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The Labor Problem on the Dairy Farm

SIMPLIFYING the farm labor is one of the most vital problems confronting the dairyman today. No doubt the attitude of farm labor toward the dairy cow has been a big factor in holding back the development of the dairy business on many farms. The reason for this is not so hard to find as many dairymen and farmers have contended.

The test that brings all labor together on the same level for comparison is the amount of money it will pay for a certain number of hours' work. The average dairymen begins work at four or five o'clock in the morning and finishes at seven or eight o'clock in the evening. Is it any wonder that the farm hand shies at dairy cows, alarm clocks and lanterns?

Much has been written on the problem of securing good dairy help, therefore, it will be my purpose to mention a few things regarding shortening the days and making more efficient use of the help when once secured. In the present day of business activity when the term efficient management is being applied to all of our large industries, it would seem that the application of this same efficiency to the dairy farm might well be considered.

Coupled with the right use of labor on the dairy farm is that of having a convenient arrangement of buildings and fields and easy access to implements, tools and horses with which to work. How easy it is for a farmer to spend 15 or 20 minutes a day traveling between the dairy barn, horse barn, milk room and tool

house where nine-tenths of this time could be saved had a little forthright been given when building the various houses and barns so as to place them near together. The same thing holds good in all parts of the farm. Some farms present greater difficulties than others, owing to the size of the fields and the general topography of the land. Another instance is where cattle are driven from the pasture nights and mornings. It may take someone only five minutes to do this each time, but this 20 minutes a day, and for six months or more in the year counts up into a very large item, and if this time were put on some productive enterprise it would show a different result on the farm books at the end of the year. So often little thought is given to this efficient use of time that the day's work could be materially shortened and not interfere with the management of the stock and crops.

One of the characteristics of the well-managed dairy farm is the growing of crops that will distribute the labor evenly throughout the season. This applies not only to man labor but to horse labor as well. Of course we must take into account the weather conditions as a few days of rainy weather will often double the work that should be done in the next few days. Such conditions have to be met in the best possible way.

One prominent dairymen says that although he had made plans to raise nothing but corn silage and alfalfa, with a

few acres of small grain, he did not see how it was going to work out, for the reason that the two crops would not fit together on the labor schedule. If he employed enough help and teams to care for a sufficient acreage of these two crops at that period of the year he could not furnish work for all of them the rest of the year. The amount that one can grow of each of these crops is a little more than one-half as great as if the labor on them came at different periods, or even if the labor on the first cutting could come at a different time. Sometimes this difficulty can be overcome by growing a cash crop in the rotation or growing a larger acreage of winter grain. The same holds true in regard to regulating the number of cows giving milk at the busy season of the year.

Convenient systems of watering the cows and washing the dairy utensils greatly facilitates the work of handling the herd and keeping things clean and sanitary. If we stop and figure the hours spent in watering cows on the average dairy farm we find a woeful waste of time. Such things can be remedied and must be if dairymen make the most efficient use of hired labor. Water in the dairy barn and milk room is just as necessary as it is in the factory, and what factory could show a profit if all the water used by their boilers had to be hauled from some distant spring.

In the mixing of grain feeds a lot of time can be saved by balancing up the

feeds in large bins and mixing them thoroughly so that they will be ready when needed. By buying and mixing several tons at a time the work of hauling and mixing can be done at times when the men and teams are not needed in the field and a number of minutes' time each day will be saved. All of these things count mightily in cutting down the length of the day and they do not decrease the amount of work accomplished during a year.

The hauling of manure direct from the stables to the field saves a lot of time during the rush of spring work and makes the work far more pleasant than when the cows are allowed to run in a filthy yard and wade in manure up to their knees when turned out in the yards.

Weighing and testing each cow's milk and keeping a record of the food she consumes can be greatly simplified by setting aside one day each month and having the scales and milk sheets ready so that the work can be done quickly and accurately. Some dairymen object to this work because it takes too much of their valuable time, but if these men would make a critical examination of their own management they would find where they were losing enough time each day to make up a complete milk record.

On many dairy farms the milking machine simplifies the labor. For the two-man dairy it scarcely reduces the amount of labor required in milking if we take (Continued on page 218).



Good Business Management will Simplify the Labor of Caring for the Herd and add to the Pleasure and Profit Derived from the Dairy Farm.

Improving Corn by Plant Selection.

AMONG the farmers of Michigan, there are three ways of securing corn for seed, which are: Selection from the corn in the crib previous to planting time, selection of ears at husking time and selection of seed corn when the plant is yet standing. All of these methods have points in their favor and we wish to carefully consider each of them and then follow the one which seems to us to be the best suited to our conditions.

Crib Selection Lessens the Yield.

Experiments have been tried and it has usually proven out that of all the methods of selecting seed corn, that of picking from the crib is the least desirable. There are good reasons for thinking this to be the case. When we select the ears from the corn that is in the crib, we usually select the largest ears and when it comes right down to it, probably the ear that we select as our ideal of a seed ear is one that has grown alone on a stalk of corn which has been the only one in the hill. In other words, this ear of corn has had a great deal more food than the others and is therefore larger.

Moreover, the corn which is selected in the spring has usually been weakened by the frost for experiments lead us to believe that after corn has been frozen its vitality has been weakened. So we find that seed corn selected in the spring from the corn crib is not the most desirable for planting a field from which we expect to harvest a maximum crop of either corn or silage.

Selection at Husking Time Considered.

A great many progressive farmers still select their corn for seed the following year from the corn as it is being husked in the fall. The good ears of the right size and shape are thrown out to one side and are picked up separately and saved for seed. This is a much better plan than crib selection but in a measure, it is open to the same objections. Of course, the danger of weakening the seed by freezing is eliminated for the seed corn will not be subjected to freezing weather, especially when it contains much moisture. But on the other hand, the person who does the selecting from the plant, takes no notice of the plant on which the ear grew but considers only the individual ear. He does not notice at about what height the ear was produced or whether it was pendant or not; neither does he look to see if it is the only one which grew on the stalk and if he were so inclined he could not tell if the plant was the only one which grew in the hill. Yet, if the matter were looked after carefully, the husker is able to tell all of the above items excepting the last one, from the plant when he is husking the corn.

We feel that this point of telling whether an individual plant had an advantage over the others or not is so important that we can not afford to ignore it. We do not want to plant as seed, an ear which is large because it has been in very favorable conditions. We feel sure that a surer way of getting an increased yield is to plant seed from an ear which has grown large under unfavorable circumstances, showing that it has the power of making better use of its food than its fellows. The case is nearly identical with that of cattle. Two cows may stand side by side, get the same care and feed, but still one cow will produce a great many more pounds of butter-fat and milk in a year than the one which stands beside her. So with the two corn plants, both may have identical conditions of food and moisture, still one is able to mature two good sized ears of corn while the other one is able to mature only one. Until recently we have not been accustomed to thinking of plants in this way but the time is fast approaching when we must pay as much attention to the selection of our seeds as to the breeding of our cows and other farm stock. The stock must have food and before they can have that, we must raise the crops.

Individual Plant Selection is Best.

Of the methods for seed selection in vogue at the present time, the method of selection from the individual plant seems to have the most points in its favor. With this plan, we are able to select those ears which have not had undue advantage and are of good size and proportions. We are also enabled to select an ear which is pendant and properly situated on the stalk.

In judging of the size of an ear of corn for seed, we look for one of the proper size which will mature all its kernels in our growing season. If we see an ear

which is bare at the tip, it is a sure indication that that particular plant was too late for our conditions and that it could not mature all its kernels. On the other hand, we do not wish to select an ear which does not use up all of our growing season in making its growth. If a plant matures its seed before the 15th of September, it is too early for our conditions, while if it has not yet ripened at that date, it is too late for our weather conditions as our fall frosts usually come at about that time. Select a cylindrical ear rather than a tapering one, if it is possible to tell. If it is not possible to tell from the exterior, do not tear down the husks to find out.

The next point to be considered in individual plant selection is the height at which the ear is produced. If the ear is too high up on the stalk, the summer storms and winds are more liable to cause the corn plant to lodge. Further than this, the plant with an ear produced high up is usually a late maturer. High ears seem to indicate late maturity. We are just as particular not to select an ear which has been produced too near the ground for such ears are liable to be broken off by the corn harvester and thus wasted. An ear produced, say about two or three feet from the ground, will prove desirable.

The last point which is to be considered in individual plant corn selection is the attitude of the ear. Some argue that the ear which stands straight up is best while others argue that the pendant ear is the most desirable. There is one thing sure, the ear which stands straight up surely has a cob which is excessively large, in fact, so large that the weight of the grain is not sufficient to cause it to droop. Most authorities favor the drooping ear because it shows a small cob and a weight of grain which makes the ear pendant at ripening time. Moreover, the pendant ear by its attitude shuts out the water of the fall rains thus precluding the possibility of the molding of the grain.

Now is the time to go out into the corn field and select those plants which come up to the requirements. Tie a red string on those plants which have ears of good size and proper proportions; properly situated on the stalk, not too high and not too low; and with the ear pendant. These plants should be allowed to ripen in the field. Cut around them with the corn binder or leave them standing when cutting by hand.

Ingham Co. I. J. MATHEWS.

FARM NOTES.

Late Cutting of Alfalfa.

I have a No. 1 field of alfalfa. It is one foot in height. I wish to know if I can cut the alfalfa at this time of the season without any damage to the same; that is, will it get sufficient growth for the winter?

Bay Co. A. S.

Just how late it is safe to cut alfalfa is a question upon which we must exercise our own best judgment. The best authorities claim that it should not be cut so late that it will not get at least a foot of growth before winter. Some expert growers maintain that in a season which starts rather late, as the present growing season did, it is better not to cut the third crop, even though it reaches a suitable stage before frost comes. Widely different conditions, both as to weather and the growth of the plant will be noted in different seasons. This year the second growth of alfalfa was slow in starting, at least in the writer's locality, and where the second cutting was taken off at or near the middle of August it does not promise to make a growth sufficient to make it safe to harvest another crop.

Some growers delayed the second cutting until well along in August and without any question this alfalfa should not be cut again this year. In other localities where weather conditions were somewhat different the problem will be a different one. Alfalfa that is now a foot high if at a suitable stage for cutting might make sufficient growth to give the stand a good protection during the winter. But it should not be cut until the new shoots start at the crown, otherwise it will be weakened and would become a more easy prey to unfavorable winter weather conditions. It would be the writer's opinion that if this alfalfa reaches that condition by the middle of September it would be as well to harvest it. Otherwise it would be better to leave it on the ground as a winter protection.

There seems to be no general rule to

follow with the alfalfa crop at any stage of the game. The matter of winter protection is apparently no exception. Last year the writer cut an old stand of alfalfa the first of October with the result that it winter-killed badly, as did other pieces in the same county which were cut at about the same time. In another locality, however, a field cut equally late lived through the winter perfectly and made a fine early growth this spring. As a general proposition, however, it is doubtless better not to cut the alfalfa too late in the fall, since it is the consensus of opinion that a liberal growth left on the ground over winter protects the plants from freezing out to some extent. It is a fact equally generally conceded, however, that when alfalfa reaches a stage when it should be cut, or when the new shoots have started at the crowns, that it seems to improve rather than harm the plant to cut it, and it is here that a nice degree of judgment is required to choose the better of the two courses in a situation like that described by this inquirer.

NEBRASKA AND KANSAS CROP CONDITIONS.

The states of Nebraska and Kansas, and to a considerable degree, parts of Missouri, Oklahoma, and western Iowa, have been suffering this year from an exceedingly severe drought, accompanied by abnormally high temperatures. The rainfall for the growing season of the corn crop has been from four to eight inches below the normal rainfall for the period. In fact, there are many parts of the district in which there has been no soaking rain since the first half of June, although in May and early June the rainfall was in some places, above the normal. Combined with this lack of rain there has been a terrific heat and an excessive dryness of atmosphere which between them have dried out the moisture from the soil and from the crops to a very high degree. At Lincoln, Neb., for example, there were nine days in July in which the temperature at the weather bureau reached 100 degrees or more, while so far in August (until the 27th inclusive) there have been 14 days when the temperature reached this height. Temperatures of 105 and 106 were reached several times and 109 was reached one day. These are all shade temperatures and do not, of course, represent the heat at the surface of the ground in bright sunlight nor in the corn fields when the sun was shining. The hot weather has, of course, brought on the usual crop of stories of more or less authenticity (all requiring, however, a grain or two of salt) with reference to cooking eggs in the sunshine, hatching of chickens in storage rooms, etc. The fact remains, however, that over most of the southern half of Nebraska the corn crop will scarcely reach one-third of the normal, many fields being a total loss, while the Kansas corn crop will probably be even less than that of Nebraska. The portion of Nebraska lying north of the Platte river suffered comparatively little from the drought, the rainfall having been nearly normal over much of this region. Along the Missouri river south of the Platte and in scattered localities elsewhere the corn was only partly injured. In the main drought-struck localities in some places the corn is so badly burned that great doubt is expressed as to its value even when cut up and put into the silo. However, a large part of the crop can probably be used for this purpose and the more progressive farmers are cutting their corn now and filling their silos.

Another feature that is causing considerable worry is a shortage of pasture from now on throughout the fall. Already many farmers are having to feed their stock and for this reason, in view of the high price of hay (on account of the shortage of that crop), many cattle and hogs are being rushed to market in condition rather unfavorable to bring good prices. It is to be remembered that the farmers forced to do this are receiving rather low prices for their stock in view of the glut in the market. These low prices, however, do not seem to be reflected at all in the price of beef and pork as paid by the ultimate consumers. Probably the largest portion of this meat will be stored by the packers and not put on the market at present so that the ones who will profit by the present conditions are not the farmers, who produced the animals, nor the consumers who ought, if any one, to profit by the glutted market but the packers, as is usually the case. Another reason for sending stock to market at this time is that in many parts of Kansas, especially, the ponds and streams have dried up and in some places the wells also, so that it is impossible to wat-

er the stock. Local rains have alleviated this condition somewhat here and there in Kansas, but as yet there have been lacking the heavy, long continued soaking rains which alone can bring the water supply back to the normal.

In spite of all of these unfavorable circumstances the condition of the farmers of these states is not at all the desperate one that they experienced at the time of the drought of 1894. In that year the growing of alfalfa had not become so widespread as now so that shortage of feed was far worse. Then, furthermore, wheat and oats, especially the former, were not grown very extensively and the crop of these, too, were poor. The farmers of southern Nebraska and Kansas were then practically one crop farmers, that crop being corn. When this crop failed there was nothing to fall back on. That thing has changed, however, in the past 10 or 15 years. Nebraska had this year, in spite of the drought, the largest wheat crop on record and the oat crop is close to the record as well. The early hay was an immense crop so that there will probably be very little actual suffering among the farmers, and there will be no necessity for the organization of relief stations and the taking up of subscriptions to prevent starvation as was done very extensively 19 years ago. Indeed, in spite of the loss of the corn crop and fall hay, the farmers of Nebraska and Kansas may be still looked upon as extremely prosperous. It may be that there will be less automobiles sold this year in these two states than last year, and, of course, that will affect Michigan, but inasmuch as Nebraska has the highest number of automobiles per capita of any state in the Union or of any country in the world with Kansas as a close rival for this honor, it is possible that these states can afford to go a little slow in this matter for a year.

The effect on the Michigan farmers will probably be felt in two ways. In the first place, the price of corn will probably be much higher than last year, for this drought affected corn not only in the states mentioned but also as far east as the state of Indiana. Next spring there will be a shortage of good reliable seed corn, since in many cases the corn is so dried out that its germinating property will be greatly impaired. On the other hand, there will not be much danger of loss of viability owing to lack of maturity at time of harvest, for the hot weather is maturing the corn early. The second point will be the increased prices for hay. Of course, hay is a commodity that cannot be shipped in bulk very far but for these farmers that use compressors and market their hay in Chicago there ought to be quite a marked increase in the price of hay within the next few months. There will probably be an increased price also in the cost of alfalfa seed, for the bulk of the Michigan planted alfalfa seed is from Kansas and Nebraska. Alfalfa planters this summer and fall and next spring should pay particular attention to the quality of the seed as there is likely to be a considerable quantity of shrunken seed placed on the market, the seeds not having filled out properly in some cases owing to the hot weather and lack of moisture. It would be highly desirable indeed that the farmers make home germination tests of all alfalfa offered them.

Of the lessons to be learned from the drought the most striking is (probably) the advantage of diversification, i. e., not placing the whole dependence upon one crop, for it was this that has saved the farmers of Nebraska and Kansas from prospects of starvation for the next 10 or 12 months. Another point is the great value of alfalfa under such conditions. Of course, in dry weather the alfalfa did not make such large crops of hay as usual but it is probably the only crop that did produce hay except in very favorably situated low lands. Furthermore, it was not killed out, while in many cases other crops were destroyed. This year also, as in previous drought years, the farmers who cultivated just as late as they could, even at the cost of injuring part of their corn plants, have demonstrated that the keeping of the soil covered with dust mulch is the surest way of retaining the moisture that is in the soil. However, on some of the very hottest and driest days it has been shown that even when the soil is sufficiently supplied with moisture the evaporation of water from the leaves of the corn plant is sometimes so great that the plant is unable itself to draw the water up from the ground as fast as it is given off. Fortunately, however, such days are comparatively few so that the greatest loss is simply from the lack of moisture in the soil.

Mich. Ag. Col. ERNST A. BESSEY.

EXPERIMENTS ON KENT COUNTY FARMS.

The North Grand Rapids Experiment Association, which includes in its membership 30 of the leading farmers in territory north and east of Grand Rapids, are working along lines of improved agriculture. The August meeting was held at the home of B. A. Bobinnette, in the Peach Grove district, with Prof. Shoemsmith, of the M. A. C., and J. H. Skinner, federal farm manager for Kent county, in attendance. Lunch was served at noon and then followed an automobile tour, with visits at farms of eight of the members. Another meeting was held August 26 at Vinecroft, the home of W. K. and J. Pomeroy Munson, when further details were made regarding an exhibit at the West Michigan State Fair. The Munsons have a field of corn that is striking testimony to the value of tested seed. The land is the same, the culture the same, and the plot of tested and selected corn stands above the other, without a hill missing, while results from the crib-corn, even though the seed looked full as good as the other, were ragged, with whole hills missing and growth unhealthy.

Interesting experiments are being conducted by the members with varieties of corn, potatoes, wheat and other crops, and in the use of fertilizers. Results from commercial fertilizers have not been so good this season on account of the dry weather. The association plans on making an educational exhibit at the Grand Rapids fair, next to the agricultural college show, the result of each experiment to be told by placards.

Kent Co. A. GRIFFEN.

LILLIE FARMSTEAD NOTES.

Fall Plowing for Wheat.

Some experiments have been made lately by the Kansas Experiment Station to determine the proper time to plow for fall wheat. These experiments go to show that early plowing is much better than late plowing. For instance, ground that was plowed the 15th of July yielded twice as much wheat per acre as ground that was not plowed until the 15th of September. Other plots were plowed at different times after the 15th of July and in every instance the early plowed plots produced the best yield of wheat. Progressive farmers all over the country realize, and have, that early plowing is better for wheat. For instance, where oat stubble is to be plowed for wheat it ought to be plowed as soon after the oat crop is harvested as possible. This gives one time to work the ground and get the ground settled or the surface thoroughly settled, forming capillary connection with the sub-soil, and a good seed bed prepared for the wheat plant.

Ground that is plowed and harrowed over once or twice and immediately sown is not characteristic of a good seed bed, and unless conditions are very favorable for this sort of work the yield will be light. We would all expect light yields of wheat if we plowed the ground over and sowed at once. Nevertheless there are conditions which change this somewhat, and that is the trouble with farming. Last year I had a field plowed in June. I intended at first to put it into beans, but it got so late that I wouldn't risk the beans, so we finished plowing it, worked it a little through the summer when we had time and then sowed to wheat last fall. Now actually, the wheat on that field wasn't as good as it was on fields that were plowed the first of September, and this was contrary to the teaching of the experiments of the Kansas Experiment Station. We had local conditions in Michigan last year, which would overcome almost entirely the early plowing, and that was excessive amounts of rain. I think there is more in getting the seed bed compact than there is in the bare idea of early plowing. If you plow the ground late but have the tools to thoroughly pack the ground down it doesn't make as much difference. It is the loose, deep seed bed where you get no results. A compact sub-soil with fine soil on top, making a perfect seed bed, is what counts, and it doesn't matter so much when it is plowed if you can only get these conditions. That's my observation.

