavy channel steel frame, double chain drive. Flexible rake, scientific beater. Sold on 30 days trial. Prices down, quality better than ever. The Galloway is already famous from coast to coast for construction, simplicity, 11 improvements and low price. Now prices go still lower. \$3 Certificate on our Famous No. 5 Spreader! 30 days' trial! Write: Wm. Galloway Co., Box 189, Waterloo, Iowa.

FURS REPAIRED or REMODELED

Now is the time to have your Coat, Muff, Scarf, Cap or Gloves made to look as good as new at Lowest Prices. Send them to us by insured parcel post and we will mail estimate on cost of repairs without delay.

JOHN W. MERCKEL & CO.,
Reliable Manufacturing Furriers,
Brettmeyer Bldg., Detroit, Michigan.
REFERENCES—Any Bank.

POTATOES—HAY—More Money if you Consign to THE E. L. RICHMOND CO. Detroit. 21 years in business. Reference your Banker

FARMERS—We will pay you the highest official Detroit Market quotation for your eggs shipped direct to us by express. Write us for information. It will pay you. **AMERICAN BUTTER & CHEESE CO.,** Detroit, Michigan.

HAY OUR NEW LOCATION—623-625 Wabash Bldg., Pittsburgh, Pa. Daniel McCaffrey's Sons Co.

WANTED—Responsible party to take contract to clear and break large tract of marsh in Eckford township, Calhoun county, Mich. Liberal terms. Address: P. D. Haskell, Patent Office, Washington D. C., or Frank Wells, Eckford, Mich.

Government Farmers Wanted—\$50 to \$125 21 to 50. OZMENT 17 F. St. Louis.

The Michigan Farmer One Year
The New York (3-a-week) **World** One Year
Both for only \$1.20.

The New York World comes to you three times each week thus giving you practically a New York daily. The New York World is unexcelled as a newspaper and will keep you posted on the news of the world. Send all orders to THE MICHIGAN FARMER, Detroit, Mich.

THIS IS THE FIRST EDITION.

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

DETROIT LIVE STOCK MARKETS.

Thursday's Market.

April 22, 1915.
Cattle.

Receipts none. There was a fair supply at the local yards this week, taking everything into consideration. It is hard work just now for the drover to fill a car for the yards on account of the embargo on cattle. This, however, will end this week and starting Monday next the yards will again be open for everything, and shipments for immediate slaughter may again be made. No stockers or feeders may be shipped from here back to the country for feeding purposes. Nor can milch cows be driven out. The whole state of Michigan is now free of hoof-and-mouth disease and in the restricted district.

The cattle trade at the packing plants was generally 10c higher than last week. Quite a number of this class were unloaded there. They are weighed directly off the cars without feed or water, at the following prices:

Best heavy steers \$7.85; best handy weight butcher steers \$6.75@7.50; mixed steers and heifers \$6.50@7.25; handy light butchers \$6@6.75; light butchers \$5.50@6.25; best cows \$5.50@6; butcher cows \$4.75@5.25; common cows \$4@4.50; canners \$3@4; best heavy bulls \$5.50@6; bologna bulls \$4.50@5.25; stock bulls \$4.50@4.75.

Veal Calves.

Receipts 481. The veal calf trade was active and 50c higher than last week. A few extra fancy brought \$10.50, but the bulk of the good ones sold at from \$9.50@10, and medium and common at \$7@9.

Bishop, B. & H. sold Applebaum 3 av 117 at \$7; to Sullivan P. Co. 14 av 150 at \$9, 5 av 145 at \$10, 1 wgh 110 at \$8.50; to Newton B. Co. 5 av 150 at \$8.50, 1 wgh 120 at \$10, 1 wgh 160 at \$10, 5 av 130 at \$9; to Rattkowsky 9 av 125 at \$9.75, 5 av 150 at \$9.70; to Thompson Bros. 2 av 120 at \$8, 21 av 135 at \$10; to Goose 22 av 130 at \$8.75, 17 av 135 at \$9; to Rattkowsky 7 av 135 at \$9.25; to Ratner 4 av 155 at \$8; to Rattkowsky 11 av 135 at \$10.25, 2 av 130 at \$10.50; to Hammond, S. & Co. 13 av 140 at \$10, 19 av 125 at \$9.50, 16 av 150 at \$10; to McGuire 8 av 155 at \$10, 12 av 160 at \$10.25, 5 av 150 at \$10; to Sullivan P. Co. 28 av 140 at \$9.75, 49 av 150 at \$9.50.

Haley & M. sold Caise 4 av 145 at \$9, 1 wgh 100 at \$7; to Hammond, S. & Co. 6 av 150 at \$10; to Goose 8 av 130 at \$9.

Sheep and Lambs.

Receipts 2119. The sheep and lamb trade was fairly active at steady last week's prices, the best clips bringing \$9.10@9.25. Very few wool lambs were in the receipts; a few choice brought \$10. Geo. H. Mayer, of Munith, had 370 good clips on sale that averaged 83 lbs. and they were sold by Bishop, B. & H. to the Nagle Packing Co. on Wednesday for \$9.10. Best lambs \$9.25; fair do \$8.50@9; light to common lambs \$7@8; fair to good sheep \$6@6.50; culls and common \$4@5.50.

Bishop, B. & H. sold Newton B. Co. 102 lambs av 65 at \$8.75, 4 sheep av 140 at \$6; to Sullivan P. Co. 30 lambs av 71 at \$7; to Fitzpatrick Bros. 38 do av 65 at \$8.50, 4 do av 95 at \$7.50, 9 sheep av 75 at \$6; to Sullivan P. Co. 10 sheep av 178 at \$6, 13 lambs av 60 at \$6.50, 15 sheep av 100 at \$6.50; to Fitzpatrick B. Co. 59 lambs av 70 at \$8.70; to Nagle P. Co. 219 lambs av 70 at \$8.90, 90 do av 69 at \$8.75, 370 do av 83 at \$9.10; to Barlage 33 do av 68 at \$9; to Sullivan P. Co. 4 sheep av 95 at \$6, 9 wool lambs av 80 at \$10; to Barlage 33 lambs av 70 at \$9, 1 goat wgh 140 at \$4.50; to Hammond, S. & Co. 10 lambs av 74 at \$9, 1 spg lamb wgh 70 at \$14, 3 sheep av 150 at \$6.

Sandal, S., B. & G. sold Sullivan P. Co. 1 lamb wgh 80 at \$9, 4 sheep av 95 at \$6, 3 spg lambs av 46 at \$11, 1 sheep wgh 100 at \$6.50.

Reason & S. sold Sullivan P. Co. 76 lambs av 65 at \$8.75, 25 do av 55 at \$7, 1 sheep wgh 130 at \$4; to Fitzpatrick Bros. 46 lambs av 65 at \$8.60.

Hogs.

Receipts 6527. The hog trade on Wednesday was strong for pigs, about a thousand being bought on eastern orders at \$7.75; packers' grades brought \$7.60@7.65 at the yards on Thursday. Chicago closed 5@10c lower and at noon packers are bidding \$7.60. Pigs for eastern orders will bring \$7.70@7.75.

Bishop, B. & H. sold Miller & Co. 900 pigs av 133 at \$7.75.

Same sold Crane & Co. 180 pigs av 135 at \$7.75.

Sundry shippers sold Sullivan P. Co. 700 hogs av 190 at \$7.60.

The Country Road

should be as clean as the city street.

AND IT CAN BE.

"GRANULATED CALCIUM CHLORIDE"

has solved the problem, once and for all.

EVERY MAN and WOMAN

in this section wants to save the wear and tear and annoyance that comes from dust. And it can be stopped—"Calcium Chloride" will do it—is doing it. It is not an experiment—it works!

For Your Health's Sake, You Should Know

about this product. Write us and we will send you the story of Calcium Chloride. Don't think that you are not interested.

Calcium Chloride is clean—It is sanitary—It kills the weeds—will not injure paint, varnish or rubber tires.

It Co-operates with Nature in making clean, dustless and lasting roads. Ask for our literature on this product. It is educational in showing what has been done for your dust problem.

THE WYKES-SCHROEDER CO.,

Prescott and M. C. Tracks.

Grand Rapids, Mich.

PAPEC SILO FILLER.

I can Save you Money on Papec Silo Fillers.

I carry in stock sizes 10-inch, 13-inch, and 16-inch. Write for rock bottom prices.

R. E. BARRON, Howell, Mich.

FARMS AND FARM LANDS FOR SALE OR EXCHANGE

FOR SALE—In the famous Rainy Lake District, Presque Isle County. Three 1000-acre Ranch propositions. Clay soil, guaranteed to grow wheat, corn, oats, clover and alfalfa—the acid test—or all moneys refunded the first year, including cost of clearing. To parties possessing some capital to work and stock. I will sell at \$10 an acre, \$1 cash per acre, balance 3-6-9 and 12 years 6%, Lands so easily cleared, first crop will pay cost of land and clearing. Alfalfa does not winter kill here. Only parties meaning business need take up my time. **JOHN G. KRAUTH, Millersburg, Mich.**

Michigan Farm Bargains

600 Acres Rich Virgin Beech & Maple Land

lime stone subsoil, excellent for sugar beets, alfalfa, wheat, corn, oats, beans, clover and finest of pasture land. unexcelled as a dairy or stock proposition, several barns, two silos, two large houses electric lights and power, half mile from railroad adjoins City of Onaway, a good live town of 3,500 population, will mail photographs and detailed information on request, would give purchaser first chance to buy stock and tools including 620 ewes with lambs. Address

T. B. PRESTON, Onaway, Michigan.

BARGAINS—Business, Residences, Farms
Best Mich. \$40 a. up; 440 a. near M. O. Sta. \$3 worth \$15. List free. Arnold, 1322 N. Larch St., N. Lansing, Mich. Cit-8115

McClure-Stevens Land Co.,

Successors to A. J. Stevens & Co. Established 1883 Farm, Fruit and Stock Lands. We own 18,000 acres of choice unimproved land in Gladwin and Clare counties. Sold on easy payments. Interest 6 percent. Write for information.