Then again, disking stubble before it is plowed is a benefit. Why? Because it makes it possible to get this perfect seed bed in less time and with less labor than as though it is not disked. When you disk the ground thoroughly before plowing, disk it both ways, and cut it all to pieces, you have fine dirt thrown into

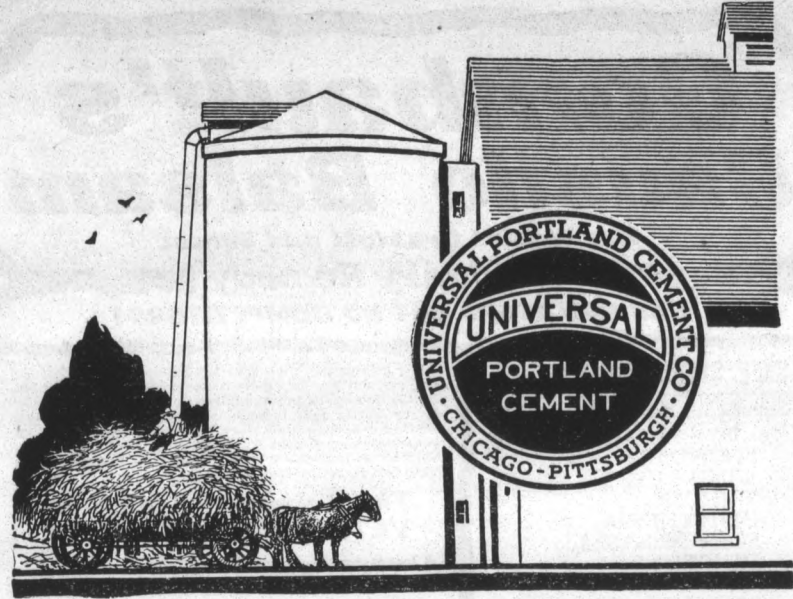
the bottom of the furrow. On the other hand, if you don't disk it you have a lot of stubble and coarse clods turned into the bottom of the furrow. Now it takes time. You can't fit that ground with tools and make a good seed bed and have capillary connection with the subsoil. There is nothing, only just time, the actual settling of the earth, and it takes rain to settle that ground down and make a good firm seed bed. On the other hand, if the ground is disked you will have a lot of loose dirt and you plow this to the bottom, the soil plows up like a garden, it doesn't take so much work, the crevices are all filled, and you can form the connection with the subsoil very much more easily. Then a good amount of rolling and harrowing will make a fairly good seed bed. But my idea is that one should never sow wheat on freshly plowed ground without very thorough tilling. Take the time to harrow it and roll it and disk the ground, and get it thoroughly settled down, compact, and just a few inches of fine mellow dirt on top. Then it won't make so much difference if you did not plow it early, if you will only get this condition of a good seed bed.

Harvesting White Beans.

This is the first year in a number of years that we have had any white field beans. A number of years ago I got it into my head that I would raise beans in a rotation. I believed them to be a good crop. But I struck a bad year. It was a cold, wet spring. We got them in late. We couldn't half till them because the ground was too wet. Then we had bad weather in harvest, and half of them were cull beans. A few years after that I tried it again and I struck just such a year again. Our soil is not uniform and the beans don't ripen evenly. We have different kinds of soil in the same field. On the clay, which holds the moisture better the beans continue green, while on the sand they get ripe. That year was a bad year for beans. They got wet and we had lots of cull beans, and I sold the bean puller which I had bought and made up my mind that I would not try to grow any more beans. But I got the fever again this year. I put in 12 or 13 acres of white beans. Not being used to planting the crop with our drill we didn't get the beans quite thick enough and consequently we were bothered a little too much with weeds, in fact, the field is weedy. But we had a splendid year on our land for beans and I have got them harvested and they are hauled in under cover without any rain on them at all, and while I won't have a big crop I am going to have a small per cent of cull beans this year. I bought a bean puller again this year to pull these beans with and I don't think I shall sell it, because I am going to try beans again next year. Harvesting beans is, in one respect, like making clover hay. It is not such a serious job if you have good weather. If you have got bad weather you are up against a stiff proposition.

This year we had ideal weather, there could not be any better. The ground is dry, the beans are ripe, we haven't had any rain after they were pulled. I had men fork four rows together in little piles preparing for rain. I thought then if it rained all we would have to do would be to turn these piles over. But it didn't rain and we didn't have to turn them, and we hauled them, and they seem to be in excellent condition. And the fact is it hasn't cost so very much to harvest these beans. It didn't cost any more to plant them than it would to plant corn; it hasn't cost any more to cultivate them than it would to cultivate corn, and the harvesting was simply nothing compared to the harvesting of corn. If I get as much out of them as I would out of a crop of corn, then this year I am ahead on raising beans. I raised these beans on contract for \$1.75 a bushel. Some people think beans will be higher than this and some people think they won't be worth as much. One thing sure is that I won't have to worry about the price, they are sold already, and that's a good deal with the farmer because it makes one's hair turn gray more, worrying about the price and the fluctuation of the market than it does in growing the crop. If farmers could only contract all their crops at a decent price this business of farming would be simplified very much, and that's the way it ought to be. The farmer ought to have something to say about the price of his crops. One way to do this is to grow crops under contract and when the farmer has an opportunity to sell his crops in this way he ought to be willing to meet the purchaser half way. Then he knows just what he is doing.

COLON C. LILLIE.



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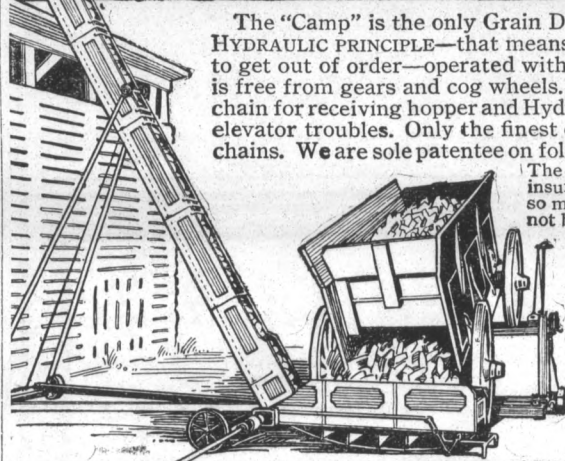
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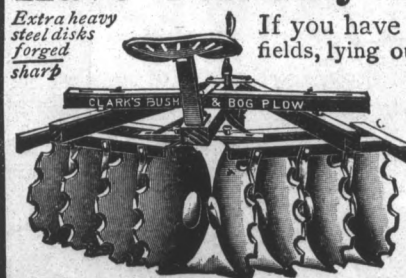
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The Sheep Industry and the Farm.

IN the early days of the sheep industry in America, wool was the principal commercial product of the flock and wool growing became a highly developed industry. This was largely the result of natural conditions. The pioneer wool grower was far removed from the centers of population of the country and transportation facilities were meagre. Wool was a relatively valuable product and the item of transportation, though expensive, did not take a large proportion of revenue from the wool crop.

At that time it would have been impractical to develop the mutton industry to the present proportions even had there been a demand for mutton which would warrant it. But that demand did not exist. The American people were slow to develop a taste for mutton which would create a large demand for that product. On the other hand, there did exist a great demand for wool for manufacturing purposes, hence the marked development of the wool producing industry was the natural result of prevailing economic conditions. The result was that the farms of the country were covered with flocks especially bred and fed for economic wool production.

The Effect Changed Economic Conditions.

But with time there came a change in economic conditions which made the wool industry at least temporarily unprofitable. Cheap lands in our great west and large areas of free ranges were devoted to wool production, while similar lands in Australia and South Africa were devoted to the same purpose, with the result that there was an over production of fine wools and prices for this staple product dropped accordingly. This led to the gradual importation of English mutton breeds of sheep which had been highly developed in a country where mutton was more generally appreciated as a food.

With the introduction of these English breeds it followed as a natural result that they were crossed to a considerable extent upon the native American merinos, with the happy result that feeding lambs of the very best quality were produced and by this means a demand was gradually built up in the American centers of population for this toothsome meat. Following closely upon this new development of the mutton industry in America came the ascendancy of statesmen who believed that the American wool producing industry no longer needed protection and the removal of the tariff on wool finished the economic change which had already begun and from that time on, notwithstanding the fact that a protective tariff was again placed upon wool, wool growing never attained its former importance in the sheep industry of the country and mutton production became the greater factor in the maintenance of sheep upon American farms. But in this period of transformation it naturally followed that many sheep breeders became discouraged and, believing that the industry would never again be a profitable one, sold their flocks and went out of the sheep raising business.

Variable Prosperity a Factor in Every Business.

With the revival of the industry under new conditions many of them again purchased smaller flocks and engaged in sheep raising, but the foundation which was the result of many generations of careful breeding had been sacrificed and it required years to establish as profitable flocks as could have been built upon the foundation already at hand but for this natural tendency of mankind to abandon a line of production which for the time being was at low ebb in the rise and fall of prosperity, to which every line of production seems ever to be subject as though controlled by natural laws.

Again we will see repeated the economic conditions which closed the scene of the decline of the wool industry in American a generation ago. Since it became a foregone conclusion that the tariff on wool would be materially reduced, and later as it has appeared a certainty that wool would be placed upon the free list, very many sheep breeders have become discouraged and sold their flocks, notwithstanding the increased demand for mutton. This tendency has been so general that, despite the fact that there is an actual scarcity of sheep in the country at the present time, sheep of all kinds have been forced upon the market in numbers which have kept this division of the live stock market relatively low, except for feeding lambs of the very best class, and that at a time when all other

meat producing animals are bringing record prices in all markets of the country.

The Sheep a Permanent Institution.
Just as surely as there has been a return of low ebb in the tide of prosperity in sheep raising, just as certain will there be a reaction and again these same men will be found seeking to correct their error by again purchasing foundation stock for sheep raising. No sensible man can for a moment believe that an animal of such great economic importance as the sheep, which has contributed so largely to the support of man from the earliest history of the human race, will suddenly go into "innocuous desuetude." Farmers may change in their attitude toward the sheep, but the sheep will remain an economic factor in the affairs of men. Wool will continue to be a necessity for the production of clothing for mankind and with the modern development of business ethics and the tendency toward government insistence upon the purity of the products sold under names which have come to be synonymous with quality in the public mind, there will undoubtedly be enacted in the not distant future legislation which will compel the marking of goods which contain shoddy or other wool substitutes in a manner which will plainly indicate to the purchaser just what he is buying and this undoubtedly will again stimulate the wool producing industry to no small degree.

Then with the advance in the cost of production of other meats and the consequent advance in price to the consumer, which is bound to be continuous no matter what tariff legislation may be enacted, there will be an increased demand for mutton and a consequent rise in the tide of prosperity in the sheep industry. It would then be the part of wisdom for the farmers of the country to devote a little more time to the study of present conditions and how to better them in a way which will be a present benefit to the industry, and so be in a position to reap the larger profits which the future certainly offers, than to abandon an industry which still compares favorably with others, and shift to some new line of production only to find conditions no better and to return to their old policy later on with the attendant sacrifice which always accompanies such changes.

Farmers Should Eat More Mutton.
But how, the reader may ask, can the farmer accomplish this result? One way in which he can accomplish it is by consuming more mutton upon the farm. From time immemorial pork has been the standard meat grown and killed for home consumption upon the farm. Except where it is done through co-operation with one's neighbors it is impractical to use a carcass of beef in the farm home, but it is entirely practical to consume the meat from a sheep in a fresh condition during a large portion of the year in the average farm family.

Reference to the market pages of this paper will show that fat sheep are selling at about one-half the price per pound which hogs bring in the same market and that they bring only about two-thirds as much as is commanded by beef animals of inferior quality. Unfortunately the demand for mutton in America has been built upon the choicest cuts of lamb and mutton has been largely neglected, but there is no better eating than good mutton, a fact which is attested by the high development of mutton breeds of sheep in England, where that meat is better appreciated than it is in our own country.

If every one of the more than 200,000 farm families in Michigan adopted this plan of adding mutton to the dietary of the family it would not only take a large number of sheep to supply this demand, but it would at the same time add needed variety to the meat diet of the family, and hence would be beneficial in other ways besides purely economic ones. But considered from an economic standpoint alone here is one opportunity of helping the sheep industry at a time when it needs help and at the same time saving the pocket book, a practical argument which should appeal to every farmer.

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Timely Suggestions for **KEEN KUTTER** Quality Tools

WITH fall so close it would be wise to look around and see what new tools you need, because there's always lots of sawing, repairing and altering to do about the place before winter sets in.

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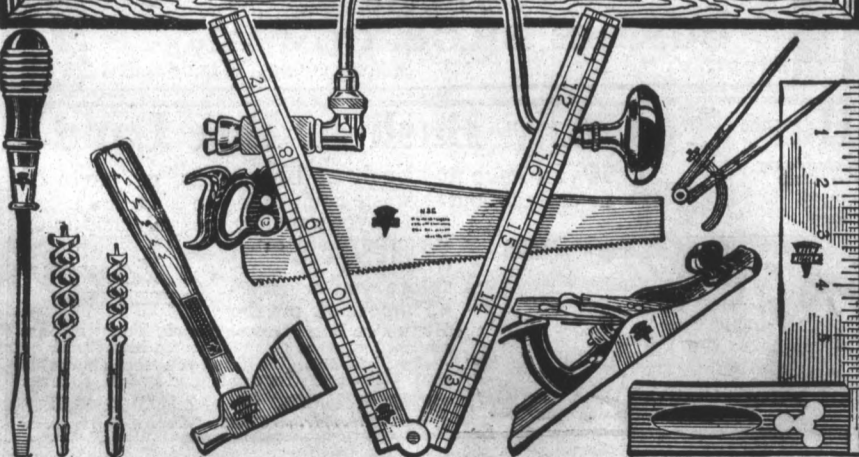
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FINISHING THE PIG CROP.

Too many farmers make the mistake at this season of the year of attempting to finish pigs which have been confined in a pen or dry lot on immature corn as the sole grain ration. This is not good practice as a violent change in the ration cannot but produce digestive disturbances that weaken the system to an extent which makes it peculiarly susceptible to infectious diseases if same are not actually caused by such methods of feeding.

If the pigs have been on succulent pasture with only a light grain ration they may be turned into a corn field with a little supplementary feed with entire safety, as is practiced where corn is "hogged down." Under all other conditions the change from a previous grain ration to new and immature corn or soft corn should be made gradually. In fact, in feeding any kind of live stock a gradual change should always be made in the ration where changes are necessary, as, if the health of the animals is not permanently affected by violent changes, as is sometimes the case, there will be an interference with their thrift which will make a noticeable reduction in gains and a consequent financial loss to the feeder.

This matter of violent changes in the ration is one which is not given sufficient consideration with any kind of live stock by the average farmer but it is perhaps given less consideration with the hogs than with any other kind of live stock, the impression apparently being that the hog is a natural scavenger and can live on almost any kind of feed with equal facility. It is just as essential, however, to use good judgment in feeding both growing and fattening hogs as in feeding any other kind of live stock if maximum results are desired.

SEE THE LIVE STOCK AT THE STATE FAIR.

One who visits the Detroit live stock market for the first time will be surprised at the poor quality of cattle which form the bulk of the receipts. Good market types are relatively scarce and there is a great predominance of ill-bred and poorly finished individuals. There is unquestionably a great chance for improvement in the quality of beef cattle marketed from Michigan farms. The dairy herds are a better type and yet there is here a vast opportunity for improvement which would net many dollars to their owners. In the sheep department there is also a big opportunity for improvement, though it is not so marked as in the case of the cattle. The average of the hogs marketed is of far better quality, yet an improvement in breeding as well as in methods of feeding would here add not a little to the profit derived from this branch of farm production.

What the average farmer needs is a higher ideal as to the type of live stock which should be bred and fed upon his farm, and there is no place where this needed viewpoint can be secured so well as by making a careful study of the live stock exhibits at the State Fair. Here the highest type and quality will be found exhibited in every department and a careful study of these exhibits cannot but lead to the forming of a higher ideal by any farmer who becomes interested in them. Fancy points are perhaps of minor consequence so far as farm production is concerned, but type is of great consequence, as is the ability to make the greatest use of food consumed, and these are closely related factors which should be carefully studied by every patron at the coming State Fair, to the end that he may get the greatest possible educational value from a careful and painstaking study of these exhibits.

A VALUABLE REFERENCE.

In connection with the veterinary advice given in the Michigan Farmer, every reader can use to excellent advantage one of the Michigan Farmer Anatomical Charts. This chart illustrates the horse, cow, sheep, hog and fowl, the perfect animal, the bones, the muscles, the blood system and the internal organs, also giving the name and location of each bone, muscle, and vital organ. Dr. Fair, our veterinarian, recommends the use of this chart and believes it will help you greatly to make your questions better understood and also enable you to better understand the answers.

This chart is only one of the features of our six-page collection of charts which also contain maps of Michigan, the United States and the world, and many other valuable features. The entire collection will be sent postpaid, for only 30c. The Michigan Farmer, Detroit, Mich.—Adv.



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A Unit Power Plant—combining clutch transmission, motor and control levers. This keeps all working parts in perfect alignment, eliminates dangerous friction and keeps the oil in and the dirt out.
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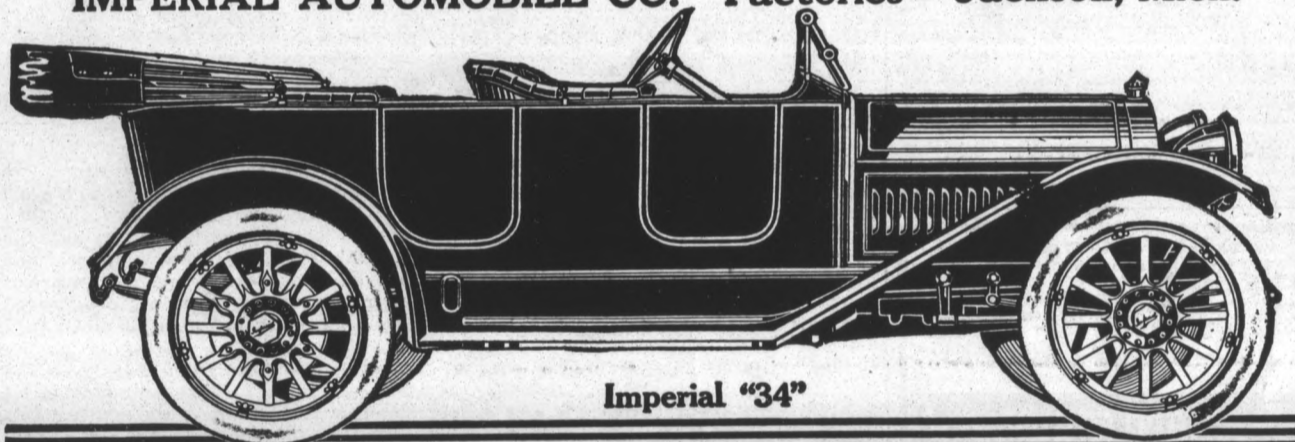
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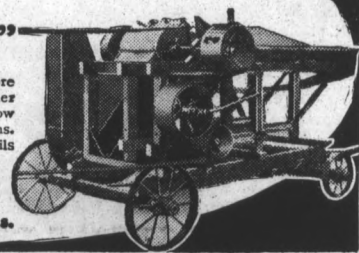
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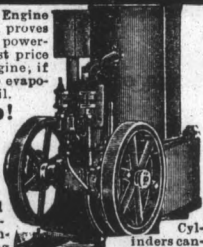
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—only engine running on coal oil successfully; uses alcohol, gasoline and benzine, too. Starts without cranking. Only three moving parts—no cams—no sprockets—no gears—no valves—the utmost in simplicity, power and strength. Mounted on skids. All sizes, 2 to 20 h. p., in stock ready to ship. Engine tested before crating. Comes all ready to run. Pumps, saws, threshes, churns, separates milk, grinds feed, shells corn, runs home electric lighting plant. Prices (stripped), \$29.50 up. Sent any place on 15 days' Free Trial. Don't buy an engine till you investigate money-saving, power-saving "DETROIT." Thousands in use. Costs only postal to find out. If you are first in your neighborhood to write, you get Special Extra-Low Introductory price. Write (118) Detroit Engine Works, 149 Bellevue Ave., Detroit, Mich.




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CONDUCTED BY COLON C. LILLIE.

FREE MILK AND CREAM TESTS.

The sale of milk and cream on the basis of its butter-fat content is the best way to market these dairy products. In this way, and in this way only, can the dairyman get an equitable price for his product. But if one makes inquiry of the dairymen in any community where milk or cream is sold on a butter-fat test which is made by the purchaser, he will find a more or less deep seated suspicion on the part of many dairymen that they are not getting a fair test in all cases. Some are emphatic in their declarations, while others appear to be simply doubtful regarding the accuracy of the tests made.

As a means of providing an assurance to Michigan Farmer subscribers that they are getting pay for every pound of butter-fat sold in this way, the Michigan Farmer has decided to offer to make tests free of charge in all cases where there is any dispute or suspicion with regard to the accuracy of the test upon which these products are sold. These tests will be made under the supervision of Dr. Floyd W. Robison, editor of our Practical Science Department, upon receipt of samples taken at the same time and under the same conditions as the samples on which the product is sold and the result of the test will be reported to both buyer and seller.

This offer is made, not with a view of inciting suspicion or dissatisfaction with milk tests, but rather with a view of allaying such suspicion. The fact that the producer can have a test made under these conditions will make the buyer more careful in securing accurate tests, while the means of determining whether a suspicion is well founded or not will often, in itself, allay that suspicion.

Detailed directions with regard to taking and shipping samples of milk or cream for such tests will be published in the next issue.

MUTUAL DAIRYMEN'S ASSOCIATION MEETS.

The Mutual Dairymen's Association, of Detroit, Mich., held its first annual picnic at Belle Isle, Saturday, August 30, with about 500 enthusiastic members in attendance. The morning was spent in sight-seeing about the Island. In the afternoon they listened to a fine address by Mr. Albert E. Jack, secretary of the Milk Producers' Association, of Chicago, Ill. He gave some very interesting information in regard to their work, and in answer to a question stated that their association in March, 1913, secured a raise of 23½ cents per cwt. for the six summer months, April 1 to October 1, and that this raise netted the farmers \$1,500,000 at a cost of about \$2,500 for the expenses of the association.

Mr. C. Hunsberger, secretary of the Grand Rapids Milk Producers' Association, was also present and told of the good they had accomplished in the past year.—R. B. Cummings, Sec.

DAIRY NOTES.

Don't Give up Red Clover.

Clover or alfalfa hay and corn silage should be the basis for the rations for dairy cows in the state of Michigan. Of course, we want the cows to eat other things many times, shredded corn fodder, pea and oat straw, some years oat straw, and that sort of thing, but the dairyman is in line to make the most out of his dairy farm and his dairy herd if he will plan to have a sufficient amount of clover or alfalfa hay and corn silage and feed the cows all they will eat up clean every day that they are kept in the barn, that is, every day when there is not an abundance of pasture. If he has some waste land that he has to devote to permanent pasture owing to the fact that it cannot be tilled, then, of course, he must utilize this land, and that is all well and good, but if he has all level, tillable land, then he had better cut his pasture down to the minimum. And I believe it would pay to have nothing but an exercise yard, and not attempt to pasture any field, and depend upon clover hay and corn silage for the basic or roughage foods the entire year.

Alfalfa.

Of course, very much is being said now days about alfalfa, and this is well. It

is a wonderful plant. We want to get it started. But thousands of farmers will not have a sufficient amount of alfalfa hay for their cows and their other stock for years to come. Farmers are so conservative, so slow to get into new things. Then alfalfa doesn't make a booming success with everybody the first thing. You have got to learn something about it. It is on the same principle as many people trying to raise sugar beets at first. They didn't make a success of it because it was a new crop and they didn't know how to handle it, and so it is with alfalfa. Alfalfa is an exacting plant. You have got to have the soil conditions right and then you have got to handle it right or else you will make a failure out of it. You must do things just when they ought to be done with alfalfa.

The Crop Rotation.

When you do this, and you get a good stand of alfalfa, it is worth more than red clover. But it doesn't fit in then so well into a rotation with Michigan crops as common red clover. Common red clover has been abused. What I am afraid of is, that so much talk about alfalfa will overshadow red clover so that people will neglect it. If they do they are going to make a serious mistake. Red clover won't yield as much in a season, of hay, as alfalfa. Red clover isn't quite so rich in protein as alfalfa. But red clover will grow every year in Michigan; there isn't any question about that. We know it. We have tried it. It is indigenous to this climate. If your soil isn't sour, if you soil is properly drained, if your soil contains plant food, you can grow red clover and it will grow luxuriantly. Why, it will grow as well as any weed if it has half a chance. And now don't allow this talk about alfalfa to overshadow and cause you to neglect common red clover. We want our hay mows filled full with either alfalfa or red clover. Until we get the alfalfa let's have the red clover.

Feed All Cows will Eat.

We should not stint the amount of red clover or alfalfa hay and corn silage we feed the cows. Just have one rule, and that is to feed them all they will eat up clean. I don't care much whether you feed them twice or three times a day. Twice a day is enough if you will only give them enough of it. If you will cut red clover just before it is in full blossom and cure it properly, the cows can eat all that is necessary. We haven't got enough of this this year to feed twice a day and we have got to substitute pea and oat straw for one feed a day. We are doing that now, since we threshed the peas and oats. The cows eat the straw this year well, because it is of fine quality. I believe a ton of the pea and oat straw that we have just commenced to feed this year contains as much food nutrients, that it is as palatable as the clover hay was last year. Last year the clover hay grew in a superabundance of moisture. It was sappy, watery, it didn't contain the food nutrients, the dry matter that it ought to contain. And so the straw last year was practically worthless for anything but bedding. You couldn't hardly coax the cows to eat the pea and oat straw last year. It was soaked and resoaked in the rain. It grew with too much moisture, in the first place, and then when it came to get wet three or four times in curing it, it was practically worthless as a food. But this year it is entirely different. The season has been the driest that we have ever known. What straw we got is prime. We had good weather to cure it in. It didn't get rained on at all. We cut our peas and oats at just about the right time. They weren't over-ripe. They were cured without any external moisture at all, and threshed, and the straw put in the barn, and when we feed pea and oat straw now the cows eat it better than they did clover hay last year.

While we may want the cows to eat other things for roughage, other than clover hay and corn silage, yet we should depend upon clover hay and corn silage as the basic roughage foods. We need clover in the rotation. One trouble will be with alfalfa if we get to growing it, we won't plow the land often enough. We will leave it down to alfalfa. And then the rest of the fields where we raise corn and wheat and oats, potatoes and other crops will do without the red clover crop.

Now we can not hope to maintain permanent agriculture without growing clover or alfalfa in the rotation. We haven't yet learned to use alfalfa in a rotation of crops and we must and should depend upon red clover. It improves the

physical condition of our clay subsoils. It aids vegetable matter of the highest order to the soil. It, like alfalfa, has the power of getting nitrogen from the atmosphere and it enriches the land in the total amount of nitrogen. We must not give up red clover. If we do we are going to rue the day. It is a wonderful plant for our latitude, and while we become interested, and should become interested in alfalfa, don't let this introduction of new plants cause us to slight common red clover which has done so much, and is doing so much, and is capable in the future of doing so much for Michigan agriculture.

THE LABOR PROBLEM ON THE DAIRY FARM.

(Continued from first page.)

into account the time required to wash the machine and keep it in good condition from one milking to the next. Providing the two men were milking from 28 to 40 cows the milking machine would do away with the necessity of employing a third hand. At least that has been my experience with milking machines.

Another factor that simplifies the labor in handling the dairy herd is to have the young stock and dry cows in pastures or stables apart from those giving milk. Young stock are a nuisance in the pasture with the milking herd for they are continually causing trouble while driving the cows to and from the stable and especially when they are allowed to run in and out of the stable at milking time. Dry cows that are heavy with calf are also better off away from those giving milk. The running and crowding going in and out of the stables and gates does them no good, and it only makes additional work in cleaning out the barns when they are allowed to track out and in.

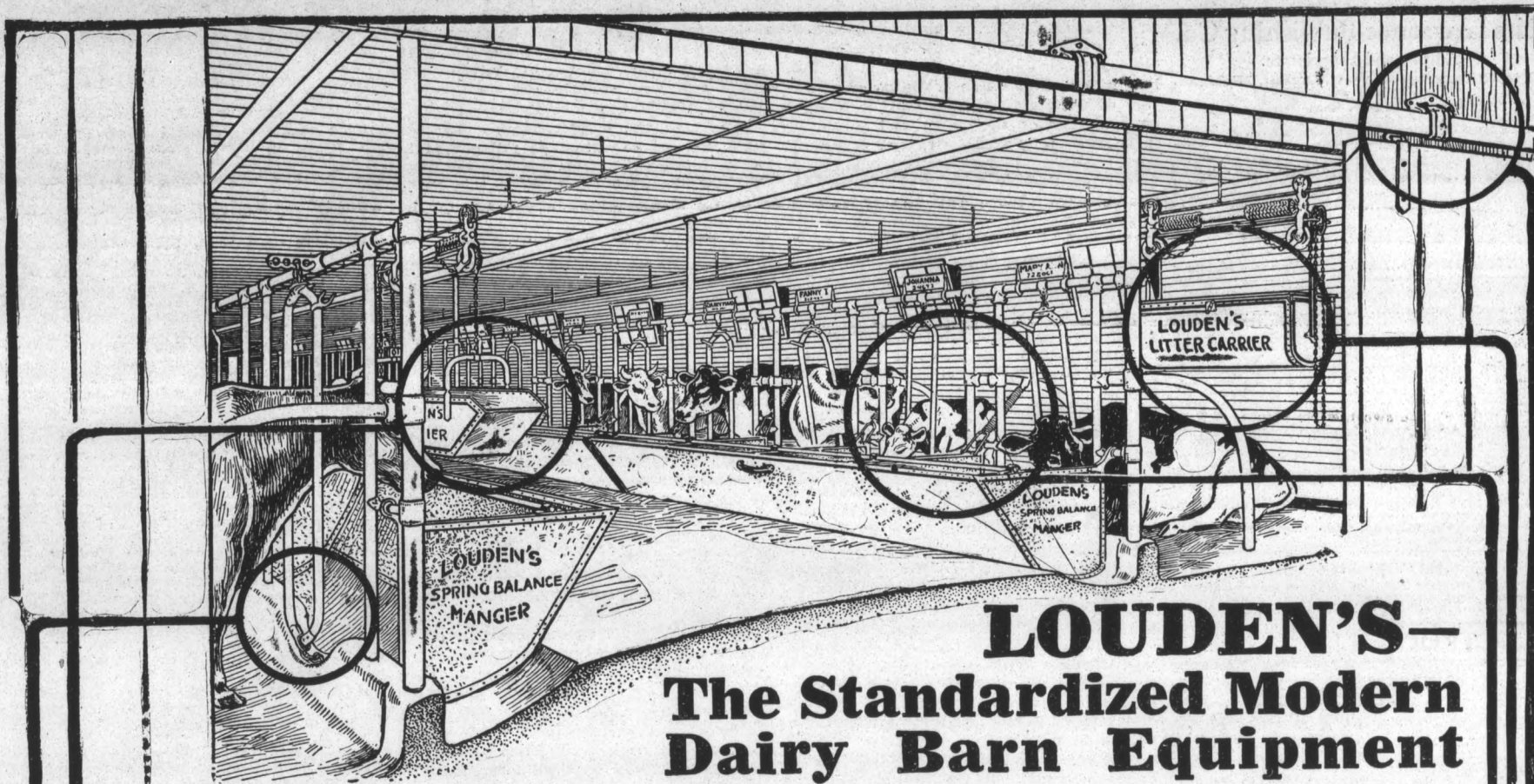
The work of caring for the young calves is simplified by starting a bunch at about the same time along during the fall or winter so that they will be large enough to go out to pasture along in July and August. In this way they can have more attention when young and they will be in good condition to thrive with very little special attention by the time field work demands the dairyman's attention.

The silo simplifies the soiling problem by doing away with the necessity of growing, cutting and hauling green crops to the stable to feed during the summer. There may be times when green feed can be profitably utilized, but even then it is better to cut and feed the regular field crops than to depend upon a few patches of catch crops to supply the cows with succulence when the pastures begin to deteriorate. On the farm where corn, oats and peas, clover and alfalfa grow, one does not need to devote a lot of time to growing soiling crops. The best green crops and the best winter crops are the same.

One of the most important factors to be observed in caring for and feeding dairy cattle is that of kindness and regularity. Being strongly occult by nature the dairy cow judges human nature with amazing accuracy. She becomes accustomed to her caretaker and when a stranger appears to milk and feed her there is sure to be a falling off in her milk yield. If you think you can fool the highly developed dairy cow, by putting on the clothes of the man who feeds and milks her regularly, you are greatly mistaken. These animals have lived for many years as close companions with man, and much wisdom has been inherited by them. You may be able to fool them a little with sweet clover and mixed feeds, but never on human beings. The men who feed and milk are either friends or enemies. For their friends, who have a kindly word and an understanding heart, a herd of dairy cattle will respond wonderfully well; but for a man who dislikes cows and treats them cruelly there is trouble ahead. A herd of dairy cattle can be trained to a high degree of intelligence (some draw the line between intelligence and instinct), that will greatly facilitate and simplify the work of caring for and feeding them.

New York. W. MILTON KELLY.

Alfalfa in many sections west in the salvation this year of the live stock feeder. Where their corn has been ruined, they have good crops of alfalfa for feeding and while it will not make a steer fat it at least keeps him in strong condition and the addition of a little corn purchased from a community where drought did not do its worst, will enable many Kansas and Nebraska feeders to furnish the market this winter with some good beef.



LOUDEN'S— The Standardized Modern Dairy Barn Equipment

Every farmer, dairyman, dealer, and manufacturer appreciates the benefit derived from the adoption of a standard for any manufactured article. The standardization of any device means that it is made according to the model approved, indorsed and recommended by the majority; that every part is interchangeable and made to a standard size; that the material used is the best for each respective part; and that the article has been found of sufficient value to merit the indorsement of a majority.

Standardization with regard to Louden products, means more than the usual sense of the term. In addition to possessing all the requirements, the Louden barn equipment embodies other features. The Louden factories have been systematized—efficiency-ized—that every part be made correctly and the very best.

Standardization has made a wonderful change in the products. It has made possible better quality for a given outlay and when you purchase a Louden product, you may do it with the full assurance that you are receiving the greatest value that a labor-saving systematized factory can produce for the money.

Louden's Standardized Cow Stalls and Sanitary Equipment

Costs less than that made of lumber, yet is stronger, more comfortable for the cows, more sanitary, and lasts longer. Frees the barn from germ-breeding places—has no cracks, crevices, or square corners, and malleable dust proof fittings are used throughout. Cuts work and time of feeding and cleaning to minimum and thus reduces expense. Insures greater flow of milk because the cow is more comfortable. It is strong enough to support the barn—made of 1 1/2 inch steel tubing—yet does not retard ventilation. Instead it greatly increases the efficiency of any ventilating system. Prevents cows from injuring each other.

Standardized Spring Balance Mangers, all but automatic in operation, always in repair and insure individual feeding. They are made of heavy galvanized steel, not bent or folded, but reinforced with heavy iron and steel tubing frame.

Louden's Standardized Spring Balance Manger Partitions operate perfectly with concrete mangers; are made with heavy iron frame and heavy galvanized sheet steel; operate same as Louden spring balance mangers; and insure against over or under fed cattle.

Louden name plates are made of sheet steel and cannot be destroyed by horns of the cows, as is the case where glass or celluloid is used. Louden individual manger water basins provide for pipe connection or hand watering.

Louden Standardized Equipment saves time, labor, feed, and money, and increases profits and insures perfect sanitary conditions.

Louden Standardized Litter and Feed Carriers

Operate easiest, last longest, cut feeding and cleaning labor in two. You can't overload the Louden Carriers—not even with wet concrete or gravel. You can raise forty times as much with a Louden Carrier lifting device. The strong worm or screw gear is the most powerful gear known to mechanical science. The Carriers are perfectly balanced mechanically.

Operates on steel track or cable, making conveyance ten times easier than pushing the wheel-barrow. It is always out of the way. The swiveled truck makes it easy to round sharp curves. Box of Litter Carrier is made of heavy galvanized steel with angle iron frame. Thoroughly seasoned wood and metal covering is used on Feed Carriers. Frames are of steel tubing with malleable connections. Material used, the best for each respective part and every part made to a standard size.

Louden Carriers reduce cost. Save labor and increase the profits. They soon save enough time, labor, and feed to pay for themselves.

Louden's Standardized Stanchions

Perfectly sanitary, health preserving, disease preventing—dust and germ proof. Strong enough to hold the biggest bull, yet so light they do not annoy the extremely nervous animal. Made of steel tubing or with wood lining, and swinging lower end, they give cows greatest comfort. Align the cows, thus assuring clean cows and stalls. Are adjustable and made in six different sizes and weights—one for every bovine. "U" shaped bottom permits cut-out in manger curb, giving the cow greater freedom by allowing her to place her throat within ten inches of manger floor when lying down.

Costs the Same as a Halter—Lasts Ten Times as Long

Louden Standardized Bird-Proof Barn Door Hangers

Operate inside steel tubing. Cattle can't push the door down. Attached to the barn by double hinged connection, the track is away from the weather and birds, and will never become clogged. The Carriers have roller bearing wheels. They cost less, are attached more easily, run like magic and last longer. Insist that Bird Proof Hangers are listed in your bill of material. They fulfill every requirement.

300 Time and Labor Savers for Barns

This Company is the pioneer maker and for 47 years the largest manufacturer of time and labor saving barn equipment. Louden's Hay Carriers, Hay Slings, Hay Forks, Pulleys, Hay Carrier Track, Barn Door Hangers, Feed, Ensilage and Litter Carriers and Cow Stalls and Stanchions are known the world over. Every article manufactured has been standardized—every part is interchangeable. Louden's products annually save farmers and dairymen thousands of dollars.

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Louden Machinery Co.,

Makers of 300 Time and Labor Savers for the Barn

233 Broadway, Fairfield, Iowa

Shipping Points, Albany, N.Y., Ft. Wayne, Ind., St. Paul, Minn.; and Fairfield, Ia., and Canadian Factories.

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A corps of successful architects is retained to aid farmers and dairymen in planning their barns. The service of these men is free. Write us your needs if you intend to build a new barn, or send a sketch of your present barn if you intend to remodel.

Our Architects devote all their time to barn plans and are specialists. They can be of great service to you if you will but write. These services are absolutely free.

Louden Stalls Saved Cattle—Support a Hundred Tons

The large barn on the Otto Baum farm near Kewaskum, Wisconsin, collapsed a few days ago, when filled with hundreds of tons of hay. The mow floor dropped to the top of the thirty Louden Stalls and bull pen. There, the weight of the mow floor, the hay in the mow, and the upper part of the structure, was held, and the cattle in the barn at the time, were saved from even the slightest injury. The damage to the thirty odd stalls and bull pen will not amount to one dollar. The equipment cost about as much as one good cow.

Louden Machinery Co., 233 Broadway, Fairfield, Ia.

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DETROIT, SEPT 13, 1913.

CURRENT COMMENT.

At a meeting of the Michigan Bean Jobbers' Association held in Grand Rapids this week, President Welch of that organization advanced a new idea in relation to the marketing of this important Michigan cash crop, by advocating the joint action of bean buyers and growers in the fixing of the price after the crop is harvested with monthly advances to cover the shrinkage, interest, insurance and other expenses incidental to holding the crop. What action the bean dealers may take in response to this suggestion is problematical, but there is one point in connection with it which is worthy of the careful consideration of Michigan bean growers, and that is the benefit which would accrue by effecting a working organization covering the entire state and including every bean grower in the state so far as possible.

There has been not a little dissatisfaction among bean growers with regard to the operation of the uniform rules of grading adopted by the Michigan Bean Jobbers Association and observed by its members in the purchase of this staple Michigan product, notwithstanding the fact that the bean dealers have contended that such standardization of Michigan's product has increased the demand for Michigan beans in the world's market and thus proven a benefit to the bean growing industry of the state. If the bean growers of the state were well organized it would be easily possible to adjust this and other differences between bean growers and bean dealers in an equitable manner without in any way interfering with the uniformity of the product, which is undoubtedly an advantage.

Such an organization could also more effectively deal with the problems which are of primary interest to the growers, yet which affect the marketing phase of the problem very materially. One such opportunity for effective work lies in the possibility of eliminating the use of seed beans affected with anthracnose and other fungous diseases and thus materially bettering the average quality of the Michigan bean crop and enhancing its value to a corresponding degree. In several of the counties which have taken advantage of the farm management service and employed a county agriculturist, the proposition of selecting clean and uninfected seed for next year's planting will be made the subject of a special campaign this fall. Local and state organizations of bean growers would simplify this problem greatly and there is no other way in which the profit from the Michigan bean crop could be more greatly enhanced than through the elimination or minimizing of the damage incident to the presence of this class of bean diseases.

But important as this work is, the benefits which would ultimately accrue in the marketing of the crop are equally important. With an effective working organization bean growers would certainly be in a better position to have a voice in price fixing than they are at present. In fact, at present they have no voice whatever in this important factor of their business.

Without knowing and carefully studying all the details of any scheme which might be worked out by the bean jobbers as a result of Mr. Welch's suggestion, bean growers cannot well determine the feasibility or desirability of such a plan, but with an effective working organization of their own they would be able to evolve plans of their own and would be in a position to treat with the organized bean dealers or seek other avenues of marketing their crop as seemed most desirable. To secure satisfactory results, however, such an organization should be state wide in character and include practically every man who grows beans on a commercial scale, and it would be the part of wisdom for interested bean growers to take early initiative in bringing about such an organization. We should be glad to have the views of representative bean growers of the state on this point.

Michigan's Prosperous Agriculture.

In other columns of this issue will be found an article relating to crop conditions in some of the states of the middle west and many items describing the crop conditions in a number of the most important agricultural states of the country, as well as the official crop report of Michigan for the current month. A comparison of these various sections as represented by these reports cannot but convince the most skeptical reader that Michigan is an exceptionally prosperous agricultural state. With our exceptionally wide diversity of agricultural products there is not a single general crop failure in the whole list and most of the staple crops average up with the figures of former years. In this diversity of products there is an insurance policy of prosperity for Michigan agriculture.