Gladwin, Michigan

FARMS, GOOD, CHEAP, PROFITABLE

UNUSUAL OPPORTUNITIES NOW
State Board of Agriculture, Dover, Del.

Farms Wanted—We have direct buyers. Don't pay property, naming lowest price. We help buyers locate desirable property free. American Investment Association, 10 Palace Bldg., Minneapolis, Minn.

WHY PAY RENT

when you can buy the best farm land in Michigan at from \$12 to \$20 an acre on easy terms. Write for particulars. **STAFFELD BROTHERS, Owners,** 15 Merrill Bldg., Saginaw, West Side, Mich.

BROTHER FARMERS—Come to Co., Mich. Its all right. If you want improved or unimproved farm lands. Write me at once for information. U. G. Reynolds, R. No. 3, Gladwin, Mich.

BARGAINS! BARGAINS! Send for free magazine 1200 bargains. Farm lands, business chances, any kind anywhere. Our services free to buyers. Western Sales Agency, Minneapolis, Minn.

THE 4th ANNUAL CONSIGNMENT SALE

of the West Michigan Holstein Breeders' will be held on the
West Michigan State Fair Grounds, Grand Rapids, Michigan,

On TUESDAY, MAY 4th, 1915.

100 HEAD of Registered Holstein Cattle of excellent type and breeding will be sold. Sons and daughters of 30-lb. sires. One young heifer of 35-lb. breeding, and one son of the 40-lb. sire, Johanna McKinley Segis. Good A. R. O. cows and heifers bred to bulls from 30-lb. dams and sire, closely related to King of the Pontiacs, Hengerveld De Kol, Judge Hengerveld De Kol, King Segis Pontiac, King Segis, Pontiac Korndyke, and Traverse Princess Weg. Choice heifer calves whose type and breeding will make them valuable foundation stock in establishing new herds. **Remember the Date and Place.**

All cattle over six months of age will be carefully tuberculin tested by a Veterinarian from the Bureau of Animal Industry, or by competent graduate Veterinarians and Certificates of Health approved by the Michigan State Veterinarian. Sale Catalogs will be out April 20th.

This is the buyer's opportunity to buy good healthy cattle, consigned from territory which has been free from "Foot and Mouth Disease." If interested write for Sale Catalog.

W. R. HARPER, Middleville, Mich., Sales Manager.

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

GRAIN COSTS TOO MUCH

To be wasted, but the average thrasher wastes far more than many suppose.

The investment and labor which a farmer puts into his wheat crop is more than is usually conceded. His money investment in value of the land, cost of seed and implements brings the cost of his grain to a point where he cannot afford to waste it.

THE HIGH PRICE OF WHEAT

suggests saving it from wastage.

All this appeals to the thrasher the same as it does to the farmer.

THE RED RIVER SPECIAL

will save this wastage, making more money for both the thrasher and farmer. It beats out all the grain and puts it in the farmer's granary instead of into the straw stack.

**BUY OR HIRE
A RED RIVER SPECIAL
And SAVE the Farmer's
Thresh Bill**

Send for new Red River Special Paper, FREE

NICHOLS & SHEPARD CO.
(In continuous business since 1848)
Builders of Red River Special Threshers, Wind
Stackers, Feeders, Steam Traction En-
gines and Oil-Gas Tractors
(6) **BATTLE CREEK, MICH.**

GALVANIZED STEEL ROOFING

At Wholesale Price to You

SAVE agent's commission or retail profit by sending direct to us for Roofing, Siding and Supplies. We cut selling costs to Bed-Rock. You get the benefit.

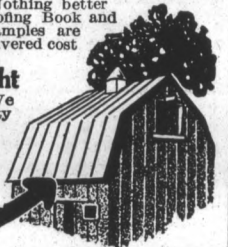
Every Sheet Positively Guaranteed

Best Open Hearth Steel, extra heavy galvanized and honest weight. Nothing better made. Complete Roofing Book and Galvanized Steel Samples are Free. Prices show delivered cost of everything.

We pay all freight

Don't fail to write. We have something mighty interesting to tell you.

The Ohio Galvanizing & Mfg. Co.
20 Ann Street,
Niles, Ohio



See What You Save

All big wires—open hearth steel—extra heavy galvanized—rust-proof—never sag—lifetime service.

Empire Fence at These Prices

Freight prepaid to any point in lower peninsula, Michigan, Gates, Steel Posts, etc., same lasting quality, at proportionately low prices.

Send for **FREE** Fence Book
11 bar 48 inch all No. 9 fence at 41¢ per rod
10 bar 47 inch all No. 9 fence at 37¢ per rod
9 bar 46 inch all No. 9 fence at 34¢ per rod
11 bar 48 inch Empire Junior at 27¢ per rod
10 bar 47 inch Empire Junior at 25¢ per rod
9 bar 46 inch Empire Junior at 23¢ per rod
Order direct from this advertisement. Whether you order or not, send for free book of Fence Facts.
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BROWN FENCE
Over 150 styles for every purpose—hogs, sheep, poultry, rabbits, horses, cattle. Also lawn fence and gates.
13 CENTS PER ROD UP. ALL DOUBLE GALVANIZED.
Write now for new catalog and sample to test.
The Brown Fence & Wire Co., Dept. 49 Cleveland, Ohio

Use KEROSENE Engine Free!

Amazing "DETROIT" Kerosene Engine, 15 days' FREE Trial, proves kerosene cheapest fuel. If satisfied, pay lowest price ever given; if not, pay nothing. No waste, no evaporation, no explosion. Two pints of coal oil do work of 3 pints gasoline. Send for FREE catalog. Don't buy an engine until you investigate this grand offer. Write!
DETROIT ENGINE WORKS
149 Bellevue Ave., Detroit, Mich.

Practical Science.

RURAL SANITATION.

BY FLOYD W. ROBISON.

(Continued from last week.)

The Farm Water Supply.

In providing a sanitary water supply the location should be first taken into consideration. With the location of the well must be considered the type of soil and the general drainage slopes. All the physiological operations of digestion and assimilation of food depend upon water for their performance and in the interests of health it is highly important that this water should be pure and above suspicion as to its sanitary quality. There are few farms where it is not possible with a proper consideration of the matter to have a clean, pure, satisfactory water supply and when this is secured every precaution that can be followed should be observed to protect it.

Infectious Diseases Traceable to Water.

Without doubt much of the typhoid fever which every year is prevalent in rural communities is largely traceable to a polluted water supply and when the source of pollution is traced it will be found usually in a defective sewage disposal on the farm. Typhoid fever and infectious diseases are preventable and their toleration is a confession of inefficiency and demonstrates a lack of appreciation and knowledge concerning the underlying cause. It does not seem as though one, these days, would need to be cautioned against the location of cess pools and sewage depots on ground in the proximity of wells or where natural slopes will permit drainage toward wells, and yet if one will take a trip through the country he will be surprised at the number of conditions of this kind which do exist and which enlightened people tolerate.

The Farmer Must Consider these Things.

The main difficulty which operates against the installation of efficient systems of sanitation as we have been discussing it is a lack of appreciation of its economical relationship. If one could know in advance each year how many dollars he is going to lose because he does not take sanitary precautions he would not hesitate a minute about proceeding to make such provisions. If he could realize at the beginning of the year that he is going to lose 50 per cent and sometimes more, of the young chickens which are hatched on the farm, due to his tolerance of rats, we think he would wage a relentless warfare against them.

If the farmer supposed that 25 per cent of the market value of the milk produced upon the farm for a given period would be lost because he had not made proper provisions for a clean and sanitary production of that product, we think he would begin the year by taking such steps. If the farmer could realize the toll he is paying due to ill health or even too frequently in death in his own family, due to the polluted water supply on which the family of necessity must make daily demands we think there would be no polluted wells on the farm. What is needed more than anything else is not the following out of any one system of rural sanitation or any one person's pet scheme of procedure, but the instilling into the minds of the people on the farm a sense of order and system and the more vivid realization of the toll in an economic way they are paying for the toleration of unsanitary conditions.

What Rural Sanitation Involves.
A proper conception of an efficient

system of rural sanitation upon the farm involves therefore, a consideration of convenient and sanitary arrangements in the home; the providing of a safe and abundant water supply; the relentless warfare against mosquitoes, rats and mice; a consideration of sanitation in the housing of domestic animals, and a more careful treatment and disposal of manures upon the farm. Also a separation of the home and its immediate surroundings sufficiently from other buildings upon the farm; a collection of the rubbish and debris, and the installation of system and order, all of which, besides proving as we firmly believe, a decided measure of economy, will tend very materially toward the health and happiness of the family life upon the farm and the hundred and one things which tend to make life more worth living.