In sections where the main dependence of farmers is placed upon one or two or more crops these may be poor and the situation becomes most discouraging. But with a great diversity of agriculture there can be no such thing as a general crop failure even under unfavorable weather conditions.

The many reports from different sections of the country, published in this and succeeding issues, should be carefully studied by every reader of the Michigan Farmer, to the end that he may be thoroughly advised of agricultural conditions as they exist in other sections of the country and plan his own business campaign accordingly. It would, for instance, appear that over large sections of the country the late potato crop will be very poor, which is an indication that when harvest time comes the surplus for sale will be small in many sections, while in many farm communities potatoes will have to be shipped in for home use. Likewise, there is prospect that a normal acreage of winter wheat will not be sown this season, on account of unfavorable weather conditions for plowing the ground and fitting the seed bed in the dry areas.

These and other deductions will be of value to those readers of the Michigan Farmer who carefully study the crop reports which will be a prominent feature of future issues during the late summer and fall. Such a course will not only fortify the reader with knowledge which will be of value to him in a business way but will go far toward making him satisfied with Michigan from an agricultural standpoint.

Educational Opportunities for Farm Boys.

The announcement by the Michigan Agricultural College of a two-years' winter course in agriculture, which will consist of 30 weeks of special training for farm boys, in addition to the regular academic course and short courses previously offered, affords another educational opportunity for the farm boys of Michigan, of which many should avail themselves. This is an age of education and with the keen competition of modern life, in which efficiency is everywhere becoming the slogan, the lack of an adequate education is a serious handicap in every walk of life. With the application of modern science to agriculture constantly increasing this is perhaps more true in the business of farming than in almost any other line of work.

Formerly it was the accepted idea that anybody could farm and that a technical education was not essential to the highest success on the farm. That idea has, however, long since been abandoned by all thinking people and it is impossible for the boy who intends to follow farming as a business to have too good a technical agricultural education. But if he cannot spare the time or the means to take a full college course in agriculture, he can perhaps spare the time in the

winter season and the small amount of money which it would cost to take the two years' winter course offered by the agricultural college. If not he surely can afford to take some of the shorter courses in special departments of agriculture, which will better equip him to make a success of his chosen business.

It is now the season of the year for those who would enter the full course to decide this point quickly, and it is a good time for those who cannot do this to be thinking about taking advantage of the winter courses offered, to the end that these educational opportunities which the State of Michigan offers its farm boys may not be wholly neglected.

Michigan Farmer headquarters at this year's State Fair.

Michigan Farmer headquarters at this year's State Fair will be at a building recently erected for the purpose, which is located between the first and second cattle barns in the live stock exhibit section. Subscribers are invited to call at our building while at the fair and every subscriber who can possibly arrange his affairs to do so should attend this year's State Fair, which promises greater educational and entertainment possibilities than any like event in the history of the state.

THE WORLD DOES MOVE.

For centuries it was a question as to which moved—the earth or the sun.

Most of us, however, are agreed that, in the matter of human progress, the world is moving.

What a change machinery has made in the harvest field in a generation. We might almost say that we farm no more as our fathers farmed than they farmed as the Egyptians of old.

Those who have recognized the importance of keeping up with the times have profited by their enterprise. Let us suggest that important new machines and implements are coming out every year. You will find them announced in the advertising columns of the Michigan Farmer.

HAPPENINGS OF THE WEEK.

National.

The United States Department of Justice recently begun proceedings for the dissolution of the Reading Company's control of the coal mining and coal carrying railroads. This is known as the anthracite coal combination. The Reading Railroad Company, with its subsidiaries and allied corporations, is charged with violating both the Sherman anti-trust law and the commodity clause of the interstate commerce act in an attempt to monopolize the production and transportation of anthracite coal. It is said that this combination controls 63 per cent of the unmined deposits of anthracite coal and markets about 30 per cent of the annual supply.

Engineer A. B. Miller, of the White Mountains Express, a fast passenger train on the New Haven Railroad in Connecticut, which collided with the second section of the Bar Harbor express on Tuesday of last week, killing 21 and seriously injuring 40 others, has admitted that he was oiling the engine and failed to notice the danger signals. The officials of the road admit that the signal system is also at fault, the so-called "banjo" signal system on this portion of the line not yet having been replaced by the semaphore system recommended by the public utilities commission last December.

Representatives of the American Bankers' Association appearing before the Senate Committee on Banking and Currency, while approving many points in the administration currency bill, plead for minority representation on the proposed reserve board to avoid abuses or mistakes in its administration.

Dr. Francis Devereaux Clarke, Superintendent of the Michigan School for the Deaf, and Grand Master of the Michigan Lodge, F. & A. M., died suddenly of heart failure at his home on the institution grounds at Flint, September 7.

Harry K. Thaw is still making a legal fight against deportation from Canada. The populace is taking a strong interest in the case and apparently the public sympathy is with the prisoner.

Principals in the copper country strike, including representatives of operators, miners and military authorities, held a conference with the Governor at Lansing early this week, which conference was called with a view to the settlement of the strike grievances if possible. At the mines labor organizations are preparing to "picket" those having shafts in operation. The striking miners are being given encouragement and promises of substantial aid from other departments of organized labor.

The funeral of former United States Justice Henry Billings Brown was held at Detroit on Monday of this week. Hon. Edward Douglas White, Chief Justice of the U. S. Supreme Court, and for 13 years a colleague of Justice Brown on the federal bench, attended the funeral.

Fifty-two railroads operating in the east will file compiled schedules for a proposed advance of five per cent in freight rates on all commodities except grain and coal, with the Interstate Commerce Commission. The proposed changes will be based on the present first-class rate between New York and Chicago. At the request of the Commission the railroads

will await an investigation by the Interstate Commerce Commission which will enable it to pass on the reasonableness of these rates. Something of the extent of the task is indicated by the statement that there will be a car load or more of these tariffs compiled by railroads in eastern territory, which have been compiled and printed at an aggregate expense of close to \$1,000,000 to the railroads.

This has been "Made in Detroit" week. All kinds of Detroit manufactures have been shown in down town store windows and booths as a means of familiarizing Detroit residents and transient visitors with the extent and nature of Detroit's manufacturing industries.

Early returns from the election in the third congressional district of Maine indicate the election of John A. Peters, republican, over Wm. A. Pattangall, democrat, by a moderate majority, with Ed. M. Lawrence, progressive candidate, a poor third in the race. Considerable interest is attached to this election as the first held in the country since the strenuous campaign of last fall. Returns indicate that the vote of the democratic candidate varies little from that given President Wilson in the same district, while the progressive vote dropped off about 50 per cent from that of last fall.

Foreign.

A government transport has been sent to the Mexican coast to bring away remaining Americans desiring to leave that country, in accordance with President Wilson's recent warning. In view of the fact that the authorities have been warned against the possible consequences of flying an American flag on this mission the transport will sail under the Red Cross flag. Of the 10,000 Americans in Mexico when the recent warning was issued it is estimated that only about 1,000 now remain on Mexican soil.

A public demonstration was participated in by 15,000 people in Tokio, Japan, following the assassination of Morihiro Abe, director of the political bureau of the Japanese foreign office. The speakers who headed the demonstration denounced the Japanese diplomacy in connection with California and China and insisted that the insult to the Japanese flag should be wiped out. The manifestation is considered an evidence of popular resentment against the ministry in its treatment of the California and Chinese questions.

MICHIGAN CROP REPORT.

Wheat.—The average estimated yield in the state is 16.14, in the southern counties 15.41 in the central counties 16.50, in the northern counties 16.29 and in the upper peninsula 24 bushels per acre. The quality as compared with an average per cent is 95 in the state, central and northern counties, 91 in the southern counties and 97 in the upper peninsula. The total number of bushels of wheat reported marketed by farmers in August at 79 mills is 168,270 and at 81 elevators and to grain dealers 132,507 or a total of 300,777 bushels. Of this amount 226,126 bushels were marketed in the southern four tiers of counties, 64,906 in the central counties and 9,745 in the northern counties and upper peninsula. The estimated total number of bushels of wheat marketed in August is 750,000. Sixty-one mills, elevators and grain dealers report no wheat marketed in August.

Oats.—The estimated yield in the state is 28.71, in the southern counties 23.32, in the central counties 33.53, in the northern counties 32.63 and in the upper peninsula 42.45 bushels per acre. The quality as compared with an average per cent is 90 in the state, 85 in the southern counties, 96 in the central counties, 97 in the northern counties and 100 in the upper peninsula.

Rye.—The estimated average yield in the state is 13.97, in the southern counties 13.30, in the central counties 13.31, in the northern counties 14.64 and in the upper peninsula 23.15 bushels per acre.

Corn.—The condition of corn compared with an average per cent is 84 in the state, 75 in the southern counties, 96 in the central counties, 94 in the northern counties and 98 in the upper peninsula. The condition one year ago was 73 in the state, 79 in the southern counties, 61 in the central counties, 71 in the northern counties and 72 in the upper peninsula.

Beans.—The probable yield of beans compared with an average per cent is 78 in the state, 72 in the southern counties, 79 in the central counties, 88 in the northern counties and 96 in the upper peninsula. One year ago the probable yield was 78 in the state, 81 in the southern and northern counties, 71 in the central counties and 77 in the upper peninsula.

Peas.—The estimated average yield in the state is 18.10, in the southern counties 17.20, in the central counties 15.85, in the northern counties 16.76, and in the upper peninsula 28.50 bushels per acre.

Potatoes.—The condition of potatoes compared with an average per cent is 72 in the state, 61 in the southern counties, 82 in the central counties, 84 in the northern counties and 88 in the upper peninsula. The condition one year ago was 88 in the state and northern counties, 91 in the southern counties, 78 in the central counties and 101 in the upper peninsula.

Clover Seed.—The condition of clover seed compared with an average per cent is 80 in the state and southern counties, 81 in the central counties, 79 in the northern counties and 92 in the upper peninsula. The condition one year ago was 79 in the state, 78 in the southern counties, 81 in the central and northern counties and 96 in the upper peninsula.

Live Stock.—Live stock, hogs excepted, is reported in fair condition; correspondents report hog cholera in the following counties: Barry, Branch, Calhoun, Cass, Genesee, Gratiot, Ingham, Ionia, Jackson, Lenawee, Livingston, St. Joseph and Saginaw.

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.

Life Story of a Michigan Pioneer.

Only from those favored few, comparatively speaking, whose memories span the allotted term of man—three score and ten—can we glean first-hand knowledge of a generation now fast disappearing. Their lives were filled with anxieties and trials—likewise with joys and triumphs—not appreciated by the present generation, and our thankfulness for the sturdy men and women who led the vanguard of civilization should only be marred by the unwelcome conviction that the world will not see their like again. Many of them have long since passed to their reward. Of the few remaining, each has a life story in which there is much that is worthy of record. Such a story is that of Mr. James A. Symes, pioneer resident of Sparta township, Kent county. We present the story in Mr. Symes' own words.

ONE mid-summer day—to be exact about the date, it was on the third of July in the year of our Lord 1845—there might have been seen—had there been anyone there to see—a large yoke of oxen hitched to a lumber wagon. The wagon was piled high with furniture and household utensils. Near the front end of the wagon box, upon a rude seat consisting of a board resting at either end upon spring poles supported at the ends by iron hooks, sat a woman and man child. The woman was my mother.

The journey that had commenced in the early morning was nearing its close, for night was now coming on, and the road had become merely a blazed trail made by the surveyors.

Beside the oxen, axe over shoulder, strode a sturdy young Englishman—my father. The axe was necessary, for frequently there had to be removed barriers of underbrush, sometime the trunks of fallen trees, to give passage for the team and wagon. The oxen were tired and hungry. With all the necessary delays it had been a long day's drive and now for the last three miles the road had to be cut ahead of the team.

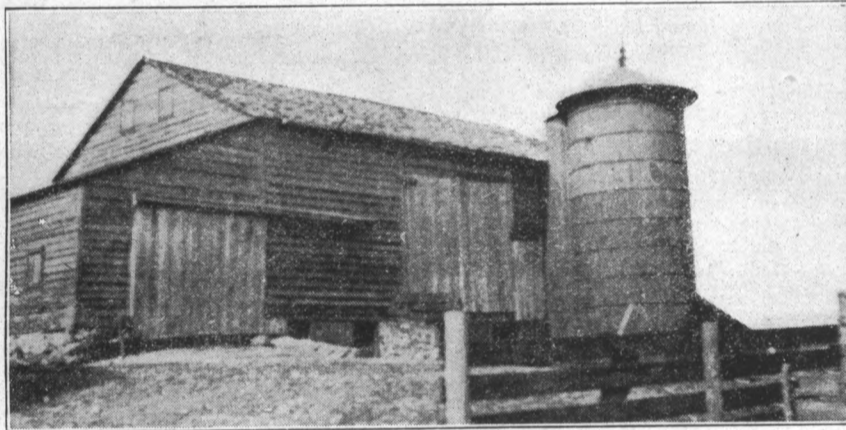
The forest consisted of beech, maple, elm, basswood



home on our own land." At last, at nine o'clock at night, the corner of the land which father had bought was reached. It was the north half of the southwest quarter, and the southwest quarter of the south half of section 26, town 9, north, range 12 west, in the county of Kent, afterward known as the township of Sparta. Camp was struck in a sheltered spot on the north side of the hill. The cattle were turned loose to feed and rest; a long pole was arranged, beneath which a cheerful fire soon blazed. Suspended from the pole were pots and kettle and our first supper was prepared.

The next day was the day of our independence and we celebrated by making a tour of discovery. We found, down the bank by the creek, a beautiful spring of sparkling water. It has ever since been known as the "cold spring." Near it father built the first house in the township, and over it he erected a milk-house wherein mother carried on her dairy operations during the summer months. We also found the much coveted basswood sprouts, and in trying to make the whistle I cut my finger. On the sixteenth day of that same month I had my fifth birthday.

Father felled rees, cut and fitted logs for the new house



and other flora of lower Michigan. The herbage comprised a gorgeous array of flowering plants in full blossom, interspersed with leeks, ferns and many forage plants, the whole constituting a sore temptation to the hungry cattle, for besides the oxen there were two cows and a yearling. Father had his hands full keeping them all in line.

The boy at my mother's side was tired, cross and peevish. The mother, full of high hopes and bright visions of the home she and her husband were to carve out of the virgin forest, tried to comfort the lad by felling him that we would soon be on our own farm, and that there we should find some basswood that would be easy to whittle, out of which he could make a whistle. The wife and mother also tried to encourage the weary pioneer by such remarks as, "John, we will soon be at



and hauled them to the site near the spring. Invitations were sent out and everybody came to the raising, but not enough men were secured, in a radius of three miles, to raise the house more than breast high, only seven men coming to the first bee. After two weeks another trial was made. This time eleven men were secured, some coming a distance of six miles, and the house was built nine logs high. Father and a neighbor put up the rafters, which were made of saplings hewn on one side, as, indeed, were the cross-beams and sleepers—in fact, every part of the building in which natural timber could be used.

When the roof boards were on there was a long tedious wait, for father found, on going to Grand Rapids for shingle nails, that there were none to be had. That village was growing very rapidly and



Explanation of Cuts.—The photo-engraving above the group of farm views is from a recent photograph of Mr. and Mrs. Symes. The views, reading from left to right, are as follows: 1. Two trees of the original apple orchard; seeds planted in 1845 by Mr. Symes' mother; whip-grafted by Wm. Wylie, the following year, to R. I. Greening; carrying a fair crop of fruit this year. 2. The old barn—built in 1849 and re-shingled 40 years later. The silo is a comparatively recent addition. 3. The comfortable farm home, representing the rewards of a useful and active life. 4. House marking the spot on which Mr. and Mrs. Symes began home-making, and where their children were born and reared. 5. The modest village home to which they have recently retired.

the supply had been exhausted, the base of supply being Chicago and transportation slow—by sailing vessels across the lake and flat-bottomed barges up the river. After two weeks a second trip resulted in the nails being secured.

Then father was taken sick; had the ague—the real old-fashioned kind, the kind that “burns and freezes, bakes and shakes.” The nearest doctor was eleven miles away and his visits were a fortnight apart. Father's bed was placed in the most sheltered corner of the house and a bark roof built over it until he finally wore the disease out.

In the meantime the family larder had run down to the point that there were only a few potatoes left. When the writer of this story, cried for bread and his father said, “Mother, why don't you give the child some bread?” she, brave heart, not wishing to worry him, said, “Oh, baked potatoes are better for him.” But relief came in an almost miraculous way. A near neighbor—a bachelor—who had bought an “eighty” only a half mile from us, was just moving in. Mother heard the “chuck” of his wagon and, being assured of his arrival, started with her pail to borrow some flour. She had never seen the man, but she had a strong faith in humanity and in God who has promised never to forsake His children. She found the wagon-load of goods partly unloaded. A barrel of flour was there but no owner. After delaying as long as she dared, and calling several times without getting a response, she, upon her knees, asked God to guide her and to forgive her if what she was about to do was a sin. Then she broke in the head of the barrel and helped herself to a pail of flour, with which she made her boy some bread.

The owner of the flour, Mr. Martindale, proved to be one of the best of neighbors. What should be said of him may, with equal truth, be said of all of those early settlers; not one of them would have failed to divide his last meal with a needy neighbor. Mr. Martindale explained his absence at the time of mother's visit in this wise: He had bought his team in Grand Rapids and when he unhooked the tongue chain his steers started back home. He had to chase those cattle nine miles before recapturing them.

Father succeeded in clearing a small plot of ground—about three-quarters of an acre—and sowed it to wheat. The return was 26 bushels.

We made maple sugar the next season, but the process made it a slow, tedious job as we had nothing in which to boil the sap except the pots and kettles used for the family cooking, in addition to one five-pail kettle. However, when 50 lbs. of sugar had been made father carried it on his back to Grand Rapids and traded it for another kettle which he lugged home. We were 13 miles from Grand Rapids and this incident is a striking sample of the privations and hardships of the early pioneer.

More land was cleared and planted; everything grew and produced bountifully that was planted in that virgin soil. All timber was burned on the ground, except the straightest grained ash or oak, which was made into rails with which to fence the farm.

The original price of this land was \$1.25 per acre. Now, after 68 years, it is, with improvements, \$100 an acre, but associations and remembrances make it vastly more valuable to me. Every foot of this ground is hallowed with recollections of my boyhood days, for among my most cherished memories are the knoll where deer would sometimes halt and look down upon those strange things—the cabin in the wilderness with its smoke curling from the old stick chimney, and the open door with strange live things gazing out at them; the pool in the creek where I, with a bent pin, caught my first shiner; the place where the threshing floor was built; the site of the sugar camp around which cluster so many sweet reminiscences; the “old swimming hole” and the log in the middle of the stream that I used to call my Crusoe Island; the thickets where I used to hunt the grouse and partridge; the bank along the creek where grew the wild plums, black haw, moosewood, spice bush and witch hazel.

Father bought me a double-barreled fowling piece when I was ten years old. Small game was very plentiful and I added considerable to the family larder by bringing something from the woods almost every time I went to seek the cows.

Being a mason by trade, my father found quite a little to do in that line, especially after the settlers began to build more substantial homes. Mother and I, with a man during the summer season, carried on the farm. It was a proud day

in 1849 when the big bank barn was raised, the first in the township. It had a strong hardwood frame and is still standing, a monument to the honest ability of the carpenters and masons of those days.

Part of the land seemed to father to be suited, both as to soil and location, for an orchard and he set it out to apple trees. The trees had been grown from seed that my mother planted the very first season we were on the farm. This was the first orchard in the township and some of the trees are still bearing, having been grafted. Many years afterward I found that the higher ground was quite well adapted to the growing of stone fruits. Peaches and plums have been grown quite successfully and cherries grow so well that I have christened the place “Cherry Hill Farm.”

After attending the common district school during the winters, at the age of 20 I commenced teaching. Finding, however, that my health would not stand indoor work I abandoned teaching and turned my energies to farming. On the 25th of March, 1863, I was married to Eleanor M. Ballard, a beautiful young lady three years my junior. Our wedding tour consisted of a trip to the sugar bush. We tapped 600 trees that year, and for several years we celebrated the return of the event by “sugaring off.” The sixth anniversary was celebrated by the advent of our oldest living daughter, Angel May having been called home at the age of two years. On the thirtieth anniversary many of our very dear friends gathered at our home on the farm, leaving many kind words and choice remembrances of the occasion.

During the years of 1862 and '63 my father built the large stone house which is still the main farm residence. It stands on the rise of ground about 15 rods from the highway, defying the tooth of time, a fitting emblem of his craft and integrity. Mother and father have both passed over the mystic stream. Practically all

of the old neighbors are gone; one, who is 92 years old, still lives several miles away with a daughter. He sometimes comes to see me and we enjoy talking over the old times. Boys and girls, companions of my early days, are nearly all dead. None of them remain on the old farms, the scenes of their early lives.

We, too, have moved into the village but still own the farm. I have no desire to sell it as I feel that I am too advanced in years to think of embarking in any other business and I am still intensely interested in all that pertains to the farm and farming. In fact, I reserved 10 acres of fruit land, and gardened on part of it, where the peach trees winter-killed, last year, raising several hundred dollars' worth of truck. The farm is leased to a good tenant for a cash rental. My policy has been to keep all the live stock that the farm would support, and the contract with the tenant calls for that and the frequent seeding to clover in short rotation.

We have given up the farm home solely on account of church and social privileges and the modern home conveniences which it would be hard to install in the country.

On the approach of our 50th anniversary, last March, we sent invitations to relatives and friends, about 75 of whom gathered at our home in Sparfa to help us celebrate the event. A delightful literary and musical program added greatly to the pleasure of the occasion; exceptionally interesting features were Carleton's “Golden Wedding,” and a biographical sketch and history of the early days. Kind neighbors brought for “the bride that was” a beautiful gold watch, while “the groom” received “a rocker with a mission.” Many other beautiful and appropriate remembrances came from nearby friends as well as from those in other states, and the numerous kind and sincere expressions of congratulation were extremely cheering, making us wish to pass other milestones on our earthly pilgrimage.

Rose of Paradise Valley.

By PEARLE WHITE McCOWAN.

SOME satirist must have christened it Paradise Valley. Barren and desolate, it was far from what its name implied. Down among the hills the little town huddled, just a few weather-beaten “shacks” of houses, with the usual northern accompaniment of a “bowery,” two saloons, and a general store with fly-specked, finger-marked windows.

A wagon was drawn up before one of the little “shacks,” and two men were carefully carrying out a little pine box which they gently deposited in the wagon and then climbed in themselves and drove away. One of them held in his hand a red geranium blossom. He would lay it on the little grave when all was completed. There were no other flowers. Paradise Valley folks didn't have money to spend for flowers—not even on such occasions as this.

Inside the house two or three women moved with noiseless steps about the rooms, tidying up a bit here and there, and glancing uneasily at the white-faced woman on the bed. It was her child that the men had just carried out to the wagon—the third that had gone that way in less than four short years, and she—the mother—not yet nineteen.

Even the peculiar blessedness of approaching motherhood had been largely denied this child-woman. Her hungering spirit had been fed only on husks and pain and discouragement. For, when for the first time her young spirit had begun to soar with natural joy and wonder, she, in her intense longing for sympathy, had dared to breathe a little of this new-found mystic joy to Mother Stone, her husband's mother. But the smile of derision that had followed, and the quick passing on of her little attempt at confidence to her sisters-in-law to be made light of, had caused her cheeks to burn with shame and her lips to close tightly with the resolve never again to voice such sentiments to any living soul. To her husband she could not turn. He was rather more chagrined at the thought of another mouth to feed, and the work that Rose would be unable to accomplish, than otherwise. So the persistent little thrills of joy were hugged tightly within her own being and hidden from all others as something of which she should have been ashamed. But in her heart of hearts she was not ashamed. She was glad—glad.

And then had come the disappointment. Just one weak little cry—then silence,

and a tiny form borne away to the little cemetery on the hill.

So when for the third time the mother love had been stirred within her, her heart was filled with fear and trembling, and then fate—in derisive mockery, or was it mercy?—allowed this little one to live for three whole days. Three days of wild, hungering, pent-up mother-love, and then it was all over once more. Only another milestone to mark the pathway of her life.

Slowly Rose Stone came back to life and its interests. Youth throws off its sorrows easily, and hers was not a brooding nature. In four weeks she was picking up potatoes until her back was well-nigh breaking. In six weeks she was managing one end of a cross-cut saw, her husband at the other end. On Saturday nights she danced until past midnight and passed her poor little jokes and slangy witticisms with more than usual brilliancy, to the great delight of her admirers and the chagrin of her less popular sisters-in-law.

Things had apparently settled back into the old routine—apparently but not quite. For some time the jeers of the girls had been growing more annoying. Mother Stone's nagging more exasperating, and Amos' utter unconcernedness more unbearable. And one day, in a passionate storm of rage and resentment, she ran away from it all and hired out as assistant cook in a lumber camp some twenty miles distant.

That third babe, the child that had lived for three days against her breast, had awakened a womanhood that had failed to respond to all else. She was no longer a child to be trampled upon and bent according to their several wills. She was an independent human soul with a life to live or mar. Indications just now pointed to the latter.

She worked well and conscientiously to earn her pitiful little wages, and flirted outrageously and brazenly. It was as though she had flung away all the responsibilities of wifehood. Daring, irreverent and defiant, and more beautiful than ever, she received the rough homage and unqualified admiration of those northern woodsmen.

News of her frequent conquests reached Paradise Valley, and Amos, angered and humiliated by the taunts of his people and the rude jests of the men, and urged by a loneliness in his own heart (for even

AN OLD BUREAU DRAWER.

BY E. L. K. W.

In an ancient bureau drawer,
All along the years now passed,
Relics of both peace and war
Thoughtlessly have oft been cast.

Tumbled in conglomerate mass,
Here are trinkets—tops and toys,
Marbles, stones and bits of glass—
Once the source of childhood joys.

Here's a charm and chain of mine,
Useless, 'mong the refuse thrown;
Once to me superbly fine,
Now, discarded and outgrown.

Buttons! buttons, not a few
In this bureau drawer are stored,
Some corroded, some like new,
In a wild promiscuous hoard.

Here is one, known but too well,
On its face an eagle wrought;
Much of history it might tell,
Much of war, and battles fought.

One, among the rubbish cast,
Mutely speaks of years remote,
Taken at a time long past
From our grandsire's overcoat.

And our grandson, full of vim,
Threw a button in today,
Torn so recklessly from him
While engaged in boisterous play.

Thus, these trifles represent
Generations as they pass;
Each and all the store augment,
Adding yearly to the mass.

'Mong all these, from first to last,
Naught we find worth seeking for;
Still, fond memories of the past
Hover 'round this bureau drawer.

men like Amos Stone may be lonely) set out to “talk some sense into her.” As well talk to the hitching post as to her at this time. But it didn't matter; she saw him coming and, snatching coat and scarf from a nail, ran out of the house and down one of the numerous winding roads into the depths of the forest.

For ten minutes she pushed blindly on; then the faint far-a-way whistle of a locomotive struck on her senses and an idea came into her head. She was near the railroad, and by floundering through snowdrifts and stumbling over logs and underbrush she managed to reach the track just as the engine rounded the curve half a mile away. The scarf, hastily unwound from her head, served as a flag, and in a few moments she was seated within a dirty car and steaming away from the camp—and Amos.

There had been no hesitancy about flagging the train. The rules of the L. & N. E. (only a little lumbering spur branching off from the main road) were very elastic. Aunt Lidy Ann, the Irish cook at one camp, had been known to flag the train merely to charge “the whole bloom-in' crew” with the importance of bringing her home a teakettle when they returned next day from the Junction.

Rose paid her fare to the Junction (she had luckily placed her little purse in her cloak pocket that very morning, intending to send into town for some needed articles of clothing) and then lay back and tried to plan. Once at the Junction, what should she do? Push on to another lumber camp, or go to the city and try to find work? (Oh, poor tempest-tossed child, the lumber woods has temptations galore for such as you, but the city holds infinitely more).

But even as she tried to plan the train made a longer stop than usual at one of the little clearings, and, seized by a sudden impulse, Rose hastily snatched up her scarf and left the car. The buildings were old and unpainted. There wasn't even a store, but at the largest of the houses there were white muslin curtains, and plants, and at the door a pleasant-faced woman stood and called out a cheery greeting to a child across the way. It was to this woman that Rose went. (Surely God was leading her).

Her inquiry for work brought prompt and glad response. “Well, now, who'd ever thought such luck would come to me, and this mornin', too, when I'm clane up to my ears in work?” ejaculated Mrs. McDowell as she closely scrutinized the fair young face.

“Come in, come in,” she continued in her cheeriest tone. “Why sure, an' I'll give you somethin' to do, jest as quick as you've rested a mite and warmed yer-self a bit here by the fire.”

So Rose was soon busily engaged helping Mrs. McDowell. This was not a lumber camp proper, that being about five miles distant, and as there was to be only a small cutting of logs at this place, for various reasons it had not been deemed wise to take a woman cook out there. One of “the boys” cooked their “pertaters” and meat, and washed and wiped their dishes, but to Mrs. McDowell, (Continued on page 224).

TO A LITTLE MAID.

BY ARTHUR W. PEACH.

Eyes with winsome beauty
Ever shining through,
Dreaming not of magic
Years will bring to you
When, as you grow older,
A lover comes to woo—
Ah! if I might some day
Be that lover true!

As I watch them brightly
Looking into mine
With a little lovelight
Just for friendship's sign,
I vow that I would shield them
From all that's dark to view,
If I could only always
Be thy lover true.

Though we often stumble
As we go life through,
Love I hope will lead you
Where rough spots are few;
I wish that I might ever
Guide you sure and true;
But you—ah, me—are seven,
And I am—sixty-two!

OLD FRIENDS.

BY LOU D. STEARNS.

Johnny had been to the circus. His hands were dirty, his cheek had a big smudge across it, his hair was rumpled and his shining new quarter had been exchanged for pop-corn, lemonade and peanuts. But his eyes were like stars and his red lips were all a-smile.

"Well," his mother asked, as he came dancing in, "were you disappointed, son?" His eyes grew even bigger. "Oh, no!" he cried. "Mother, did you ever go?"

She nodded. "I expect," she said, "you saw a lion?"

"Yes-sir-ee." Johnny threw himself down on the rug by Rover. "Not one, but four of 'em," he declared excitedly, "and they growled and growled until your back got all sort of creepy. You know."

He crossed his arms under his head. "You ought to have gone, too," he said. "They had three rings, and something was going on all the time. You couldn't begin to see it all. My eyes felt all twisted trying to keep track of 'em. There was the funniest clown, mother, and it seemed as if he was looking right at me all the time."

His mother smiled. "I suppose," she replied, "you saw lots of animals also. I always liked the animals best."

"Oh, yes." His breath came fast. "There were tigers and bears, and elephants that looked as big as the side of a house. I tell you, I'd be afraid to meet one of them on the street."

Mrs. Day nodded appreciatively. "They are pretty big," she said, "and strong, too,—strong enough to lift a man with their trunk, or kill him with their tusks; but they are generally very obedient and can be taught to do many things, even to picking up so small a thing as a pin."

"He must eat an awful lot," wonderingly, "to grow so big."

"He likes leaves and branches of trees," his mother replied, "and when he is

his eyes were just like fire. I'd like to own him."

Rover gave a soft little whine and began to thump his tail vigorously.

"You old chump!" cried Johnny, throwing his arms about him. "You're jealous. Why, I wouldn't swap you—not for every one of 'em, horses and all!"

He snuggled his head against the shaggy coat. "Old friends—are—best," he droned; and the next minute he was fast asleep.

THE FIELD OF STARS.

BY Z. I. DAVIS.

Half way between the north and south poles runs an equator that divides the sky into northern and southern hemis-



"Lemme He'p."

pheres. Only a few of the stars south of the equator are visible to us. Among those, the best known are Spica, Rigel, Antares, Sirius and Formalhaut.

Out of the millions of stars that are moving through space there are twenty which are classed by themselves because of their superior light. Nearly all of them have individual names. Each one has its appointed place in the heavens, and they are all known as fixed stars.

Comets come and go. Meteors flash before our eyes and then are gone to return no more. The moon waxes and wanes, but the stars remain unchanged throughout the years.

Each one of the twenty fixed stars is the leading one in some figure of either one of the celestial hemispheres. The Great Dipper is a constellation of which we are more familiar, perhaps, than any other. One reason is that it is easily seen on a clear night in every season. It contains one of the brightest

tial hemisphere makes it revolutions. Every twenty-four hours the Dipper makes a circuit of the pole.

There are seven planets—Venus, Jupiter, Saturn, Mars, Neptune, Uranus and Mercury. Some mistake these for stars, because of their brightness.

Planets are dark bodies that borrow their light from the sun. Stars are like our suns and shine only by their own light. Only four planets are visible to the naked eye. Neptune and Uranus can only be seen through a telescope. Mercury is so near the sun that it is almost invisible to the ordinary observer.

Capella, a star of the first magnitude, and one of the twenty brightest stars, is visible every night during the year and is only forty degrees from the center of

the revolution of the hemisphere above. Authorities have declared that it is one of the most brilliant in the north. It is more prominent during the early part of the evening in August and hangs like a jewel in the sky through the fall and late winter. It is the evening star during October and its appearance above the horizon occurs just as the sun is setting. Its color is similar to that of our sun, a rich yellow. Although its light travels at the rate of 186,000 miles a second, it requires forty years for its beams to fall on the earth.

A TIPLER AMONG THE BIRDS.

BY ORIN E. CROOKER.

Birds, as well as people, have bad habits. One such habit, which converts certain otherwise useful birds into a menace, is that of puncturing the bark and sap-carrying tissue of trees in order to get at the juices and the soft jelly-like cambium—or vital, cell-forming material—which lies outside of the wood proper and inside of the inner bark. The woodpeckers constitute the only family of birds guilty of this depredation, and only a small group of them carry this habit to the point where it becomes a real source of injury. These are the sapsuckers, three varieties of which are found in this country, although only one of them, the yellow-bellied, is widely distributed both east and west of the Mississippi.

The sapsuckers are real tiplers—boring holes through the bark of growing trees in order to sip the sap that gathers in them. An individual of the yellow-bellied variety was once observed to remain within a yard of some of its holes in a maple tree from 10 a. m. to 5:00 p. m. drinking the sap at frequent intervals. Incidentally, he probably picked up a good many ants attracted by the sweetish liquid which collected in the punctures, but his chief concern appeared to be the sap.

Probably there is scarcely any orchard or yard that does not contain several trees that show the marks of this bird. Oftentimes his so-called "gimlet holes" will be found so numerous as to have actually girdled the tree. He attacks fruit trees, elms, maples, oaks—almost any tree, in fact, that strikes his fancy. The damage he does because of his tipping habit is so extensive that experts believe he cannot by any means consume enough injurious insects to make the balance swing in his favor. And in this regard he is in a class quite by himself, since the other woodpeckers have been demonstrated to eat enough insect enemies, both of fruit and other trees, to much more than compensate for their borings in the limbs



Having Fun on the Farm—Mr. J. M. Purdy, of Livingston County, and his Interesting Family of Nieces and Nephews.

thirsty he draws the water into his trunk and then pours it into his mouth. But what else did you see, my son?"

"Oh," eagerly, "there were wolves, and bears, and monkeys. And, oh," sitting very straight, "a zebra, mother. My eyes, but he was great! All black and white stripes. And didn't he gallop and prance! Why—seemed as if all four of his feet came off the ground at once, and

stars in the firmament, with the exception of the brightest twenty.

This well known figure is a part of a still larger constellation known as the Great Bear or Ursa Major. Seven is called a perfect number. The Dipper is outlined by seven principal stars.

Careful observation will enable one to locate Polaris or the North Star. It marks the place around which the cele-

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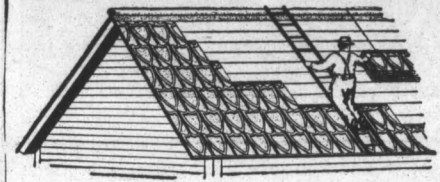
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and trunks of trees, which we all know they do to a considerable extent.

Unless one is fairly well versed in bird life one should not undertake the destruction of the sapsucker members of the woodpecker family. It is possible in so doing to innocently slaughter useful species. Still, it is not difficult to identify the sapsuckers. If one lives east of the Rocky mountains there is but one species with which to become familiar. This is the yellow-bellied variety, and he is readily told by two characteristics, one of which is the red spot on the front of his head, reaching from bill to crown; the other the black patch on his throat. In addition to these distinguishing marks the male has a red splotch under his chin—just forward of the black spot already mentioned. The yellowish tinge on the belly is not ordinarily distinguishable except at close range.

The great majority of woodpeckers seen about one's orchard and lawn are not sapsuckers but useful species which, while they may bore a hole in a tree or help themselves now and then to fruit or grain, destroy enough injurious insects to more than make full compensation for the damage done to the trees.

PRESERVING AUTUMN LEAVES.

BY CHARLOTTE BIRD.

The season of frosts is at hand, when the leaves of our forest trees will be painted in their most gorgeous hues. If these colors could only be preserved as they shine on the trees—the reds, the yellows, the russets, the olive greens! But, after all, green is quieting, as a color with which to live the whole year around, it is probably preferable.

Not all parts of the United States know these rich autumn leaf-colorings—only those places where the brisk frost catches the leaves in their freshness before the natural dimness of decay has set in. In places where the frost comes very late, or not at all, there is a gradual fading of the leaf without any beauty and it finally drops off.

To a large extent, however, the autumn leaves, with all their loveliness of coloring, can be preserved, and for house and table decoration in winter nothing could

be more harmonious and beautiful. At Christmas and other festive seasons it is possible to have them in abundance and at a cost of time, labor and money almost too inconsiderable to reckon.

For preservation, no leaves could be more beautiful than our common gorgeous and ever-varying maples; no two leaves are ever exactly alike. But the sumach, and also some blackberry and dewberry leaves, are particularly beautiful. The latter may be found in lovely wreaths on their own stems and might be preserved so. One who has a keen, searching eye will find many beautiful leaves.

The leaves which it is desired to preserve should be gathered as soon as the colors have developed in all their beauty. They should be prepared at once by laying on a smooth, firm surface and carefully smoothing them out. Then on a moderately warm iron smear paraffine plentifully and pass the iron carefully over the leaves on both sides; every part of the leaf must be covered with the paraffine. This will give the leaves a beautiful polish and also serve as a coat of protection; it will preserve the leaves indefinitely in all their original beauty.

Some people like these leaves with a frost finish. This can easily be given by sprinkling powdered alum over the still warm and soft waxy paraffine coat. Many others, however, will prefer their leaves more nearly as nature has colored them.

After the leaves have been prepared they should be shut up in an air-tight box to await the occasion of their use. This will keep them from becoming broken and will still further preserve their beauty. When ready to use, the leaves may be made into wreaths or arranged on the walls or table in any fancy shapes desired.

In these days of the high cost of living, when everything tends to the practical and the material, even the beauties of nature are turned to money account. To one living within reach of a city market, autumn leaves, prepared according to the directions given, would command an unlimited financial return. On account of their superior adaptability in decoration, and also their attractive coloring, they might easily be preferred to the mistletoe or the ubiquitous holly.

ROSE OF PARADISE VALLEY.

(Continued from page 222).

at home, fell the lot of baking for the camp. Thus every day the supply team came in empty and went back loaded with fresh loaves of bread and pies and cookies and cakes, for it was Hiram McDowell's boast that men in his camps "allus had good feed."

Rose's respect and admiration for Mrs. McDowell increased with each successive day. Uneducated and illiterate, this woman yet possessed a fineness of spirit and a strength of character that appealed strongly to the girl with her still unformed ideals. Instinctively she modified her slang, (Mrs. McDowell, though ungrammatical in speech, was seldom slangy) and, though the men who came in from the camp from day to day were gruff fellows, Rose somehow felt that they also came under the spell of Mrs. McDowell's influence and made their jokes a little less coarse and punctuated their conversation with a few less oaths when they were within range of her ears.

Early in the first week of her stay the youngest of Mrs. McDowell's sons came tramping in for a night at home. A slight, wiry, curly-headed youngster of sixteen, with laughing eyes and a masculine duplicate of his mother's cheery voice.

A few days later two others came in—and Rose was conscious of a sense of disappointment. She had half expected—oh, well, what had she expected anyhow? They were no worse, no better, than others she had known. All, products of the lumber camps. (A mother doesn't have much chance to mold a boy's future, when at three or four years the father, and others of like caliber, teach him to swear because it sounds funny, or to strut about with a pipe in his mouth for the amusement of the "gang." Most likely at ten or twelve he can take his quib with the rest of them, and at fourteen or fifteen he'll be proud of his ability to rip out oaths that would startle many a confirmed blasphemer, besides being able to drain his glass with the ease of an old toper).

Another week rolled by, and another, and another, and Rose learned many a lesson in self control and fortitude from the kindly Mrs. McDowell with her sound common sense and wisdom. The youngest son had not been in since that first

week, and Rose felt instinctively that his mother was growing anxious. Her eyes held an uneasy look when his name was mentioned.

Then one day they brought him in and laid him on the bed. He had started to walk home and had fallen in the road, and there the supply team had found him. Someone had broken the rules again and smuggled whiskey into the camp—and this was one of the results.

An hour later the father happened in. Himself a drinking man, one who boasted that he could take his whiskey straight, and keep his head, too, he'd never been drunk—in the sense in which this boy was drunk—in his life. One by one he'd seen his other sons in like condition, and finally his hopes had centered on this one, their youngest—who somehow was different, more like his mother—and with blind, unreasoning hope he had tried to believe that this demon curse of the north woods would pass his youngest by. So in the wild passion of his rage and disappointment he made the air blue with blasphemy. The mother, her mute white face bearing testimony to her own breaking heart, was very tender with him now. It takes a wonderful discernment to understand that when the heart of a man of his stamp is sorely wounded, he can only take refuge in greater oaths and more terrible profanity.