TEST FOR JELLING OF FRUIT JUICE.

Chemists of the Department of Agriculture recommend the following test as a simple one to determine when fruit syrup has reached the "jell point": "Make a thin, flat stick or a small paddle, about an inch broad, and whittle this down to a straight edge. Dip the paddle or stick into the jelly mixture and remove it. Hold the end down, and if the mixture has reached the jelling point, it will be noticed that the liquid will not drip off in drops but will flake off—that is, a strip of jelly will fall off from the paddle in one mass."

At the Ontario Station, 100 pounds of meal when fed to 40-pound pigs, proved equal to 406.9 pounds of skim-milk and to from 37.6 to 48.5 pounds of tankage, depending upon the grade used. The skim-milk was fed in the proportion of about one and one-half pounds to one pound of meal, the tankage, one pound to about six pounds of meal.

CATALOG NOTICES.

"Washing Secrets" is the title of an illustrated booklet published by Altorfer Bros. Co., Roanoke, Ill. It contains helpful hints for the housewife pertaining to essential factors in washing, such as removing stains of different kinds, the handling of delicate fabrics, etc. It also fully illustrated and describes the power washers manufactured by this company in various sizes and styles suited to the needs of every housewife. Mention the Michigan Farmer when writing for it.

"The Kodak on the Farm" is the title of a handsomely illustrated 50-page booklet published by the Eastman Kodak Co., Rochester, N. Y. It contains a large number of artistic pictures besides an interesting story telling the helpful influence of the kodak on home life. In addition, the various styles and sizes of kodaks manufactured by this company are illustrated and described.

Witte engines manufactured by the Witte Engine Works, Kansas City, Mo., are illustrated and described in detail in a handsome art catalog published by the manufacturers and sent upon request to Michigan Farmer readers. The line described includes stationary and mounted engines for all kinds of farm work. The color printing in the catalog permits unusually plain illustration of the various working parts of Witte engines. The catalog also contains much valuable information for gas engine users. Kerosene as well as gasoline engines are included in the line.

Dupont Magazine, published by E. I. du Pont de Nemours Powder Co., Wilmington, Del., contains information of interest with regard to the use of explosives for various purposes on the farm.

A. J. Kirstin Co., Escanaba, Mich., send an illustrated folder describing the various models of one-man stump pullers manufactured by this company.



K HAND POWER STUMP PULLER

The immense stump shown above—a fir 5 feet in diameter—was pulled by C. E. Prather, of 7431 Gatewood Ave., Seattle, Wash., with a "K" HAND-POWER STUMP PULLER—the "Krupp Steel Wonder" that will pull any stump a 1-in. cable will hold.

Built for the heaviest kind of work. I have sold hundreds, and have never had complaint nor a request for repairs.

Adopted by U. S. Gov't and many States. Makes clearing an easy, one-man job. Does work easiest, quickest.

Write for photos showing "K" at work. Get my special money saving offer.

Walter J. Fitzpatrick
1926 Second
Avenue,
Seattle, Wa.
Box 4.

THE BOKOP HARROW

THIS IS THE TOOTH THAT DOES THE BUSINESS

It actually cuts. Makes a finer cut than any other Harrow, and the Wide, Upper Face gives Cultivator Action. For Slanting Cut, Way hitch to the other end.

PULVERIZES PERFECTLY

The kind of Harrow you have always wanted. SELF ADJUSTING—NO LEVERS—ALL STEEL Simple—Strong—Everlasting. Can't get out of order. WRITE NOW for further particulars of this Time and Money Saving Harrow. If no Bokop Harrows now in your township we have a special proposition FOR YOU.

The Welding Co., Box P, Defiance, O.

Unload Hay or anything in Half the Time

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Entire cost is a load. One man with an Ireland will do any lifting in half the time of two men and a team. A score of uses on any farm pulling sticks or timbers, elevating ice, drilling, digging or scraping dirt. Operates safely and easily. Special pulley for your engine. Guaranteed every way. Write for details—also about our drag saws, wood saws, saw mills and shingle mills.
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FARMERS—30 inch Sewer Crook

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Guineas for Profit.

HERETOFORE the guinea hen has usually been considered a hobby, rather than a profit producer. Now, however, it is not difficult to see a change. This has come about through the growing scarcity of game birds and the laws prohibiting their sale in many states, and the fact that the guinea is about the only thing that can take its place. In many ways the guinea is the nearest approach to wild game that has been as yet profitably produced on the farm. What the future may have in store in the line of pheasant and quail breeding we cannot say.

There are two leading varieties of guinea—the Pearl and the White African. The former is more common in most parts of the country but to my mind not so profitable to keep as the latter. My reason for this statement is that the African is more docile and easily cared for upon the farm, running with the hens and even laying in the same nests. The Pearl usually steals her nest in some secluded spot at a distance from the house, where she will lay a large number of eggs if not disturbed. It is even necessary to approach the nest with the utmost caution and the eggs should be removed with a long-handled spoon, leaving a few at all times that the bird may not suspect that she is being robbed. The eggs are smaller than those of the hen but they are equally as good, being excellent for home use. The guinea lays from May to the latter part of August or later.

It is not safe to attempt to start a flock of guineas by the purchase of mature birds. They are almost sure to fly away. A better way is to set the eggs under a good motherly hen. The eggs require from 25 to 28 days to hatch. After the eggs have been setting for a week, add a few hen's eggs. The chicks will exert a good influence toward taming the young guineas. It is well to confine the young birds for the first week of their life, allowing them no opportunity to escape. After a period with the hen and a few chicks they usually learn the ways of their foster-mother and give little trouble. When their feathers are grown to some extent, they become hardy and can take care of themselves. It is important that the mother hen be kept free from lice and vermin, as these parasites will kill the young birds.

Young guineas should be fed every two hours for a day or two. Dry bread makes a good first feed, or the bread may be fed slightly moistened with milk. Lettuce or chopped onion tops should be given them as long as they remain in confinement. A little fresh meat is also excellent. When they get on the range they will pick up all the insects necessary for their diet. The guinea does not scratch, so they may be allowed the freedom of the garden without fear of damage, indeed they do more good than harm by eating the insects that infest the plants. Cracked corn is an excellent food for the growing birds. They will not each much of it anyway.

A young guinea fowl is not exceeded in delicacy by the tenderest chicken, either broiled, roasted or fried. In fact, the gamy flavor of the guinea commends it to many as far superior to chicken. The older birds, also, are better when cooked than an old hen. In the larger markets the guinea is much appreciated, while in the smaller markets it is becoming better known each year.

N. H. CHAS. H. CHESLEY.

WHITE DIARRHEA OF CHICKS.

White diarrhea is the disease most dreaded by chicken raisers and it is probably responsible for more losses among the newly-hatched birds than any other cause. This is especially true where the incubator, rather than

the hen, is used for hatching. Experiments conducted by the Storrs Experiment Station of Connecticut, some time ago, demonstrated beyond a doubt that the greater number of cases are the result of infection during the first 24 or 48 hours of the chick's life. Of course, there are cases where the disease is hereditary. It should be the poultryman's care to keep his flock free from such a taint; thus, breeding stock should never be kept from a flock that was badly infected as chicks. It is a question, and by many believed, if the germs do not remain in the system of the cured birds to be transmitted through the egg to their progeny.

Granting that the disease is one early contracted or developed, as a rule, and that the incubator-hatched birds are more susceptible to it than others, let us see what preventative measures can be adopted. When the chicks begin to hatch in the machine they almost immediately come forward and pass down into the nursery where they begin at once to peck at anything and everything they can see. In this way droppings from a few infested chicks may spread the contagion to the whole flock in a few hours. The hen-hatched birds usually remain under the mother for some hours. In this case they are in the dark and have no opportunity to pick up infected droppings. If the incubator is darkened so the chicks will remain quiet for some length of time, there is no reason for the spread of the disease. A practical poultryman recently told me that he has almost no trouble with the disease for the reason that his incubator is placed in a dark cellar and the chicks are kept in it at least 36 hours after hatching. If it is deemed best to remove part before all are hatched, those taken out are placed in a darkened brooder for the same length of time.

Perfectly clean litter is absolutely necessary for the chicks at first. Clean brooders are another requirement. Before brooders are put away in the summer they should be thoroughly cleaned and disinfected. The disease germ is very tenacious of life and may remain over for the next year if extra precautions are not taken. When a chick shows signs of having the disease, it should be removed from the coop at once.

C. H. C.

COLONY HOUSE BROODER.

What kind and size of colony house would be the most successful for about 500 chicks' capacity? I would like to use a brooder stove in it.

Lenawee Co. G. C. S.

In all probability two houses 10x10 feet, in which may be placed colony brooder stoves, rated for 500 chicks, and then place from 250 to 300 chicks under each hover, would be really better than to make one house for the entire 500, unless it should be a stationary house, as it is difficult to move a building larger than 10x10 feet. In a stationary house and pen a 14x14, with colony brooder stoves and an extra compartment for exercising room and run, would accommodate the entire 500, but the colony house which is illustrated in bulletin No. 266 of the Michigan Agricultural College, 14x24, may be used for brooder purposes by equipment can be removed easily so dividing it with a partition for stove room and run, which partition and as to utilize the house either for laying house or for breeding stock in season.

Mich. Ag. Col. J. O. LINTON.

On many farms a good egg yield is not possible because the hens in the flock have outlived their usefulness. All hens over two years old should be fattened and sent to market.

If the hens are allowed to range the year round, the early morning feed of grain should be scattered over a wide area, thus making the hens exercise in finding the grain.

Indiana. T. Z. RICHEY.

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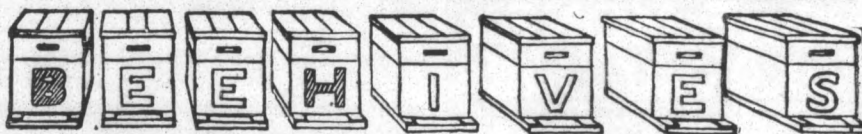
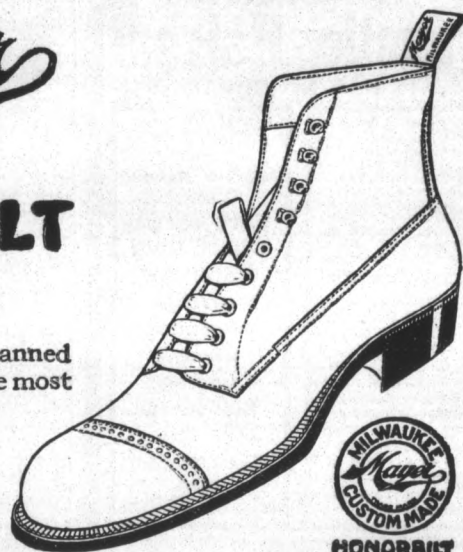
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In your poultry house. Conkey's Remedies and Tonics are good, and if you have them on hand, you can laugh at disease. Send 4c. in stamps for "Conkey's Poultry Doctor." **THE G. E. CONKEY CO. 133 Conkey Bldg., Cleveland, O.**

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Standard Bred—Turkeys, Pearl Guineas, Blue Andalusians, R. & S. C. R. I. Reds, W. Ply. Rocks, S. L. Wyandottes, Belgian & Flemish Giant Hares, Poland China swine. Many prize winners. Eggs (best pens) sent free \$2 per 15. Write wants to French F. & P. Farms, Ludington, Mich.

RHODE ISLAND REDS and PLYMOUTH ROCKS. Males 5 to 12 lbs. according to age \$2 to \$5; P. R. hens weight 5 to 9 1/2 lbs., eggs 15 for \$1.50; P. R. eggs \$7 per 100. Mammoth Bronze Tom Turkeys, 8 to 18 lbs. according to age \$3 to \$25; 10 eggs \$4. A. E. Crampton, Vassar, Mich.

White P. Rocks, Pekin and white runner ducks. White guineas, eggs and day old ducks and chicks. **H. V. HOSTETLER, St. Johns, Michigan.**

WHITTAKER'S ROSE COMB REDS. Eggs and Chicks, Write for Mating List and The Whittaker Guarantee. Interlakes Farm, Box 39, Lawrence, Mich.

BARRED ROCK eggs for hatching, from full blood stock. \$1.50 per 15, \$2.50 per 30, \$4.00 per 100. **J. A. BARNUM, Union City, Michigan.**

Pine Crest White Orpingtons—Cockerels, pullets, hens, from heavy laying strain. Baby chicks and eggs. Catalogue on request. **MRS. WILLIS BOUGH, Pine Crest Farm, Royal Oak, Michigan.**

White Wyandotte Eggs from utility & splendid layers. \$1.50 per 15; \$2.50 per 30; \$4.00 per 100. **A. Franklin Smith, Ann Arbor, Michigan.**

White Wyandotte Cockerels—Eggs \$1 for 15, \$1.75 for 30, may two best pens \$3 for 15, \$5 for 30. **DAVID RAY, Ypsilanti, Michigan.**

Baby Chix \$10 per 100. R. I. Reds, White Leghorns, Barred Rocks, Buff Orpingtons, White Wyandottes, also Eggs. **RIVER RAISIN POULTRY FARM, Dundee, Mich.**

BIG Beautiful, Hen Hatched, Farm Raised Ringlet Barred Rock Eggs, settings \$1, \$2, \$3; 100 \$5. Photos, circulars. **JOHN NORTHON, Clare, Michigan.**

Orpingtons—S. O. White Kellerstrass, Special prices. Eggs, Chix. Fine grown stock for your new flock. **M. E. Thompson, Redford, Michigan.**

BARRED ROCKS. Parks 200-Egg strain. A strain with Egg records to 271 eggs a year. \$1.50 per 15. Delivered by Parcel Post. **Fred Astling, Constantine, Mich.**

R. C. & S. C. Rhode Island Red Eggs. \$1.50 per 15 postpaid; \$6 per 100 by express. "Satisfy customers". **JENNIE BUELL, Ann Arbor, Mich.**

ROCK COCKERELS (All varieties.) Eggs for hatching. Baby chicks and Pekin Duck eggs. **SHERIDAN POULTRY YARDS, R. 15, Sheridan, Mich.**

SILVER WYANDOTTES—Silver cup and blue ribbon winners. Heavy layers. Good cockerels \$2. Free mating list. **Henry J. Gettings, Hillsdale, Michigan.**

DAY OLD CHICKS From Standard Bred White and Brown Leghorns, \$9 per 100. Bred to lay, large white eggs. Safe arrival guaranteed. Catalogue free. **WOLVERINE HATCHERY, Box 221, Zeeland, Mich.**

BEST WINTER LAYERS. A \$50 sitting will not produce better extra dark S. C. M. Anconas than \$2 gets from **M. F. HOWE, Winona Lake, Indiana.**

Strong Day-Old Chicks—Our own S. O. W. Leghorns. Large, great layers, pure white. Guaranteed delivery. Hatch every week. 12 cents each. **Everfresh Egg Farm, Box F, Ionia, Mich.**

Chicks: We ship thousands, different varieties, prices right, order now for spring delivery, free booklet. **Freepoint Hatchery, Box 12, Freepoint, Mich.**

SILVER LACED GOLDEN and WHITE WYANDOTTES—A fine lot of White cockerels weighing 6 to 8 lbs. at \$2 and \$3 each. **Browning's Wyandotte Farm, Portland, Michigan.**

S. C. White Leghorns—Farm raised, heavy laying S. C. strain. Baby chicks \$10 per 100, eggs \$4 per 100. Also White Pekin Ducks, eggs and ducklings. **Sunnybrook Poultry Farm, Hillsdale, Mich.**

Lillie Farmstead—A. O. Barred P. Rocks, R. O. Rhode Island Reds and S. C. White Leghorns. Eggs for sale, \$1 for 15, \$1.50 for 24, \$2.50 for 50. **Colon C. Lillie, Coopersville, Mich.**

S. C. Buff Orpington Eggs, \$1 per 15, \$2.50 per 50. Mrs. Calvin Fuller, R. F. D. No. 2, Bancroft, Mich.

OUR FLOCK OF WHITE ROCK CHICKENS, can't be beat in the state. Eggs \$1.50 per 15. Hens mated this year with \$10 cockerels. **J. R. WAY, Pompei, Michigan.**

Buff Wyandotte and Barred Rock Eggs for Hatching. \$1 per 15. **MRS. R. W. BLACK, Oaro, Michigan.**

White Wyandotte Eggs—Bred-To-Lay stock. Eggs \$1.50 per 15; \$2.50 per 30; \$4.00 per 100. **HOWARD GRANT, Marshall, Michigan.**

Barred Rocks—Large, healthy stock. Eggs \$1.50 per 15, prepaid. Satisfaction guaranteed. **W. H. EVERY, Manchester, Michigan.**

BARRED PLY. ROCKS First prize winners at Chicago, Cincinnati, Indianapolis, etc.

Eggs from fine Utility Matings that are bred to lay, \$1.50 per 15, \$4 per 50, \$7 per 100. From best exhibition pens \$10 per 15, \$25 per 50. Prompt delivery and good hatch guaranteed. **G. Earl Hoover, R. 7, Matthews, Ind.**

BUFF LEGHORN Cockerels and Pullets, Great layers. Eggs \$1.50 per 15, \$6 per 100. Day old chicks. **Dr. William A. Smith, Petersburg, Mich.**

White Leghorns Day-Old-Chicks. We guarantee satisfaction to all our customers. **MAPLE CITY POULTRY PLANT, Box C, Charlotte, Michigan.**

FOR SALE, R. C. BROWN LEGHORN eggs and day old chicks. Also Mammoth Pekin duck eggs. **CLAUDIA BETTS, Hillsdale, Michigan.**

Eggs for Hatching from prize-winning Barred and White Rocks. Winners at Battle Creek, Three Rivers, Union City and Mich. State Fair. **Riverview Poultry Farm, Box 788, Union City, Mich.**

BUFF ROCKS, 3 out of 4 Firsts Chicago, 1914. Eggs \$4 1/2; utility pen \$2 1/2, \$10 100. S. C. Buff Leghorns, heavy layers, \$1.50 15, \$7.50 100; Blue Orpingtons \$5 15. Catalogue. **BIRD LAWN FARM, Box D, Lawrence, Michigan.**

S. C. White Leghorns—Bred for size, shape, vigor, egg production. 15 years' experience breeding leghorns. Hatching eggs \$4.50 per 100. Baby chicks \$10 per 100. **A. O. Howard, Tecumseh, Mich.**

WHITE LEGHORN CHICKS—We can fill some more orders for April, May and June delivery. Order now, April \$12 per 100, May and June \$10. Eggs for hatching March and April \$6 per 100. May and June \$5. Satisfaction guaranteed. **H. B. BRACKNEY & SON, Clayton, Michigan.**

Barred Rock Hens \$1.50 each, eggs with the kick in them 15 for \$1.25, 100 \$6, baby chicks 100 \$15. **W. C. COFFMAN, R. No. 6, Benton Harbor, Mich.**

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Price \$1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet R.
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Healthy Hogs fatten more readily, bringing you quicker, bigger profits. The most economical, easy way to keep your Hogs healthy is to use

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Booklet Free
\$3 Package guaranteed to give satisfaction or money back. \$1 Package sufficient for ordinary cases.
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PERCHERONS—Imposant, one of the heaviest horses in state, at head of stud. Brood Mares as good, young stock for sale. CHAS. OSGOOD & SONS, Mendon, Michigan.