That night, while tears streamed down her cheeks, Rose thanked God that her own three baby sons lay over in the little cemetery on the hill. She felt, for the first time, that it was better so.

Two days later, her heart still boiling with the injustice of it all, in a moment of stormy indignation brought on by several most exasperating oaths from one of the younger McDowells, the question that had been trembling in her heart for days came out.

"Mrs. McDowell," she burst forth, in passionate resentful tones, "How in the world do you stand this? I couldn't. I wouldn't!" She stormed and stamped her foot in impotent rage. "I'd cut and run, and leave the whole bunch of 'em."

But the look that the older woman cast upon her, as she stood silent and resentful after her outburst, caused the hot blood to mount quickly to her cheeks while a mingled sense of shame and defiance rose within her.

"Ef the Lord gives you a home," said Mrs. McDowell slowly, measuring her

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and accomplish more work in removing stumps, rocks, also planting trees, digging ditches, etc., than twenty men. It's effective, safe and easily used; guaranteed Standard Brand; shipped DIRECT from Mill in this state; lowest prices. No salesmen. Established over 30 years. Write for full particulars. BRUNS POWDER CO. TERRE HAUTE, INDIANA.

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ALL MODERN IMPROVEMENTS. COMPLETE IN EVERY RESPECT.

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words, "and folks in it to take care of—and they—they—don't do jest as you'd like to hev' 'em," she hurried chokingly on, "it won't help matters eny fer you to 'cut and run'. It's your place to—stand by the ship—and that's what I'm agoin' to do. Thar shan't nobody ever say that Mollie McDowell has shirked her duty. As long as the Lord gives me strength and health I'll do my part—and that's to pray and hope—and keep this home agoin'."

Awed and silenced by the magnificent courage shining through this woman's suffering, Rose turned away and went to work, but she kept those words in her heart and pondered over them for many a day. Then one morning she electrified her employer by the simple straight-forward announcement, "I'm going home tomorrow. I've been thinking about what you said, and I'm going back 'to keep my home agoin' to."

She had not mentioned home before, and if Mrs. McDowell had had her suspicions she had kept them to herself. That is one of the traits of the lumber woods people. They take a man—or a woman—for what they are worth and ask no questions about their past. But now, at a kindly inquiry or two, Rose's whole pitiful story came tumbling out. The uncongenial husband, the nagging mother-in-law and tantalizing girls, her hopes her dreams, and her three little ones—all the pent-up trials and joys of years poured forth for once into understanding, sympathetic ears. And Mrs. McDowell, in her kindly wisdom, advised, encouraged and strengthened. Then finally, just at the parting, she pressed her own well-worn little testament into Rose's hands, and kissed her and wished her well.

Thus it was that she who had gone out in angry rebellion came back again, determined to do the task that God had appointed unto her to do. Thus it was that Amos, returning from late chores, saw a light in his own window where for weeks there had been darkness, and, going to investigate, remained at first to chide and blame, and later to set him down by his own fireside to smoke, while a comfortable sense of peace stole over him.

Of course her old tormentors renewed their sneers and their revilings with more than usual vigor, for now they had her desertion to throw in her face, as well as her youth and inexperience. But through it all she strove earnestly to preserve her own dignity and kindness. How long she would have held out God alone knows. But He, in the infiniteness of His wisdom, and knowing the frailty of human hearts, when the torture was growing almost too strong sent just the steadying influence that her young heart needed.

It came about through another of those tragedies with which the north woods country abounds. A young Ohioan had come the year before, with his wife and two young children, and homesteaded a piece of land a few miles back from Paradise. Failing to raise their year's supplies from off the little clearing, he had been obliged, like many another settler, to seek employment in the lumber woods. Here, unused as he was to woodsman's methods, he had miscalculated somehow—a log had rolled and he hadn't jumped quite quick enough. When they brought him in, all crushed and lifeless, his wife's heart, always weak, had suddenly ceased its beating also.

So two little children were left alone, and the cry of their desperate need reached Rose's hungry mother heart. Opposition and antagonism of husband and relatives only served to strengthen her purpose. The children came—and found a warm place in her heart and home. She mothered them, and loved them, wisely and well, and time itself proved the wisdom of her work.

Today if you drive through Paradise Valley you will perchance notice one house where the scanty curtains are a little whiter, the yard a little cleaner, the grass a little greener, and even God's sun seems to shine a little brighter as it touches the red-brown hair of a woman who gazes tenderly after two half-grown children trudging sturdily away to school. The old world's a little better. Paradise is a little cheerier place to live in, two young souls are coming on to useful lives—and all because one woman, in spite of lack in others, determined to do her part and "keep her home agoin'."

A POSSIBLE REASON.

BY JOHN E. DOLSEN.

A pygmy mind, working in narrow groove, May sometimes distance giants intellectual; Its smallness makes its efforts more effectual In dodging obstacles it cannot move.

To Save Blow-Outs

On No-Rim-Cut Tires We Spend \$1,500 Daily

No Other Tire Maker Does That

This "On-Air Cure,"—done to save blow-outs—costs us \$1,500 daily. And no other maker employs it.

It is one of the three features—used in No-Rim-Cut tires alone—which have saved tire users millions of dollars.

It is one of the three reasons why No-Rim-Cut tires far outsell any other.

All these tires are final-vulcanized on air bags, shaped like inner tubes. They are cured under road conditions.

Cured in this way—on elastic air—the fabric doesn't wrinkle. Every inch shares the strain.

All other tires are vulcanized on iron cores alone. The fabric often wrinkles. See the picture. This wrinkled fabric shares no strain, and that leads to countless blow-outs.

Loose Treads

Tread separation near the breaker strip is another costly ruin.

We use for this strip—at the base of the tread—a patent fabric which is woven with hundreds of quarter-inch holes. The tread rubber is forced down through these holes, forming countless

rubber rivets. Then the whole tire is vulcanized en masse. In no other tire is this thing done to prevent tread separation.

No Rim-Cutting

Then rim-cutting is made impossible by a method which we control.

With clincher tires—the hooked-base tires—rim-cutting ruins almost one tire in three. This is proved by careful statistics gathered by public accountants.

We save all that ruin. And the way we control is the only satisfactory way known to do this.

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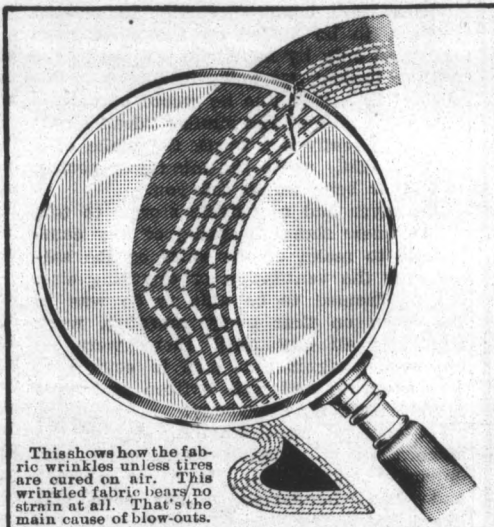
In No-Rim-Cut tires you get these three features which no other maker uses. You save blow-outs, save loose treads; and you end rim-cutting completely.

Yet these tires now, because of mammoth output, cost you no extra price. No standard tire made without these features costs less than No-Rim-Cut tires.

That is why No-Rim-Cut tires hold the leadership of Tiredom. No other tire in all the world has nearly so many users.

And you will be one of this army of users when you once make a mileage comparison.

Our dealers are everywhere.



This shows how the fabric wrinkles unless tires are cured on air. This wrinkled fabric bears no strain at all. That's the main cause of blow-outs.

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Near Saginaw and Bay City, in Gladwin and Midland Counties. Low prices: Easy terms: Clear title. Write for maps and particulars. **STAFFELD BROTHERS, 15 Merrill Building, Saginaw, (W. S.), Michigan.**

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NEAR TRAVERSE CITY 120 ACRES

Water frontage, fruit and potato section. Good buildings and stock all go. I am getting too old to farm. Price right. **L. A. Innis, 172 Griswold St., Detroit, Mich.**

FOR SALE—120-Acre Farm, 100 cultivated, small stream of water, 2 wells, good large 10-room house with cellar, 32x44 basement barn and other buildings, on good road, 1 mile to school, church and store. A bargain because owner is old and has other interests. The buildings are worth the price, \$2800. **J. M. McFARREN, Rapid City, Mich.**

Ogemaw Co., Mich., Cut Over Hard Wood Lands.

Adjacent to Rose City on D. & M. R. R. for sale cheap. For particulars address, **JACOB SCHWARTZ, Saginaw, Michigan.**

Hickory Grove Farm—\$35 per acre. One mile from village, railroad and creamery. 177 acres, 30 acres timber, 75 acres nice fields. Balance spring watered pasture; tillable. Good ten roomed house with furnace, telephone, best spring water piped into kitchen. Large lawn, fine shade, large barn, cement floor, silo, running water that will keep milk from freezing or souring. Abundant outbuildings. All buildings in first class condition. Never rented. About 75 well fruited trees. Cut 40 tons hay this season. Now carrying 35 head of stock will carry more. A money maker. Can show figures. Sell with or without stock, crops and tools. **J. A. Converse, owner, R. 70, Aiba, Bradford Co., Pa.**



Mr. Thoughtful: "Hello, Anty! D'ye see what I'm doing? Making a Fireless Cooker for Mandy. My land!—we won't have to keep a fire for anything any more, what with cooking in this contraption and doing washing and all the other work with Fels-Naptha Soap and cool or lukewarm water. Mandy buys Fels-Naptha by the box."

The Weekly wash is the hardest work a woman can do unless she uses Fels-Naptha Soap and makes her work easy.

Fels-Naptha works best in cool or lukewarm water---Dissolves grease, makes dirt disappear, takes out all kinds of stains. Soap the clothes well, put them to soak for 30 minutes and you need do no hard rubbing and no boiling, because there is no dirt left to need it.

Easy directions are on the red and green wrapper.

Better buy it by the carton or box.

Fels & Co., Philadelphia.



Woman and Her Needs

At Home and Elsewhere

The Most Successful Man.

THE most successful man I ever knew has just died. Now that he is dead, we are all agreed on that, though when he was alive we looked upon him as a sort of failure. He never made much money, in fact, he was always losing money in some unprofitable venture, or through paying the bad bills of some relative who got in over his head and then either whined for help or departed between two nights.

He was a newspaper man, this successful one. But in the office he wasn't considered a star. Even the cub reporter with two weeks' experience spoke to him patronizingly and considered himself a much more valuable man on the staff. This older man never did anything to call attention to his work. He never "broke into the first page" with a sensational story of murder or divorce or political scandal. The stuff he wrote never caused anyone a heart ache and was never considered worthy a No. 1 head. His activities were confined chiefly to market reports, to be buried on the ninth page and read only by men who wanted to see if their broker was going to demand a deposit. As a side line he wrote obituaries and lodge notices and similar "dead stuff" that was really not worth the while of a real, bright, up-to-the-minute reporter, the other boys would tell you.

He never had any lively stories to tell, or any new slang to spring or any complaints to make of the chief or the salaries or the ventilation or anything else. All he seemed to be able to do was to get down on time every morning, work faithfully all day until there were no no more assignments, turn in copy that was accurate and well written and have a good word for everybody.

He was no more startling out of the office than in. Just a plain, quiet, unobtrusive gentleman. He never married and had handsome, sturdy sons and daughters. He lived quietly with his mother, trying to make up to her for the loss of her husband and her other children. He humored her, cared for her, loved her and, at times, endured her. Every day at the same hour he called her up from the office, to the great derision of the other men who were quite too busy and important to bother about their mothers dying working hours. In short, while he lived, we never thought much

about him, except as a good-enough-sort-but-awful-slow.

But after he died. That was when we began to think. Why, he never said an unkind word to a soul in the office! The boys talked it over and not one could remember that he ever was cranky, nervous, irritable or upset. And it wasn't all negative goodness. One by one they told of the little things he had done for them. This one had a story to tell of the time the dead man came to him when his baby died, and how much his understanding helped. That young boy stammeringly told of the way he was brought to his senses when he thought it would be smart to drink occasionally and found that the occasions were coming all too often. Another told of the money that had been quietly offered to him when the whole family had been sick for months, and which, by the way, he had never paid back. Little by little it came out, the quiet way in which he had done good to all.

"And we weren't really decent to the old chap," said one. "I've snubbed him time after time, even after accepting favors from him."

"So have we all," joined in another, "and do you remember what he used to say to excuse it? 'I guess Jack's breakfast didn't agree with him this morning. He never called our rudeness by its right name, always got over it by saying we were sick.'"

From outside of the office similar stories came to us. Everywhere we heard of his gentleness of spirit, his silent understanding of human ills, his broad charity, and unruffled serenity. We heard, too, stories of his self-sacrifice; of the girl he loved and let go away because his duty was to his mother; of the trip to Europe he gave up because his nephew needed the money to finish college; of the college career he gave up himself, because someone must earn the family bread. These and many more stories came to us, and we sat with bowed heads and shamed faces thinking of the slights we had put upon him.

"He was the best man I ever knew, but yet he wasn't churchy," said the roughest-spoken man in the office. And everyone agreed.

That is why I call him the most successful.

DEBORAH.

Long Lines and Quiet Colors Feature the Fall Suits

By A. L. L.

A distinct change, both in colors and cuts, mark the new fall suits. The gaudy hues which no one liked but every woman thought she must choose because they were modish, have given place to sober colors, and the loose, baggy blouse coats, becoming to no one, are supplanted by garments with long trim lines.

Blue is the color first shown by the modistes when you call for a suit, though there are shades of brown and taupe from which to choose. The old stand-by, navy blue, is last choice, coming after raven blue, a new shade called Dorothy blue, which is almost a black, and the lighter, peculiar shade called Copenhagen or French blue, according to the store in which it is shown. Prune, wistaria and a new green are included in the colors, and will be chosen by many women who have grown tired of blue.

A novelty in suits is a coat of plain cloth worn with a checked or plaid skirt, the coat usually having cuffs and collar of the same material as the skirt. These are for later wear as the skirting material is of the heavy plaid cloth which lined the storm coats of the past two seasons and the golf capes of departed memory. They will be chosen only by women who can afford two or three suits, as they are only suitable for rough wear, and not for church or real "dress-up" occasions. For the girls' school suit they would be serviceable and smart.

The really smart coat is a delight to the woman who can wear it, the slim one. It is long and straight and cut away

from the front to a point in the back which reaches to the knees. The back is in an unbroken line in the smartest garment, without belt or buttons at the waist. Many are cut away from the bust, and have only one button, while others have two or three buttons, and fasten to a point just above the waist. The skirts are draped, sometimes in front, sometimes at one side, sometimes at both. The higher priced skirts are slashed on the sides, but usually are so cut that the slash may be sewn up if it is not desired. Many of the coats are fur-trimmed, some only with collar and cuffs of fur, and again with a band facing the fronts as well as the cuffs and neck piece.

A stunning suit seen in one shop is of blue brocade cloth, brocade effects by-the-way, being good in everything. The coat was severely plain, tapering to a point in the back only 18 inches from the bottom of the skirt. At the waist were backward turning small pleats, two on a side, to give a little fullness. Three smoked pearl buttons fastened the front. The skirt was plain and scant, the front draped by means of three small tucks which were caught in the left side seam. These tucks might be taken out and the extra length cut off, making the skirt plain for the woman who dislikes draped effects. Such a suit is especially good for the slim woman who looks best in long straight lines.

For the woman a bit stouter came a suit in absolutely the same material, but

with a skirted coat. One large button at the throat and one at the waist fastened the garment, and in the back there was a trimming of braid at the belt, and six small buttons in two rows down the skirt of the coat. Cuffs and collar of near seal completed the trimming. The skirt was slashed slightly on each side, and was draped at the left, but the seams could be sewed up if one did not like the slashed effect.

More elaborate was the coat with a suit of pebble cheviot in French blue. This was skirted, and had cuffs and collars of pony and trimmings of bits of pony skin and soutache braid from throat to belt. A navy blue whipcord had cuffs and a throw collar of black fur, and a skirt draped on both sides and caught with a large button.

In the two-cloth suits one of the best looking was of brown. The coat was a plain brown cloth, cutaway, but only reaching half-way to the knees in the back. Worn with it was a brown plaid skirt, black lines forming the plaids. Cuffs and collar of the plaid were shown on the coat, which was finished with round buttons.

More striking was a suit which had a draped skirt of irregular brown and cream small checks. The coat was a seal brown in plain cloth and had cuffs and collar of brown velvet. It fastened with one button at the bust and from there was cut away to a point reaching almost to the knees in the back. A blue suit had the coat of heavy whipcord, and the skirt a large plaid in three shades of blue. The cuffs and collar of the coat were of the same plaid.

The style of the separate coats for winter wear is forecast by the coats in the fall suits. They will be cutaway affairs, mostly, with long shoulders and collars that may be buttoned tightly about the throat or laid back to show a deep opening. They come in full-length, seven-eighths and three-quarter lengths, and are fur-trimmed or plain, belted or loose, so that all may have a choice. The cloths are rough, as is everything really smart, chinchilla, boucle, zibeline, cheviots and whipcords, having ousted the smooth fabrics. The same colors seen in suits are good, blues, browns, greens, and checks for general utility wear. There are startling effects in green, canary and vivid reds. Four of these novelties in one window attracted every passerby. One was of old rose, one of salmon pink, one of a vivid Irish green and one of canary. They were three-quarter, cutaway coats, with long sloping shoulders, and velvet collars and cuffs in self-colors. White metal buttons trimmed the green and canary colored garments; the old-rose coat had cloth covered buttons, and the salmon-pink affair showed buttons of red! In striking contrast to this gay quartet was a full length coat of cinnamon brown chinchilla fastened across the chest and at the waist with two clusters of three buttons each. This was a handsome, practical coat, good for wear on any occasion.

Young girls and children copy their elders in colors and cloths, but the coats are straight fronts instead of cutaway. There are coats for four-year-olds of dark-blue chinchilla, boucle and zibeline and similar garments for the twelve-year-old sisters.

Whatever you buy, whether suit, coat or gown, you will make no mistake in buying rough goods. Brocades are seen everywhere, in wools, silks and velvets. Even our old friend, rep, is brocaded and shown in blues, wistaria and tan for winter dresses. There are one tone brocades in red, brown and taupe, called monotone brocades. Eponge, which, by-the-way, simply means sponged, is shown in all colors for dresses and light suits.

GRAPE AND PUMPKIN BUTTER.

Take fair sized golden ripe pumpkins, pare and slice into rather long lengths to avoid burning or scorching in the kettle. Boil a whole day, if possible, the longer the better, as the pumpkin will be of a finer texture when long boiled. Pass this sauce through a fine sieve. Next procure tame grapes; if these are not to be had, wild grapes are nearly as good and may

be found along woody streams. Wash and stem these and boil until thoroughly cooked; pour the whole when done, into a muslin bag and drain and squeeze the juice from the pulps and seeds. If the pulps are desired in the sauce they should afterwards be passed through a collander to remove the seed, but nothing is gained by adding them.

To one gallon of the cooked pumpkin add one gallon of the cooked grapes and eight to 12 pounds of granulated sugar. Add the sugar when the two are thoroughly mixed and when very hot, in small quantities, stirring the while; simmer slowly about two hours. While still hot season to suit. Ground cinnamon bark is preferred by most as a flavor and one ounce per gallon is ample. Stir this all through and put in cans or crocks. This will keep as well as apple butter if thoroughly cooked and that is the main point to be observed. One may use more or less sugar, as desired. The pumpkin being naturally quite sweet neutralizes the acid of the grapes to a great extent so that not nearly as much sugar need be used as many would at first suppose.

This is cheaply made as the cost is for sugar only and can be made by those who cannot readily procure apples, cider, etc. It has a flavor distinctly its own, not flat, but spicy, rich and all right.—G. A. R.

THE USE OF WATER IN SICKNESS.

The use of home remedies in the treatment of ordinary sickness is not new. Only a generation or two back it was seldom indeed that recourse was had to calling a doctor. This is true today in the more sparsely settled districts. But in the cities people are too prone to magnify every ache and pain and to at once call in a physician.

This unnecessary expense and trouble can be done away with by intelligent treatment with the simple appliances found in every home. Plenty of fresh air, exercise, proper diet and the practice of hydrotherapy will solve nearly any medical problem.

The value of the water treatment lies not so much in the fluid but rather in its being the most convenient and efficacious means of applying cold or hot to any part of the body.

Where sickness is accompanied by pain, compresses afford a speedy relief in many cases. Indeed suffering may often be stopped before there would be time to dress, go for the physician, and, if it is at night, to have him put on his clothes and come to the bedside of the unfortunate one. Modern science has learned that the blood heats, and the heat has a wonderful effect in drawing blood to a place where it is needed, while cold will send it away from a congested area. A combination of the two can be used in many ailments with great success.