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

Clydesdale Stallion and Mares at bargain prices, also some Ayrshire bull calves fit for service. Terms to suit. FINLAY BROS., Fairgrove, Michigan.

FOR SALE—2 Reg. PERCHERON MARES, sound and right in every way. Weight about 1,600 lbs. M. A. BRAY, Oakemos, Ingham Co., Mich.

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Brood Mares, fillies and young stallions. Priced to sell. Inspection invited.
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Raise mules and get rich. 200 head fine large Jacks, Jennys and mules 14 to 17 hands high. Large registered Jacks and Draft Stallions, cheap now. Will trade for sheep, cattle or horses. Write for prices today. Stock guaranteed. Address

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Pigeon Pony Farm—Reg. Shetland Ponies, mostly spots, 1 spotted stallion and young stock for sale. Dr. W. T. Morrison, Pigeon, Mich.

Shetland Ponies—Closing out at low prices on account of selling my farm. Reg. tated stock, J. M. BEDDOW, Birmingham, Mich.

Farmers' Clubs

OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

President—R. J. Robb, Mason.
Vice-president—C. J. Reed, Spring Arbor.

Secretary and Treasurer—Mrs. J. S. Brown, Howell.

Directors—Alfred Allen, Mason; Joseph Harmon, Battle Creek; C. B. Scully, Almont; C. T. Hamline, Alma; W. K. Crafts, Grass Lake; Edward Burke, St. Johns.

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

NAMING THE FARM.

A review of the reports of local Clubs which have been published under the head of "Club Discussions" in this department will show that in a very considerable number of Club communities the farm homes of the members are designated by a name, the name selected being quite generally expressive of some characteristic of the farm. As an example in point, we are publishing herewith two illustrations reproduced from scenes taken at "Lone Elm Farm," the home of Mr. and Mrs. C. P. Johnson, of Lapeer county, Mich. Mrs. Johnson will be remembered by every reader of this department for her years of devoted work as Secretary of the Michigan State Association of Farmers' Clubs. The smaller cut shows the great elm tree which was the inspiration back of the name which Mr. and Mrs. Johnson have given their farm.

Very many other examples of a similar nature might be cited, but the object of this article is to emphasize the value of the idea of giving the farm a designation other than the name of the owner. This is, we believe, more common in Farmers' Club communities than in any other in the state. The question of urging the members to give their farm homes a significant name is one which might be discussed with profit by every local Club in the state in which this practice is now not a custom.

CLUB DISCUSSIONS.

Discuss County Expert.—At the April meeting of the Riverside Farmers' Club, the roll call found nearly every member present, as well as a goodly number of invited guests. Mr. and Mrs. Sherman were voted members of the Club. After the dinner was over, meeting was called to order and the general program was taken up. "Prison Extension Work and Prison Reform," was a topic assigned to Mr. S. Miner. Mr. Miner gave us a very good illustration of prison reform. He said so many times the worst criminal ought to be dealt with mercifully. The crime committed being a great many times due to environment. Mr. Fred Crowe's topic, "The Farmer as a Plant Breeder," gave us some very good thoughts along that line. Next the matter of county expert was brought up, with a very lively discussion. Bert Cook being present, was called upon. He said he thought if it was good for other counties it would be food for Shiawassee. He said he thought they would be a great benefit to the farmers, providing we got the right kind of a man. A good many passed their

opinion. Some thought they would like to see it tried out, and some didn't know. The next meeting will be held at the home of Mr. and Mrs. Fred Woods, in Owosso, for an afternoon meeting in May.—Reporter.

A Sugar Dinner.—The Ray Farmers' Club held their annual sugar dinner



The Lone Elm, for which the Farm was Named.

at the Church Hall on April 8. About 80 enjoyed the warm sugar. After a social hour the meeting was called to order by the president. After music by the Club and prayer by the Rev. Paul, roll call was responded to by naming "the farm job from which I gained the most pleasure," and which caused much merriment. Discussion was led by C. J. Hartway on the subject, "What most men desire on a farm." He thought the most desirable thing was a good wife. "What women most desire on a farm," was led by Mrs. C. J. Priest. She said if they could only have water in the house, electric lights and a laundry, it would help lighten a woman's work. The subject provoked a lengthy discussion. Club adjourned to meet with Mr. and Mrs. Alfred Lyons, May 13.—Mrs. E. M. Frost, Cor. Sec.

Grange.

MAY PROGRAMS.

State Lecturer's Suggestions for First Meeting.

Music.
Value of cultivating a crop before planting.
Reading, "Woman's Community Service Work."
"Is the telephone a luxury or a necessity?" By a brother. By a sister.
"What are the best methods of eliminating the fly?" General discussion.
Spraying and thinning the orchard.
Music.
Rhubarb refreshments. Prepared by the young ladies.

THE GRANGE IN SOCIAL SERVICE.

(Continued from last week).
Almost every community has at least one man who refuses to be limited to a unit smaller than the nation at large, and perhaps his vision takes in the whole world. Now his information may be sadly distorted, and his reasoning may lead him to incorrect conclusions, but he will think and talk, yes, and largely live in that unit. But after all, the most of us are concerned principally about our own comfort and happiness, and that of our immediate acquaintances. We love the simple life better than we often stop to think, and there is so much more good in us, and hope for us, than some people say there is.

This is why the address of Brother Charles N. Gardner at the last meet-

ing of the State Grange at Battle Creek, made such an impression upon the order generally in the state. We do not need to give up our legislative program, we do not wish to let go of our co-operative work, indeed, we must not do either, but the time has come to set everybody to work in the Grange. "Social Service" gives us the opportunity. Shall we be wise and "not bury our talent in the earth?"

As we have stated in this connection before, the Worthy Master has asked that we emphasize some line of "Social Service" in each Grange.

Some of the suggestions will require but little effort. Thus the placing of watering troughs at convenient points on the highway will not incur much expense, and will contribute much to the advantage of the neighborhood.

The placing of sign-boards giving the distances to different points, in convenient locations, will help many a traveler, and so is a work worth doing. To erect danger signals at dangerous curves and crossings, may be to save someone's life. "What will a man give in exchange for his life?"

There are many other opportunities for service that we have not time to consider now, but patrons, is it not possible for us to do some of these things this year?

A watering trough where it is needed, a danger signal, a sign-board, it will not cost much and will not consume much time. The people outside will see that your Grange is alive, and some of them will come in and help you.

If these things are not needed in your community, there is surely some other good work for your Grange. Read that list of ten lines of "Community Service" again, and ask your Grange to get busy.

"The World's Work!" Sometimes when I try to think of it all, and no man has yet seen more than a small part of it, the greatness of it overwhelms me, and I feel like crying out to the people in every Grange, in the words of "The Great Master, 'Lift up your eyes and look on the fields for they are white already for the harvest. The harvest truly is great, but the laborers are few.'"

If every Grange would but get into the field and gather the harvest of "Social Service" that just now awaits our best and most intelligent effort, what a record we might bring to the next state meeting.

W. F. TAYLOR.

AMONG THE LIVE GRANGES.

One of the Largest Granges ever organized in this region was completed on Friday evening, April 16, when State Deputy C. F. Kiefer put the 63 charter members of Deerfield Grange No. 1596 into the harness and set them to work. This husky youngster meets, for the present, in the Wilson schoolhouse in the eastern part of Deerfield township, Mecosta county. They are exceptionally well officered and we predict for them a bright future, full of profit to themselves, elevating influence in their vicinity and expanding usefulness in the Order at large. Success to you, No. 1596!—C. F. K.

Emma Grange dedicated their fine new hall, five miles south of town, on Thursday, April 8, by a public dinner and ritualistic dedicatory exercises, with State Master John C. Ketcham as the principal speaker. Emma Grange, although one of the youngest in the county, has made wonderful progress and the new home, just completed, will stand as a monument to their loyalty, persistency and self-sacrificing devotion as guide to other Granges, with a challenge to go and do likewise. The hall is the finest Grange hall in the county, with ample room for the accommodation of the increased membership which is bound to follow this undeniable indication of stability and permanency. The hall is two-story, with kitchen and dining-room on the first floor, is heated by furnace, with the upper floor divided into hall, cloak room and rest room, with hardwood floors, and is neatly furnished. The work of painting the outside was in progress the day of the dedication.

Eaton County has more exclusive Grange halls than any other county in the state.



"Lone Elm Farm," Home of Mr. and Mrs. C. P. Johnson, of Lapeer County.

BREEDERS' DIRECTORY.

CATTLE.

Aberdeen-Angus Bulls.

We are offering 12 extra good bulls, among them prize-winners at the Michigan State Fair, 1914. Some of them by Black Monarch 3rd, Grand Champion Bull of the State 1914. Others by the Great Sir Blackbird, sire of prize-winners, ages from 9 to 20 months old. Prices from \$100 to \$250 each. Come and look them over; they will please you. U. L. Clark, Hunters Creek, Mich. Sidney Smith, Manager.

ABERDEEN-ANGUS

HERD FOUNDED IN 1900.

Strains represented consisted of Trojan Eras, Blackbirds and Prides, only. Black Quality Ito, a bull of rare individuality and merit, heads the herd.

WOODCOTE STOCK FARM, Ionia, Mich.
FOR SALE—Two registered yearling Aberdeen Angus bulls. Good individuals and well bred. Marshall Kelly, Long Wood Farm, R. No. 10, Charlotte, Mich.

AYRSHIRES—One of the foremost dairy breeds. The most economical milk producers. Calves for sale. White Leghorn cockerels, Duroc Jersey swine. Michigan School for the Deaf, Flint, Michigan.

Four Registered Aberdeen Angus Bulls, from ten to seventeen months old. Prices reasonable.
GEO. HATHAWAY & SON, Ovid, Michigan.

THE VILLAGE FARM,

Grass Lake, Michigan,

GUERNSEY CATTLE.

MILO D. CAMPBELL. CHAS. J. ANGEVINE

BEACH FARM
GUERNSEYS

A Dairy Show Every Day.

120 Head of Dairy Stock. Milking done by machines. Up-to-date ice cream making. Advance Register work; 10 head on yearly test. Herd bulls of high quality. One with seven dams in 4 generations average 707 lbs. butter fat. Guernsey products are always in demand. All the whole milk we can spare brings 6c per qt. in bulk at the farm. Pure bred bulls from A. R. dams for sale. Come and see them, we will be glad to entertain you, or write for descriptions.

CAMPBELL & ANGEVINE, Coldwater, Mich.

Fairview Dairy
GUERNSEY

FOR SALE—Six registered bulls, one year old, and one registered bull, two years old.

A. R. ANCESTORS
 Herd Bull "YERKA"—1437, weight 1750 lbs. and a fine individual. Dam—ULSU—2311, A. R. 34.
 Herd tuberculin tested and all stock sold guaranteed to be sound and as represented.

BYERS & BARNES BROS., Coldwater, Michigan.
For Sale, Reg. Guernsey Bulls, Berkshire hogs, sow and gilts bred for spring farrow. Write
JOHN EBELS, R. 10, Holland, Michigan.

THREE REGISTERED GUERNSEY BULL CALVES. From 7 to 9 mo. old, at \$40 and \$50. Enquire, F. W. RUEHS, Caledonia, Michigan.

For Sale—Registered GUERNSEY COWS, HEIFERS and BULLS of choice breeding.
H. W. WIGMAN, Lansing, Mich.

Reg. Guernsey Bull Calf, 6 mos. old. A. R. ancestors. Eugene Wilcox, R. 4, Hartford, Mich.

REGISTERED GUERNSEY BULL CALVES for sale cheap at Windermere Farm, Waterford, Mich. May Rose breeding. Address, J. K. BLATCHFORD, Auditorium Tower, Chicago, Ill.

HEREFORD—Three bull calves and **ALLEN BROS., Paw Paw, Michigan.**

Do You Want A Bull?

Ready For Service.

From a grand daughter of The King of the Pontiacs. Sired by a bull that is more than a half brother to the Champion Holstein Cow of the World, and whose dam is a 30 lb. 6 1/2 % fat daughter of Pontiac Aggie Korndyke who has more 30 lb. daughters than any other living bull. If you do write for pedigree.

EDWIN S. LEWIS, Marshall, Mich.

Three Reg. Holstein Friesian Bulls at \$100 Each.
 Two from 21 lb. dams. Also bull calves.
DEWEY C. PIERSON, Hadley, Michigan.

Holstein-Friesian Bull Calves Ready For Service.
 From \$40 up. B. B. REAVEY, Akron, Michigan.

ESPANORE FARM,
LANSING, MICHIGAN.

Home of the great Holstein Bull "PLEDGE SPOFFORD CALAMITY PAUL" with 33 A. R. O. daughters, including a 5-year-old with a 35-pound record. Others from 20 to 32 pounds.

FOR SALE—A Bull Calf sired by this Great Bull.
 CHASE S. OSBORN, } Owners.
 ADAM E. FERGUSON, }

FOR SALE—Registered Holstein bulls ready for service. Heifers and cows due to freshen soon at reasonable prices.
CHARLES T. COOK, Box 438, Fowlerville, Mich.

Registered Holstein Cattle—Bull Calves for sale, out of A. R. O. cows. Also 4-year-old herd bull, out of 27 1/2 lbs. dam.
FLOYD F. JONES, R. No. 3, Oak Grove, Mich.

FOR SALE—Three young, Reg. Holstein cows, are safe in calf. No culls. Price \$175 each. Also 3 heifer calves \$25 each, 2 bull calves, \$50 each, choice breeding. **PINE HILL FARM, R. 6, Lakeview, Mich.**

Bull Calf—3 sisters from 30.08 to 34.31 lbs. Sire's sire brother to Pontiac Korndyke. Dam 22.92 lb. her dam has 2 30-lb. sisters. M. L. McLAULIN, Redford, Mich.
HOLSTEIN BULL CALF, 5 mo. old, good individual, well grown from A. R. O. dam. Sire's dam has 7 day record 30.78 lbs. butter and a large yearly record.
W. B. BRADER, Howell, Michigan.

"Top-Notch" Holsteins.

Extra large fine young bull, 3/4 white, born Oct. 4, 1913. Dam has official record of 29.40 lbs. butter in 7 days, 117.50 lbs. in 30 days. Sire's dam is a 23.64 lb. 4-yr.-old daughter of a 30.59 lb. cow.
McPHERSON FARMS CO., Howell, Michigan.

Reg. Holstein Bull calves and Herd Bull. Can supply all wants in Reg. Chester White swine.
Ray B. Parham, Bronson, Mich.

HENRY FORD FARMS
JERSEY SALE

We offer **PUBLIC AUCTION, on SATURDAY, MAY 15, 1915,**

60 Head of Jerseys—mostly females—a portion of these being pure-bred stock descendants of the famous Royal Majesty AJCC-73813, a small number of imported stock and the balance being grades of good quality ranging in age from one month to three years. Our two-year-old stock are very good and will be worth looking over. Detroit, Ann Arbor, Jackson D. U. R. passes farm. Half hour service. Get off at Reckner Road, one and a half miles east and one mile north of Dearborn village. Sale starts at 10 o'clock, sharp. Auctioneer—Smith.

Livingston County Holstein Breeder's Sale Co.

Will Sell 90 Head of Registered Holsteins

At the Fair Grounds, at HOWELL, MICHIGAN, on Wednesday, May 19, 1915.

Our consignments will include a granddaughter of the \$50,000 bull, \$5000 that are sisters to cows with records of 30, 31 and 33 lbs., a daughter of a 3/4 brother to the \$50,000 bull and A. R. O. cows and daughters of A. R. O. cows, also a 3-yr.-old son of Friend Hengerveld DeKol Butter Boy.

Our reference sires include, a son of the World's record Junior 4-yr.-old for 7 and 30 days, a son and two grandsons of Pontiac Korndyke, a son of the 50,000 bull, a brother to the sire of Tilly Alcastra who holds the world's milk record for one year, and sons of 30 and 31 lb. cows. Catalog May 10th.

Perry and Mack, Auctioneers. F. J. FISHBECK, Secretary, Howell, Mich.

HOLSTEINS FOR SALE

5 Good Bulls, ready for service.
 10 Very Choice Bull Calves.
 2 Two-year-old Heifers, bred.
 1 Six-year-old grand-daughter of King Segis, due in December.

L. E. CONNELL, Fayette, Ohio.

A "BARGAIN" "ONLY" \$50 Registered Holstein Bull Calf. Best blood and best A. R. O. backing on both sides. 3/4 white. Perfect and handsome individual. **Bougemont Farms, Detroit, Mich.**

High Class HOLSTEINS My herd is headed by Smithdale Alcastra Pontiac, whose dam is the famous Alcastra Polkadot. Have few young bulls and females for sale at reasonable prices. Will buy a few heifers about 15 months, not bred. Farm 3/4 mile from court house. **SETH B. RUBERT, Howell, Mich.**

Bigelow's Holstein Farms

Breedsville, Michigan.

Highest Class Registered Stock For Sale.