Hydrotherapy, or the treatment of disease by application of water, has been developed into a science by modern research and experimentation. Certain pains are allayed by hot compresses, others yield more swiftly to alternations of hot and cold ones. Thus toothache, earache and neuralgia are best helped by hot alone. For plain backache, revulsive hot and cold compresses are given to the spine. For pain in the stomach from gas caused by indigestion, hot and cold applications are indicated, supplemented with a hot footbath.

Acute suffering from pain in the region of the vermiform appendix is not uncommon, and in this condition some remarkable successes have been achieved by home remedies. The first thing to do is to put an ice bag over the seat of the trouble. Then a hot hip and leg pack is given to divert the blood from the congested area to a portion of the body where it will do no harm and thus relieve the inflammation.

This treatment is given as follows: Place a single blanket under the patient, over this place a double dry blanket to extend from the waist line down to and including the feet. Over this place a double blanket, wrung dry from boiling water. Over this place a single dry blanket. On these have the patient lie down, wrap the dry and hot wet blankets snugly around the patient and cover with other dry blankets. If there is pain in the abdomen wrap one or two ice bags in a cloth and place under the pack next to the skin over the seat of pain. Keep ice cold compresses to the head during the entire treatment and an ice bag to the heart. Allow the pack to remain from 15 to 30 minutes and on removing it rub your hand repeatedly wet in cold water over the surface that has been

heated. An alcohol rub is also excellent after this treatment.

For a headache, an ice bag or a frequently changed ice compress should be applied to the back of the head and another over the sides of the neck. At the same time, hot fomentations should be given to the face, extending over the ears. The fomentation cloth should be covered with two thicknesses of dry cheesecloth to protect the face. The fomentation should be renewed every five minutes, for from 10 to 30 minutes. Afterwards cool the face with a short cold compress. This will be especially effective in a congestive headache, which is accompanied by a flushed face and throbbing vessels.

HOME QUERIES.

Household Editor:—What are Brussels sprouts and how are they prepared for the table? They grow up like cabbage.—F. M. M.

Brussels sprouts is a species of cabbage, and is cooked much the same. Pick off the wilted leaves and soak in salted water an hour. Then boil rapidly until tender, in salted water, allowing a half teaspoonful of salt to every quart of water. Finish as you would cabbage, either creamed or with a vinegar dressing. Or the sprouts may be tossed in melted butter in the frying pan.

Household Editor:—At what age would you begin to discipline a baby?—Young Mother.

As soon as it was born. "Discipline," at that age, however, is simply training in regular habits of sleeping and eating. This should continue right through and baby should be taught from the beginning that he can not have his own way simply by crying and making a fuss. When he grows old enough to creep around and get into mischief he can be taught to keep his hand off forbidden things by holding them for a few minutes when he is "naughty," or by tying a handkerchief around one every time he touches something he shouldn't. If you insist on obedience for the first four or five years you will have little trouble afterwards. The only way is to have a system and adhere to it. Do not forbid the child to do today, what you will let him do tomorrow.

Household Editor:—What is meant by hard sauce?—Mary K.

Butter and sugar creamed together. It should be in the proportion of a half cup of butter to every cup of sugar. Flavor with nutmeg. This is fine on hot boiled rice.

FASHIONS BY MAY MANTON.

Our large Fashion Book—containing 92 pages illustrating over 700 of the season's latest styles, and devoting several pages to embroidery designs, will be sent to any address on receipt of 10 cents.



- No. 7931—Double-breasted blouse, 34 to 40 bust.
- No. 7947—Tucked blouse for misses and small women, 14, 16 and 18 years.
- No. 7926—Semi-Princesse gown, 34 to 44 bust.
- No. 7941—Two-piece draped skirt, 22 to 30 waist.
- No. 7932—Four-piece draped skirt, 22 to 30 waist.

The above patterns will be mailed to any address by the Fashion Department of the Michigan Farmer on receipt of 10 cents for each.

100,000 Girls Belong to One Club Yet Few Know About It

The girls have a gold and diamond badge: every girl in the club makes money: some make over a thousand dollars a year. And yet, broadly speaking, few know about this club: the happiest, brightest and most prosperous club of alert girls anywhere in America, perhaps.

Where is this club? It is attached to *The Ladies' Home Journal*: a part of the personal service that is back of the magazine, and has made it, as some one said: "not a publication but an institution."

The Club is called simply "The Girls' Club." Its motto is as unique as anything about it: "With One Idea: to Make Money." It has a girl manager at the head of it, and every year she writes to and keeps in direct touch with these 100,000 girls.

Unique, isn't it? Good to know about it, if you are a girl, or have a girl.

Each month the club has a regular column in *The Ladies' Home Journal*.

If you are a girl, young or old, and are interested in this club's "One Idea," send a letter of inquiry to

THE GIRLS' CLUB
THE LADIES' HOME JOURNAL
INDEPENDENCE SQUARE
PHILADELPHIA, PENNSYLVANIA

Farm Commerce.

Farm Storage for Perishable Products.

SINCE the marketing end of the farmer's business has been receiving more attention, the matter of providing a suitable place for the holding of perishable crops has become a much more discussed theme among tillers of the soil. Farm journals are frequently asked for plans for such a structure; at farmers' gatherings the subject is constantly coming up and in planning improvements of farm buildings the progressive farmer seldom overlooks the need for such storage.

The growing interest is probably due in a large degree to a keener understanding of the factors that go to fix the prices of farm products. In these days with such a variety of means for gaining information, not only the dealer but the grower, and the general public as well, have come to know that it is a poor time to sell when everybody else is selling, and that it is a good time to let products go when the consuming public is getting anxious for them and the supply is running short. Knowing these and other elements that influence the trade, producers have generally decided that they can deal with greater independence if they are provided with storage facilities.

Now the advantages of having an efficient storage house are various. In the first place, a good house saves products that otherwise might deteriorate to a point where they could not be marketed; as a corollary to this, it enables one to put his perishable crops on the market in much better condition. Secondly, the house, if properly equipped, reduces the cost of caring for the crop. With tables, carts, packages, etc., at hand men can pack fruit better and at less cost per unit than where these things are provided in the usual temporary quarters. In the third place, help can be employed in a house on inclement days, which aids in keeping more efficient help around, and because of this greater efficiency and continuous working a much larger amount of work is done by the force. But the advantage that has moved so many to build storage room for perishable products is the elimination of the necessity of selling when the crop is being harvested. All who lack storage facilities are selling then, and these include all but a very small per cent of the growers, which means that prices at that time rule low. By holding in the storage the producer can wait till gluts are over and prices have advanced, and in normal years they do advance to where the seller can realize a good margin for the trouble and expense of storage. There are other reasons for having these houses, but these are the usual ones that urge men to provide such structures.

From time to time different storage houses have been described in these columns. Just now we recall the illustrated article describing the efficient house of Mr. Farnsworth, of Ohio; the basement used by Mr. Perry, of Oakland county, and Mr. Smith's storage, of Kent county, and there have been others described that furnished ideas to our readers. We are glad at this time to give a general description of the storage plant belonging to the Empire Lumber Company, of Leelanau county.

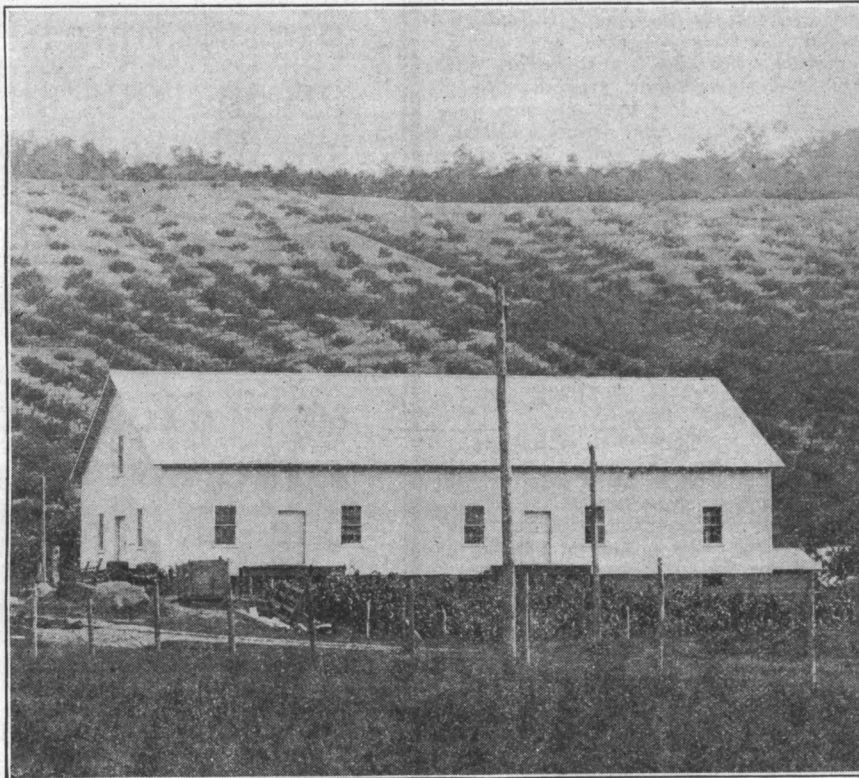
This storage, which is 40x80 feet on the ground, is a two-story structure. The basement is used for the holding of products and the main floor is equipped for packing and for the storage of crates, barrels, and other materials. The basement is built of cement while the upper story is of wood.

In the construction of the basement, durability and proper insulation were kept in mind. The first aim is gained by using cement liberally; in fact, the entire basement is enclosed with cement walls. The side walls are double. The outside thickness of cement is 12 inches thick and the inside one seven inches thick. Between the two there is a seven-inch air space. This air space serves to modify the temperature within, keeping it down during warm days and up when the weather becomes cold. Between the basement and the packing room overhead the aims mentioned are secured by the following method of construction: Named from floor above to ceiling below, there is first, a double floor with building paper

between, nailed to 2x12 stringers. Immediately beneath these stringers is a two-inch layer of solid cement, below which is a layer of sawdust four inches thick, and this in turn is held in place with another layer of solid cement also two inches thick. Repeating for clearness, the floor is composed of double flooring, an air space, a layer of cement, a layer of sawdust and finally another layer of cement. This leaves nothing but cement to be exposed to the dampness of the basement, which gives assurance that there is nothing to decay in the presence of the fruit stored there and the sawdust and the air space practically prevents radiation through the floor.

The owners inform us that the basement will accommodate about 3,000 barrels of apples, which they believe will greatly assist them during the harvest period of most seasons and aid them in obtaining higher values for their fruit.

Concerning the cost of the building the owners gave figures in round numbers.



Apple Storage House Built by the Empire Lumber Company, Leelanau County.

The total capital required for completing it being \$3,000, while \$1,200 of this amount was required for labor and the remainder for materials.

The basement is entered at the west end by a wide driveway at the sides of which are ventilating openings. From these openings the air circulates on each side of the building toward the east end where there is an air chamber that takes the air up to the roof, at which point it passes out. No ice storage or freezing plant is used.

VALUE OF SCALES ON THE FARM.

"Lumping things off" is a relic of the past times when only the rich could afford scales. At the present time, when a few dollars will buy scales that can be depended upon to do good work, there is no excuse for dealing by guess work. The price of good farm scales is very reasonable. There are various makes and any of the standard ones will do accurate work when set up properly and then given good care. In many neighborhoods several farmers have clubbed together and bought a pair of large scales, of five or six tons capacity, and set them up at a central point where all can weigh their stock and grain crops without much loss of time. Each farmer saves some money by this arrangement and at the same time has the use of scales of large capacity.

It does not mean a loss of self-confidence for the farmer to sell all his products on a weight basis. It is no more than good business policy for the farmer to know what he is doing at all times, without any guessing. But how often can the farmer without scales of his own

say, when he sells some of his stock or farm crops, that he is certain he is getting paid for every pound of the article sold? A great many times a farmer has a few fat hogs or one or two steers to sell to local butchers, or perhaps a neighbor comes over and wants a load of hay or grain. He has no scales on the farm, so he guesses at the weight of the article sold. But he can never be certain that his guess is anywhere near right.

Now, this method of selling is surely not good business. The man stands too much of a chance of guessing the weight of the article sold too low. Or, in selling something to a neighbor, he may guess too high, and this is not fair to the buyer. In ordinary cases, the buyer as well as the seller is not practicing right business methods when deals are made in this way. In dealing with butchers, however, the seller is always at a greater disadvantage than the buyer. The butcher really buys by weight, though by estimated weight, hence from his point of view he is quite justified in suggesting that the animals he buys be "lumped off." For, of course, after he gets his stock where he can weigh it, he does so, and thus he is able to check his estimates and so becomes skilful. On the other hand, the farmer remains in blissful ignorance as to whether his estimate was near the mark or not. Occasionally, perhaps, the butcher may have been deceived in his judgment as to the weight of the animals bought, but this don't

these problems. Scales let the farmer know exactly what he is doing, both during the time of feeding and on the day the animals are marketed.

Indiana. W. F. PURDUE.

WHEN THE WORLD'S WHEAT CROP IS HARVESTED.

"How much of the world's wheat crop is harvested each month of the year?" was asked recently of the Bureau of Statistics.

To answer this question, estimates have been made based upon the average production in recent years and the usual progress of harvesting operations in the various countries of the world. These showed the following percentages: January, 5 per cent; February, 1 per cent; March, 3 per cent; April, 7 per cent; May, 4 per cent; June, 15 per cent; July, 34 per cent; August, 26 per cent; September, 2 per cent; October and November combined, less than 1 per cent; and December, 3 per cent.

In the United States about 19 per cent of the crop is harvested in June, 46 per cent in July, and 35 per cent in August.

From these estimates it would appear that almost no wheat is harvested in October and November, and that the world harvest season really begins in December, when operations start in Australia and South America, enlarge in January, and are practically finished in February. Operations begin in February in India, and increase in activity through March to April. In April operations begin in such countries as Persia, Asia Minor, and Mexico. The falling off in May is due to the nearness to completion of the Indian harvest, and the season's crossing the Mediterranean from North Africa to southern Europe, where harvest does not become active until June. In June, July, and August about 75 per cent of the crop is harvested. The season progresses steadily northward during these months. By September harvest operations are nearly completed. Scotland, Northern Russia and Siberia, and Canada do a little harvesting in August. Practically no harvesting is done in October.

If the world wheat crop be regarded as about 3,600,000,000 bushels, the estimates above would indicate that about 108 million bushels are harvested in December, 180 in January, 36 in February, 108 in March, 252 in April, 144 in May, 540 in June, 1,224 in July, 936 in August, 72 in September. Of course, the percentages and quantities will shift slightly from year to year, as the seasons are early or late and as production in a particular latitude is large or small. The above estimate, however, may be regarded as fairly typical.

TO ORGANIZE A CO-OPERATIVE ELEVATOR COMPANY.

Initial steps were recently taken at Caro, Mich., to organize a co-operative elevator company. About 50 farmers gathered at the court house August 20, considered the advisability of such a move and then appointed a committee to investigate the several questions involved and report at a later meeting. During the discussion there appeared to be an unanimity of opinion on the question of making the organization purely co-operative and not a stock company. There is a growing sentiment among producers in regard to the manner of organizing mutual business associations for the plan which provides, after a fair interest is paid upon the capital invested in a co-operative concern that the men who patronize the business should receive the surplus earnings pro rated according to the amount of business done by each. This seems to be the feeling among the Caro farmers. They will hold a meeting later to consider the recommendations of the special investigation committee.

NO MORE LOOSE MONEY COLLECTION FROM BOXES.

The postoffice department has just issued an order warning patrons of rural routes against leaving money in the boxes. Hereafter coins must be tied in bundles or inclosed in envelopes whenever the patron of a rural route wants stamps from a carrier and leaves the necessary amount in the wayside box.

"The attention of the postmasters at rural delivery offices and of rural carriers," said Fourth Assistant Postmaster General Blakslee, "is again directed to the fact that rural carriers are not required to collect loose coins from rural mail boxes. Patrons must inclose coins in an envelope, wrap them securely in paper, or deposit them in a coin-holding

receptacle so they can be easily and quickly taken from boxes and carriers...

CROP AND MARKET NOTES.

Mecosta Co., Sept. 8.—Corn is looking fine; best crop in several years, nearly out of danger from frost.

Lapeer Co., Sept. 6.—Weather hot the past week. We are much in need of a good rain at present for the benefit of pastures and wheat seeding.

Eric Co., Sept. 5.—Weather exceedingly warm, with drouth in this section; 80 per cent of wells are dry.

Lancaster Co., Sept. 5.—Crop averages as follows: Wheat, per acre, 28 bu; oats, 50 bu; rye, 30 bu; corn half a crop; potatoes half crop; fruit extra good crop; tobacco three-fourths of a crop.

Perry Co., Sept. 5.—Driest summer in 50 years; corn being cut, 50 per cent below average; apples 10 per cent of a crop; potatoes small, and not half a crop.

Allen Co., Sept. 4.—Have been getting rain all around us but in immediate vicinity of Lima have not had any for several weeks.

Union Co., Sept. 5.—Dry weather is the order of the day here for August and in fact, all summer.

Guernsey Co., Sept. 5.—Had two fine rains about Aug. 20-21, after four weeks of drouth.

Hancock Co., Sept. 2.—Weather hot and dry at present; corn ripening very fast. Will be about two-thirds of a crop.

Brown Co., Sept. 8.—The long drouth has caused a shortage in pasture and made the earliest corn harvest in years.

Indiana. Elkhart Co., Sept. 4.—Very hot and dry. We have not had any rain for three weeks.

Jay Co., Sept. 8.—Weather extremely dry. Fall seeding and plowing delayed. Wheat acreage would be extremely large if conditions were favorable.

Illinois. McLean Co., Sept. 4.—This has been a very dry season; oats averaged about 35 bu. per acre; corn will be the poorest we have had in years in this locality.

Perry Co., Sept. 4.—Drouth continues. Wheat crop good, corn poor prospect. Oats poor. Hay short. Stock peas look good.

Marion Co., Sept. 8.—After one of the worst drouths on record Marion county is facing a serious proposition.

Missouri. Polk Co., Sept. 2.—The drouth continues, and pastures are almost as bare of vegetation as the public highway.

Smith Co., Sept. 6.—The month of August was one of the hottest and driest that Smith county has ever experienced.

Nemaha Co., Sept. 6.—No rain here since June 4. Oats and wheat made good crops, but corn and fruit a complete failure.

Dodge Co., Sept. 5.—Hot and dry; the weather has injured the corn crop. Wheat a good crop, made from 30 to 40 bu. per acre, and oats made 45 to 50 bu.

Saunders Co., Sept. 5.—August has been a very warm month, 100 degs. for 17 days. Corn half a crop; oats and wheat a good crop; apples a good crop.

Pierce Co., Sept. 6.—There has not been any rain in the month of August to do much good. Small grain is not turning out well.

Nebraska. Dodge Co., Sept. 5.—Hot and dry; the weather has injured the corn crop. Wheat a good crop, made from 30 to 40 bu. per acre, and oats made 45 to 50 bu.

The Michigan Agricultural College Offers for sale the following pure bred LIVE STOCK

CASH FOR OLD BAGS Turn your old bags into money. We buy them in any quantity, sound or torn, at a liberal price...

HOG FEED CHEAP. ASK BARTLETT CO., JACKSON, MICH.

FOR SALE—30 Angus sows in good condition. Inquire of CARL SCHMIDT, Moore Park, Michigan.

BREEDERS' DIRECTORY. CATTLE.

Aberdeen-Angus. Herd, consisting of Trojan Erics, Blackbirds and Prides, only, is headed by Egerton W. the GRAND CHAMPION bull at the State, West Michigan and Bay City Fairs of 1912 and the sire of winners at these Fairs and at THE INTERNATIONAL, Chicago, of 1912.

Guernsey Bull Calf—Rich in A. R. breeding. Fit to head any herd. A. G. DANDY, G. A. WIGENT, Watervliet, Mich.

GUERNSEYS—Reg. Tuberculin Tested. Windsor Farm, Watervliet, Mich.

HEREFORD BULLS FOR SALE Also Poland China Hogs. ALLEN BROS., Paw Paw, Michigan.

A FEW CHOICE Holstein Friesian Bull Calves for Sale. A. R. O. Stock. GREGORY & BORDEN, Howell, Michigan.

"Top-Notch" Holsteins. Choice bull calves from 6 to 10 mo. old, of fashionable breeding and from dams with official milk and butter records for sale at reasonable prices.

Purebred Registered HOLSTEIN CATTLE The Greatest Dairy Breed

HOLSTEIN—Bull Calf sired by best son of Pontiac Butter Boy. Dam is sister by same sire to 8 cows who have official butter records averaging over 27 lbs. butter in 7 days.

Holstein Friesian Cattle. A couple of young bulls for sale. We boast of quality not quantity. W. B. Jones, Oak Grove, Mich.