A Great Opportunity—A \$300 HOLSTEIN calf for \$100. Write for breeding. Also some extra grade heifers and bull calves. **HILLCREST FARM, Kalamazoo, Michigan.**

FOR SALE Registered Holstein Bulls ready for service, and bull calves, also females. **FREEMAN J. FISHBECK, Howell, Michigan.**

Registered Holstein Bull Calf, whose sire is full brother to Lady Tobe DeKol, 3 1/2 yr. 36.59, G. D. 10 yr. 31.66. **ELMER E. SMITH, Redford, Michigan.**

HOLSTEIN BULL CALVES—Don't buy until you write us. No better breeding in Michigan. Long Beach Farm, Augusta, Kalamazoo Co., Mich.

I offer for sale three bull calves sired by Colantha Johann, Creamfield Lad, extra fine ones, and will accept good notes due in one year in payment. Here is your opportunity. **Geo. D. Clarke, Vassar, Mich.**

Holstein-Friesian Breeder—The best families represented. **D. D. AITKEN, Flint, Michigan.**

HOBART W. FAY, Mason, Michigan.
 Holstein Friesian cattle. Nothing for sale at present.

MICHIGAN HOME AND TRAINING SCHOOL
LAFER, MICHIGAN
 Breeder of High Grade Holstein Cattle. Lists and prices upon application.

Maple Lane Register of Merit Jersey Herd. Tuberculin tested by U. S. Government. For sale bull calves and heifer calves from R. of M. dams and grand dams, and Hood Farm Sire.
IRVIN FOX, Allegan, Michigan.

The Wildwood Jersey Herd. Registered Jersey Cattle of Quality. Majestic's Won 907 lbs. one of the best sons of Royal Majesty heads the Herd. We offer for sale a bull two years old and one 10 months old, both by Majesty's Wonder and from dams that are capable of Register of Merit requirements. Write for description and price. They are right. Come and see. **Alvin Baldeen, Capac, Mich.**

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

JERSEYS—For list of stock for write. **MRS. P. H. WALKER, R. R. No. 8, Kalamazoo, Mich.** If a breeder and a member of M. J. O. C. send list of stock for sale to the above.

FISHERTON FARM JERSEYS—Some fine Hood Farm Pogie's 9th. from Register of Merit dams. **FISHERTON FARM, Pontiac, Michigan.**

Jerseys. Bulls ready for service, extra quality sired by Jacoba's Fair Emblem. Also 107 lb. from high producing dams. **SMITH & PARKER, Howell, Mich.**

JERSEYS—THE REGISTER OF MERIT KIND.
BROOKWATER FARM, R. No. 7, Ann Arbor, Mich.

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

MILKING SHORTHORNS—Young bulls sired by a Grand May & Otis bull for sale. **DAVIDSON & HALL, Tecumseh, Michigan.**

Dairy Bred Shorthorns of best Bates Strains. No for sale. **J. B. HUMMEL, Mason, Michigan.**

FOR SALE—Shorthorn Bulls, red and roans, by sons of Avondale and Victor Linwood, both international winners. **John Schmidt, R. 2, Reed City, Mich.**

BIDWELL SHORTHORNS
Registered Bulls For Sale.

Big and strong in prime condition for immediate use. 9 to 24 months old. Priced for quick sale. Albion Stamp 35267J by Oh. Shenstone Albino, in service. Write or see them on farm at Lake Shore & Michigan Southern Depot, or five minute's walk from Detroit, Toledo & Ironton Depot.

BIDWELL STOCK FARM
Box D. Tecumseh, Michigan.

Shorthorns For Sale—Young bulls sired by Bright-Sultan. Also good cows and heifers.
W. B. McQUILLAN, Howell or Chilson, Michigan.

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

SHORTHORNS: 6 CHOICE YOUNG BULLS FOR SALE
W. W. KNAPP, Howell, Michigan.

SHEEP.

IT PAYS TO BUY PURE BRED SHEEP OF PARSONS "The Sheepman of the East." I sell and ship everywhere and pay express charges. Write for club offer and price list. **PARSONS, GrandLedge, Mich. R. 1.**

Registered Oxford Down Sheep—Write your wants.
M. F. GANSLEY, Lennon, Michigan.

HOGS.

Durocs & Victorias—Grand bunch of Gilts due March and April. Comprising the blood of Superba, Defender, Much Col., Orions and others. A few young boars. **M. T. STORY, Lowell, Mich.**

BERKSHIRES Choice spring boars and gilts, priced to move quick. Farmers stock. **ELMHURST STOCK FARM, Almont, Mich.**

Berkshire Hogs—Choice gilts bred to farrow in March and April. Also a number of Barred Plymouth Rock Cockerels. **Chase's Stock Farm, R. No. 1, Marietta, Mich.**

Royalton Bred Berkshires—No more bred sows. Fine service boars 1 to 3 years old. Young sows and boars born last October. Prices right. **D. F. VALENTINE, Supt., Temperance, Mich.**

HAMPSHIRE SWINE—Breeding stock of all age from most popular strains. Write for breeding. Inspection invited. **Floyd Myers, R. 2, Decatur, Ind.**

WEST WINDS HAMPSHIRE SWINE. Booking orders for sow pigs immediate shipment. No males to offer. **E. P. Hammond, owner, N. A. Wiser, manager, Pontiac, Mich.**

Chester Whites—Sept. farrow either sex. Also 10 months Holstein Bull. All registered. **F. W. ALEXANDER, Vassar, Mich.**

O. I. C. Fall Pigs—Choice gilts bred to one of the best boars in the State.
C. J. THOMPSON, Rockford, Michigan.

Big Type, O. I. C's and Chester White Swine.
 400 fall pigs either sex, special prices for the next 30 days, also bred gilts and service males and we are booking orders for spring pigs, all our stock is good enough that I will ship O. I. C. D. and reg. free in the O. I. C. or Chester White Assn. We won more prizes than all other breeders put together, at Ill., and Wis. State Fairs. Write for Show record.

ROLLING VIEW STOCK FARM
Cass City, Michigan.

O. I. C.—Spring boars all sold. We have some fine fall pigs ready to ship.
JOHN BERNER & SON, Grand Ledge, Michigan.

O. I. C. Registered Pigs Write for photo and prices.
J. CARL JEWETT, Mason, Michigan.

O. I. C's—Serviceable boars. Gilts bred for May and June farrow. I pay express.
G. P. ANDREWS, Dansville, Michigan.

O. I. C.—Serviceable boars of Sept. farrow, also a few choice gilts bred for May farrow.
H. W. MANN, Dansville, Michigan.

O. I. C's—One serviceable fall boar and a few bred gilts, also March and April pigs, pairs not akin. Reg. free and shipped C. O. D. J. W. Howell, Ovid, Mich.

O. I. C. SWINE—Write for new price list, just out. Have on hand service boars, also other sex of Aug. farrow. I am also booking orders for March and April Pigs.
A. J. GORDEN, R. No. 2, Dorr, Michigan.

O. I. C's—Spring pigs, pairs and trios, not akin, from state fair winners.
AVONDALE STOCK FARM, Wayne, Mich.

O. I. C.—25 sows bred for spring farrow. 75 fall pigs, large and growthy. Write for your wants.
GLENWOOD STOCK FARM, Zeeland, Michigan.

O. I. C. Choice Sept. pigs, either sex. Gilts due June 21, boar weighing 225 lbs. \$25, will take orders for March, April & May pigs, not akin.
A. V. HATT, Grass Lake, Michigan.

O. I. C's—Two serviceable boars, sows coming two yr. old, bred for March farrow, fall pigs, all stock registered. **S. J. HOWELL, St. Johns, Mich.**

O. I. C's—STRICTLY BIG TYPE. Have a few Gilts left bred for early May farrow. Will sell cheap to make room for my spring pigs. Sept. pigs either sex, good ones. Am booking orders for spring pigs. Can furnish in pairs or trios, not akin. Sired by some of the largest boars of the breed.
NEWMAN'S STOCK FARM, R. No. 1, Marietta, Mich.

O. I. C's—Two good boars 12 months old, good last fall pigs, either sex, and this spring boars. 3/4 mile west of depot.
OTTO B. SCHULZE, Nashville, Michigan.

DUROC JERSEYS—A few fall boars and 12 bred gilts for sale.
CAREY U. EDMONDS, Hastings, Michigan.

Duroc Jerseys—A few choice gilts bred for April and May farrow. Fall pigs either sex. **S. O. STAHLMAN, CHERRY LAWN FARM, Shepherd, Michigan.**

DUROC JERSEYS.
 From Prize-Winning Stock.
 Write, or better still, come.

Brookwater Farm, Ann Arbor, Mich., R. F. D. 7.

DUROC JERSEYS—Some good fall boars and open gilts.
W. O. TAYLOR, Milan, Michigan.

THIS
O. I. C.
 SOW WEIGHED 932 LBS.
 AT 23 MONTHS OLD
IONIA GIRL

I have started more breeders on the road to success than any man living. I have the largest and finest herd in the U. S. Every one an early developer, ready for the market at six months old. I want to place one hog in each community to advertise my herd. Write for my plan "How to Make Money from Hogs." **G. S. BENJAMIN, R. No. 10, Portland, Mich.**

HAVE ONE GOOD GILT, weight 175 lbs., farrow April 10th, \$25. One 200 lb. gilt farrow last of April, price \$35. A few spring and fall boars, price \$20 to \$30. **H. G. KEESLER, Cassopolis, Michigan.**

Capitol Herd Duroc Jersey Swine. Established 1888. Young boars and bred sows for sale. I pay the express. **J. H. BANGHART, Lansing, Michigan.**

DUROC JERSEYS—A few bred gilts, fall males ready for service. **S. C. W. Leghorn and Buff Rock eggs for sale. J. McNICOLL, Station A, R. 4, Bay City, Michigan.**

STRICTLY B. T. Polands—Absolutely none larger or better. My herd represents best herds in U. S. Spring & fall farrow pigs at bargain prices. Satisfaction guaranteed. **F. D. Kruger, Ravenna, Mich.**

F. A. LAMB & SON has three registered Duroc Jersey brood sows that farrowed 47 pigs, one farrowed 18 pigs. These pigs are the big boned kind and are for sale at \$5 and \$8 each. Pedigrees furnished. Also some fine gilts both open and bred at \$15 and \$30 each. Also one registered bull calf from a registered Jersey cow. Write your wants to
F. A. LAMB & SON, Cassopolis, Mich.

Duroc Jerseys: A few choice boars ready for service, from prize winning stock. **GHF Middleton, Idlewild Farm, R. F. D. No. 3, Clayton, Mich.**

Duroc Jersey—March pigs either sex, sired by a son of Volunteer Champion of 3 State Fairs and Chicago Show in 1912. **E. H. Morris, Monroe, Mich.**

Duroc Jerseys. Big boned service boars; gilts for June farrow, bred to son of Volunteer, Gd. Champ, at 1912 International. **F. J. Drott, R. No. 1, Monroe, Mich.**

POLAND CHINAS of the big type. Boars ready for service. Sows bred for spring farrow. **A. A. Wood & Son, Salina, Mich.**

MY OH MY!
What an Opportunity.

Starting May 1st, we are going to give to the farmers and breeders an opportunity to get started right in the breeding industry. We are going to give you a chance to get hold of foundation stock that will give you a nucleus for one of the finest and best herds in your community. We are going to show you as we have others, that you will have greater success with our big type

POLAND CHINAS

than with any other breed. We want to place at least one pig, or a pair in every community, to advertise our herd. If interested, write for our plan and prices. **HILLCREST FARM, Kalamazoo, Mich.**

BIG BONE POLAND CHINA GILTS—Extra choice, farrow. Special prices to close out spring MAPLEWOOD STOCK FARM, Allegan, Mich.

LARGE STRAIN P. C. A few choice boars bred gilts. Some with pigs farrowed. No better breeding at any price.
H. O. SWARTZ, Schoolcraft, Michigan.

LARGE TYPE P. C.—Either sex, pairs and trios, not akin. Am booking orders for bred gilts. **W. J. HAGELSHAW, Augusta, Mich.**

Big Type Poland China Boars and Gilts plenty of size and great quality. I know I can please you. **ROBERT MARTIN, R. F. D. No. 7, Hastings, Mich.**

POLAND CHINAS—The type that wins, weighs, and pays—big with quality. Bred sows and pigs either sex. African geese. **SPRING BROOK FARM, Three Oaks, Michigan.**

POLAND CHINA BRED GILTS—Bargains in big, heavy bone fall boars. Satisfaction guaranteed. **G. W. HOLTON, R. No. 11, Kalamazoo, Michigan.**

Big Type Poland Chinas—Choice breeding, spring pigs either sex. Eligible pedigree furnished. **J. J. McMahon, Irons, Lake Co., Mich.**

LONG BODIED Heavy Bred Poland China, yearling L and fall boars at Bargains. **B. P. Rock Eggs \$1 per 15. ROBERT NEVE, Pierston, Michigan.**

BIG TYPE P. C.—Two boars old enough for service. Sired by Big Smooth Jumbo. Pigs either sex sired by Hooster Giant 2nd. **J. K. Braithwaite, Brant, Mich.**

Poland Chinas, either sex, all ages. Something good at a low price. Bargains in boars ready for service. **P. D. LONG, R. F. D. 8, Grand Rapids, Mich.**

BIG TYPE boars by Big Smooth Jumbo. Greatest boar in State, 748 lbs at 17 mo. These boars are long, tall, big bone, sold at farmers prices, shipped C. O. D. Call or write. **Wm. Waffle, Coldwater, Mich.**

THE FARMERS' HOG.—Butler's Big Bred Prolific Poland China grow big, keep easy, mature early, ready for market at 6 months. Why? Because we've bred them that way for more than 20 years. 50 big boned, long bodied, sows, also 100 fall pigs at farmers prices. Buy one and make more money on your hogs. **P. C. History Free. J. O. BUTLER, Portland, Mich.**

LARGE TYPE P. C.
Largest in Michigan.

Bred gilts all sold. A few extra good fall pigs priced to move them quick.
W. E. LIVINGSTON, Parma, Mich.

Mule Foot Hogs, both sexes, all ages. Satisfaction guaranteed. **LONG BROS., Alameda, Ohio.**

50 YORKSHIRES—All ages. Red Polled Cattle, Oxford Down Sheep, W. P. Rocks, I. B. Ducks, E. S. CARR, Homer, Mich.

MULEFOOTS—Special low prices on boars and gilts for 30 days, one pair fall pigs, not akin.
C. F. BACON, Ridgeway, Michigan.

Little Farmstead Yorkshires. Boars ready for service. L Gilts bred

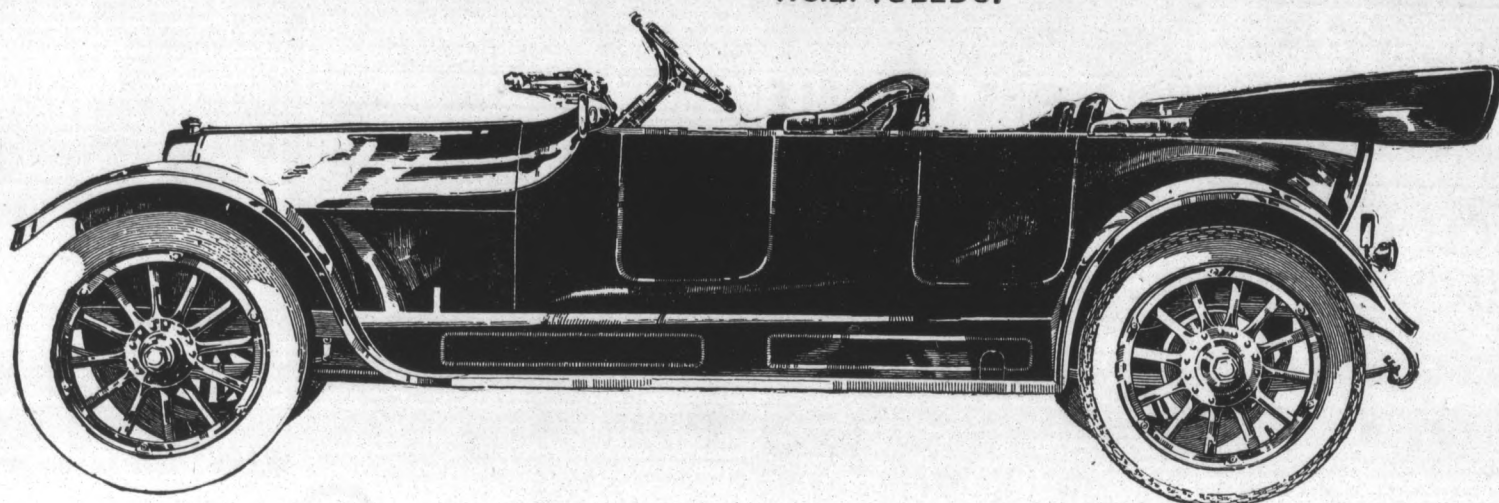
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F.O.B. TOLEDO.



Order Yours NOW

DURING May we are daily distributing carloads of Overland Sixes to all of our dealers who come in direct contact with you.

This enables us to make immediate deliveries in almost any section of the country.

All waits, delays and promises are eliminated.

You can get your Overland Six now.

And "now" is when you want it, for this is the finest season of the year.

This car is without question the greatest Six, for the money, on the market.

It seats seven adults—comfortably.

The wheelbase is 125 inches.

The wheelbase of other Sixes, at a similar price is shorter.

The six-cylinder motor is of the latest en bloc design. It is conservatively rated at 45 horsepower.

The motors of other Sixes, at a similar price, are *not* as powerful, *nor* as flexible, *nor* as up-to-date.

The Overland has high tension magneto ignition.

Most other Sixes have *not*.

The tires are 35" x 4½" all around, with non-skids in the rear.

The tires of other Sixes, at a similar price, are *smaller*.

Most other Sixes do *not* have non-skids on the rear.

Such is the economical result of Overland quantity production.

We give more car for less money simply because we produce more cars than any other manufacturer of Sixes in the world.

Buy an Overland Six and save money.

See the Overland dealer to-day.

If you haven't his address, write us quickly.

Deliveries can be made immediately.

This is the greatest Six in America.

Order yours now.

Send For This Great FREE Book

We have just published a book entitled, "Points in Judging an Automobile."

This book explains and pictures fifty-eight definite Overland Advantages. Send for the book today. It's free. Fill out this coupon right now.

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Dept. 308 Toledo, Ohio, U. S. A.

Please send me free of charge and post paid your book entitled "Points in Judging an Automobile."

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The Willys-Overland Company, Toledo, Ohio