HOLSTEIN BULLS ready for service. Bred, built, and priced right. Write or better, come and see. E. R. CORNELL, Howell, Michigan.

FOR SALE—On Cornwell Farm, Clare, Mich. Holstein new milk cows. Also 400 yearling steers. Also good Dairyman wanted. Enquire of ERNEST PIETZ.

Bigelow's Holstein Farms Breedsville, Mich. Have for sale several fine young bulls out of cows with high official butter and milk records.

Bull Ready For Service. A grand son of Pietertje Hengervelds Count DeKol, and out of Bertha Josephine Nudine. This is an almost faultless individual.

For Sale—reasonable prices, choice registered HOLSTEIN BRES, ready for service. HATCH HERD, Ypsilanti, Mich.

REG. HOLSTEIN COW—4 years old, fresh. 20-lb. R. O. dam. Sire, son of Pontiac Butter Boy—56 A. R. O. daughters, 2 above 30 lbs. Exceptional breeding. \$250 delivered, worth more. Hobart W. Fay, Mason, Mich.

Buy A World Record Holstein Bull NEXT TIME. We have 2 with 75% same blood of 3 world record cows. Great bargains at \$250 each. LONG BEACH FARMS, Augusta, (Kalamazoo Co.) Mich.

For Sale—2-yr.-old Jersey Bull—Dam's 8-yr.-old record Sires dam's record—12997 lbs. milk; 600 lbs. fat; 708 lbs. butter. 2-yr.-old full sister's record—8610 lbs. milk; 436 lbs. fat; 513 lbs. butter. All authenticated, kind, sound, sure. Waterman & Waterman, Ann Arbor, Mich.

Lillie Farmstead Jerseys (Tuberculin tested. Guaranteed free from Tuberculosis.) Several good bulls and bull calves out of good dairy cows for sale. No females for sale at present. Satisfaction guaranteed. COLON C. LILLIE, Coopersville, Mich.

BUTTER BRED JERSEY BULLS FOR SALE CRYSTAL SPRING STOCK FARM, Silver Creek, Allegan County, Michigan.

JERSEYS—Bulls calves bred for production. Also cows and heifers. Brookwater Farm, E. F. D. No. 7, Ann Arbor, Mich.

For Sale—Registered Jersey Cattle, tuberculin tested: bulls and bull calves; heifer and heifer calves; cows with Register of Merit and Cow Testing Association records. IRVIN FOX, Allegan, Mich.

Notton Farm, Grass Lake, Mich. A few young Jersey Bull Calves at \$25 to \$45 each.

RED POLLED COWS and HEIFERS—For sale, of good milking strains. John Berner & Son, Grand Lodge, Mich. Route 4.

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DAIRY BRED SHORTHORNS—Bates bred bull 7-mo. old for sale. Price \$100. J. B. HUMMEL, Mason, Michigan.

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HOGS. Durocs & Victorias—A Desirable Bunch of Sows of Either Breed due April and May. M. T. Story, E. B. 48 Lowell, Mich. City Phone 58.

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A Yearling Sow—bred for July farrowing, also a choice lot of Spring Pigs for sale. Either sex. A. A. PATULLO, R. No. 1 Deckerville, Mich.

Chester Whites—Spring and summer pigs, write us your wants. Price and quality right. Meadow View Stock Farm, E. F. D. No. 5, Holland, Mich.

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O. I. C.—MARCH and APRIL PIGS, the long growthy kind, with plenty of bone. No cholera ever on or near farm. Satisfaction guaranteed. A. NEWMAN, R. 1, Marlette, Mich.

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O. I. C's—Bred sows, March pigs pairs and trics. Buff Rock Eggs \$150 per 15. FRED NICKEL, R. 1, Monroe, Michigan.

O. I. C's—All ages, growthy and large. Males ready, 100 to select from. Attractive prices on young stock. H. H. JUMP, Manistich, Mich.

O.I.C. THIS 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.

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Duroc-Jerseys—Spring boars from prize-winning strains. Sows all ages. Brookwater Farm, E. F. D. No. 7, Ann Arbor, Mich.

Duroc Jersey Hogs—Have a few bred gilts, and spring boars, prize-winning strain. W. C. TAYLOR, Milan, Mich.

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Duroc Jerseys—Nothing But Spring Pigs For Sale. CAREY U. EDMONDS, Hastings, Michigan.

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Duroc Jerseys For Sale—Three fall boars, also spring pigs, either sex; of finest breeding and individual quality. John McNicoll, Station A, R. 4, Bay City, Mich.

POLAND CHINAS—Both Western and Home Bred. Either sex, all ages. Prices right. W. J. HAGELSHAW, Augusta, Mich.

Choice Lot of Spring Pigs—Either sex. Prices right. L. W. BARNES & SON, Byron, Shiawassee Co., Mich.

LARGE STYLED POLAND CHINAS—Spring and summer pigs. Also Oxford bucks for buck, lambs at close prices. ROBERT NEVE, Pierson, Mich.

Butler's Big Bone Prolific Poland Chinas Big boars ready for service, weigh up to 250 lbs. not fat, from big prolific sows that not only farrow big litters but raise them. Write for what you want. J. C. BUTLER, Portland, Michigan.

POLAND CHINAS—Either sex, all ages. Something good at a low price. P. D. LONG, R. No. 8, Grand Rapids, Michigan.

P. C. MARCH and APRIL PIGS—The long bodied to please. R. W. MILLS, Saline, Michigan.

LARGE TYPE P. C. FALL PIGS all sold. Have the greatest bunch of spring pigs I ever raised. Eight sows farrowed 85. Come or write. Expenses paid if not satisfied. Free livery from Parma. W. E. Livingston, Parma, Mich.

P. C. BOARS AND SOWS—large type, sired by Expansion. A. A. WOOD & SON, Saline, Michigan.

350 BIG TYPE MULE FOOT HOGS—All ages for sale. Prolific and hardy. Best bred for Michigan. Also Pones. J. DUNLAP, Box M, Williamsport, Ohio.

YORKSHIRE Swine—We have some nice spring pigs now ready for sale. Write for description and prices. OSTRANDER BROS, Morley, Mich.

YORKSHIRE SWINE—Young boars ready for service. Also spring farrowed gilts and Aug. farrowed pigs for sale. Pairs not akin. GEO. S. McMULLEN, Grand Lodge, Mich.

IMPROVED LARGE YORKSHIRES Sows and gilts bred for September and October farrow. Service boars. Pigs all ages. Breeding and prices upon application. W. C. COOK, R. 42, Ada, Michigan.

Lillie Farmstead YORKSHIRES Spring bred gilts all sold. Gilts bred for next August farrow. September pigs either sex, pairs and trics not akin. Orders booked for spring pigs. COLON C. LILLIE, Coopersville, Mich.

Mention the Michigan Farmer when writing to advertisers.

THIS IS THE FIRST EDITION.

In the first edition the Detroit Live Stock Markets are reports of last week; all other markets are right up to date.

av 220 at \$9, 2 av 240 at \$10, 5 av 165 at \$11. Weeks sold Burnstine 4 av 155 at \$12.

DETROIT LIVE STOCK MARKETS.

Thursday's Market.

Septmeber 4, 1913.

Cattle.

Receipts, 997. Market steady at Wednesday's prices.

We quote: Extra dry-fed steers and heifers, \$8; steers and heifers, 1000 to 1200, \$7.25@7.75; do. 800 to 1000, \$7@7.25;

Spicer & R. sold Sullivan P. Co. 4 butchers av 980 at \$6, 1 cow weighing 950 at \$4; to Breitenbeck 1 bull weighing 870 at \$5.75;

Roe Com. Co. sold Breitenbeck 5 cows av 974 at \$5, 1 do weighing 1000 at \$4.25; to Rattkowsky 5 do av 1040 at \$5.50;

Bishop, B. & H. sold Fish 1 stocker weighing 540 at \$6.50, 3 feeders av 783 at \$7; to Sullivan P. Co. 1 bull weighing 640 at \$5.50;

Haley & M. sold Breitenbeck 2 heifers av 845 at \$6.50, 1 cow weighing 910 at \$4.50; to Grant 9 butchers av 536 at \$5.90;

Receipts this week, 1100; last week, 1447. Market steady at Thursday's prices.

We quote: Best dry-fed steers and heifers, \$8@8.50; steers and heifers, 1000 to 1200, \$7.50@7.75; do. 800 to 1000, \$6.75@7.25;

Spicer & R. sold Parker, W. & Co. 1 weighing 250 at \$10, 2 av 135 at \$12, 4 av 150 at \$12, 3 av 206 at \$10, 3 av 156 at \$11;

Receipts, 385. Market steady. Best, \$11@12; others, \$6@10.75.

Haley & M. sold Applebaum 3 av 325 at \$8; to Newton B. Co. 3 av 185 at \$11, 5 av 160 at \$11.50;

Receipts, 5995. Market steady with Wednesday. Lambs 50@75c lower than last week; sheep 25c lower.

Spicer & R sold Hayes 13 sheep av 60 at \$4, 41 lambs av 60 at \$6.50, 16 do av 65 at \$5.50;

Roe Com. Co. sold Barlage 40 lambs av 60 at \$7, 15 sheep av 90 at \$2.50, 41 do av 105 at \$4;

Receipts, 2491. None sold up to noon, prospects as follows:

Range of prices: Light to good butchers, \$8.75@8.80; pigs, \$8@8.25; mixed, \$8.75@8.80;

Spicer & R. sold Hammond, S. & Co. 64 av 190 at \$8.80, 120 av 160 at \$8.70.

Friday's Market. September 5, 1913.

Receipts this week, 1100; last week, 1447. Market steady at Thursday's prices.

We quote: Best dry-fed steers and heifers, \$8@8.50; steers and heifers, 1000 to 1200, \$7.50@7.75;

Receipts this week, 429; last week, 643. Market steady at Thursday's prices.

Receipts, this week, 681; last week, 4940. Market steady. Best lambs, \$7; fair to good do., \$6.50@6.75;

Receipts this week, 3134; last week, 3516; market 20c higher.

D. B. Zimmerman, of Pennsylvania, the largest individual operator in cattle in the United States, whose purchases in recent years in Mexico and in Texas have run upwards of 100,000 head;

Spicer & R. sold Parker, W. & Co. 1 weighing 250 at \$10, 2 av 135 at \$12, 4 av 150 at \$12, 3 av 206 at \$10, 3 av 156 at \$11;

Veterinary.

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

Advice through this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also name and address of writer.

Chronic Cracked Heels—Stocking.—My three-year-old colt had scratches last spring and on account of having to drive him in mud roads it took quite a while to heal sores.

Barren Cow.—I have a valuable Holstein cow ten years old, that gave birth to calf Jan. 7, 1913. She came in heat about the middle of March, bred her to a very sure bull, came in heat again for several times;

Navicular Lameness—Partial Dislocation of Stifle.—I would like to know where my mare is lame. She has shown lameness off and on in one fore quarter for the past two years;

Coffin Joint Lameness—Shoulder Weakness.—For the past two years my horse has been lame in left fore foot or shoulder and I would like to know what to do.

Abnormal Heat.—On August 4, my heifer dropped her first calf, seemingly cleaned properly, but she has remained in heat quite a portion of time since;

Laryngitis—Chronic Cough.—My nine-year-old horse had distemper last spring; since then he is inclined to cough occasionally, especially if much dust is blowing.

Worms.—We have a calf that has a good run of second crop clover and timothy, also fed milk night and morning, but she does not seem to thrive.

Maple Sugar Makers

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Warren Evaporator Wks., Warren, O.

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FARMERS—We are paying 5c above the Official Detroit Market for now-laid eggs shipped direct to us by express.

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HAY Potatoes, Apples. We pay highest market price for car loads.

Breeders' Directory—Continued.

SHEEP.

IT PAYS TO BUY PURE BRED SHEEP OF PARSONS, "the sheep man of the east;" I sell and ship everywhere and pay express charges.

Loicesters—Yearling and ram lambs from Champion flock of Thumb of Mich. Also select Berkshire swine.

SHEEP FOR SALE IN CARLOAD LOTS. PARKHURST BROS., Reed City, Michigan.

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My entire flock of Registered Rambouillet Sheep for sale at a bargain.

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CHROPSHIRE RAMS. Registered. Sired by Imp. Ninton ram. Quality for grade or registered flocks.

1st and 2nd Prize two-year-old Shropshire Rams 1912. Also good yearling Rams and Ewes for sale.

REGISTERED SHROPSHIRE—Rams and ewes for sale at reasonable prices.

SHROPSHIRE RAMS AND EWES FOR SALE. DAN BOOHER, R. 1, Marion, Michigan.

Shropshire Rams—Good ones cheap. Write before Aug. 15th for special proposition.

CHROPSHIRE rams 1 and 2 years old, and some extra good lamb rams, wool and mutton type.



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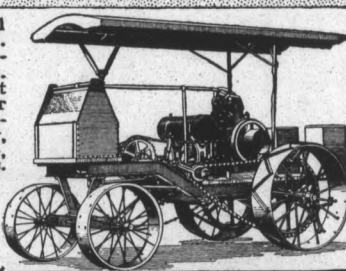


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NIAGARA SEED WHEAT
A white hard wheat that will yield 50 bushels per acre, and will stand the most severe winters, re-cleaned at \$1.50 per bushel, bags 25c extra, cash with order, no order accepted smaller than 5 bushels. **WOODCOTE STOCK FARM, Ionia, Michigan.**

SEED WHEAT
GOING WHEAT. A hardy variety of bearded red wheat. Stiff straw. Never lodges. Very productive. I have grown it for years. Write for sample and price. **COLON C. LILLIE, Coopersville, Mich.**

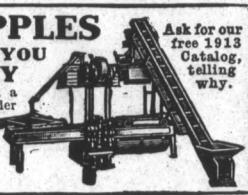
FALL PLANTING IS BEST—Our prices are the lowest on all kinds of Apple, Peach, Pear, Cherry, and other Trees and plants. Send for catalog at once and order for early fall planting. **Ernst Nurseries, Box 2, Moscow, O.**

SEED WHEAT RED WAVE A hardy, heavy yielding beardless variety. Send today for circular. **WALLACE BROS., Bay Shore, Michigan.**

Gold Coin Seed Wheat, cleaned, bald, 1913 crop over 43 bu. per acre, \$1.30 per bu. No. A bags free. **Muncytown Stock Farm, Flat Rock, Mich.**

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Be sure and see our exhibit at the Michigan State Fair. Main Building. **THE WING SEED CO., Mechanicsburg, Ohio.**

YOUR APPLES WILL NET YOU MORE MONEY
After you have installed a Monarch Hydraulic Cider Press. We are the largest mfrs. of presses, apple-butter cookers, evaporators, etc., in the country. **A. B. Farquhar Co., Ltd. Box 108, York, Pa.** Ask for our free 1913 Catalog, telling why.



Horticulture.

ORCHARD NOTES.

There is one plum which the San Jose scale does not seriously injure, and that is the Wild Goose. But that is not a good reason why northern fruit growers should plant it. If the scale does not want it, who does?

The Wild Goose is a name which carries confusion with it. The term is best known as applied to a variety of native plum. Had it stopped with that there might have been no objection to it, but it did not. It is also the name of a family or type of plums, so the result is confusion. The Wild Goose is a family of plums consisting of several varieties of which the most important is the Wild Goose, a condition of affairs which is continually resulting in mistakes.

While some varieties of the Wild Goose type are found among northern plums, the family for the most part belongs to the central region. Farther south is the Chickasaw group, which is classed as distinct from the Wild Goose. These are the distinctions made by pomologists, though the public does not always go to this trouble, but is, in reality, more concerned with varieties than with families.

In the central districts the Wild Goose variety is of commercial importance. It is medium in size, bright red and pretty on the outside. In regard to the inside, there is silence. But as it comes early it is tolerated for cooking by those who are hungry enough for plum sauce. So it has a place on the early fruit market in northern cities.

But the Wild Goose variety is not to be recommended for planting in northern orchards. The tree is hardy enough for the fruit district about the great lakes, but the fruit is not early enough to compete with southern plums, nor good enough to be given a place beside the northern varieties. Compared with Japs or Domestic it is very inferior.

The inferior quality is not the only objection to the Wild Goose plum. The type has the fault of the native American plums in being self-sterile. Plant one variety alone and the probabilities are that there will be little fruit harvested. The trees may bear a full crop of blossoms, but little fruit will be set and that will mostly drop early. Two or more varieties should be planted and these such as have an affinity for one another. This will explain why some of these native varieties have never borne well. There are no varieties of the right sort close enough at hand to pollinize the blossoms. They will continue sterile till there are trees of the proper sort at hand.

The sterility of the plum has been given careful study by American horticulturists, and is now well understood. Varieties have been tabulated, till now it is possible to tell at a glance what kinds should be planted together. Such information is of no little importance to the beginner in plum growing.

It is not alone the native American varieties that are prone to race suicide. The Japanese varieties have an inclination in the same direction. Such a statement will sound strange to those who have seen the heavy crops borne by Abundance or by Burbank trees. The fruit sometimes loads the branches till it looks as though there were scarcely room for another plum. Even the curculio is not able to thin the fruit enough. More than half drops off and then there is too much. A little sterility would be welcomed by the owner who has to pick off two-thirds of the green fruit in order that the remainder may be of some size. To be sure, these are the two most important of the Japs, but there are many other varieties and some of them are benefited by cross pollination.

The European or Domestic plums are not usually given to sterility, but are quite able to take care of themselves when planted alone. Yet even with them it is better to plant more than one variety. It seems to be a law of nature that plants are more responsive to the pollen of another variety than to their own. The rule may be carried a step farther and apply to individuals of a variety. A tree standing alone is not usually as productive as when there are two, even of the same variety. Of course, there are exceptions, and many of them. Sometimes a tree standing alone will make a record for potency that is rarely equaled, but these are the exceptions that do not disprove the rule. Freaks

must not be taken too seriously, whether botanical or human.

Besides the families into which plums are divided there is a long list of hybrids which have been produced by crossing these types. Such varieties are as much inclined to sterility as their parents, perhaps more so. Usually, these varieties are not of commercial value, except in limited localities, but some of them are large and of excellent quality. They are adapted to the home orchard of the plum fancier rather than to the commercial grower, though those who grow fancy fruit will find among them varieties which are profitable, as well as a pleasure to grow.

Oakland Co. F. D. WELLS.

ERADICATION OF PLANT LICE ON CABBAGE.

Such a season as the one we are experiencing now is one in which plant-lice thrive and do a great deal of damage. Plant-lice are especially present during dry cool seasons because such conditions are not conducive to the growth and rapid multiplication of their natural enemies. The larvae of the lady-bird, (often called lady-bug), feed on plant-lice and seem to prefer this diet to any other and so the lady-bird should be a welcome guest in the cabbage patch and should never be destroyed.

If one goes into a cabbage patch and finds the leaves curled up, he may be reasonably sure that plant-lice are at work and if the leaf is unrolled he may find three or four of these insects. In fact, I have found leaves curled and this curling seemed to be caused by a very few lice while other leaves completely covered with these insects were not curled.

Tear off a cabbage leaf badly infested with plant-lice and notice that there are plant-lice of all sizes and colors. The predominating color is green but some of the adults may be brown. If we disturb these tiny creatures, it will be seen that they are covered with a white powder which shakes off when they are disturbed.

The reader will soon begin to wonder how these lice get from one plant to the other as they seem to have no wings. In this insect we find an example of one which has both winged and wingless generations. The winged lice are the ones which survive the winter and in the spring the old louse lays her young, alive and wingless. For this reason we seldom see any plant-lice eggs on the leaves. Soon this wingless generation reproduces and gives rise to winged individuals, and so on until winter or an unfavorable season approaches, when winged individuals are again produced to withstand the struggle. These creatures have sucking mouth parts and are harmful because they suck the juices from the tender leaves of the cabbage and other economic plants.

Remedies.

Since the plant-lice have sucking mouth parts, the application of an arsenical would be of no avail towards killing the pests. On the contrary, we must apply as a spray, some substance which will kill by direct contact such as strong soap solution or kerosene emulsion.

The soap solution may be made by dissolving one pound of hard soap in five or seven gallons of water. The ingredients to be used for the making of kerosene emulsion are hard soap, one-half pound; water, one gallon; kerosene, two gallons. Dissolve the soap in hot water; take from the fire and while still hot add the kerosene. Pour the liquid back and forth from one pail to another for five or ten minutes till it becomes a creamy mass. If made properly, the oil will not separate out on cooling.

For killing plant-lice on foliage, the kerosene emulsion should be diluted with 10 to 15 parts of water. Either spray will rid the cabbages of plant-lice and save all affected plants. These remedies will also eradicate the creatures on other plants besides the cabbage, as the nasturtium, etc.

Ingham Co. I. J. MATHEWS.

The fruit show at the State Fair will afford an excellent opportunity to study varieties from the standpoint of perfection, as grown in different sections of the state.

ROCK PHOSPHATE

When you have learned that crops feed from the soil just as animals feed from the crops isn't it reasonable that there is a limit to the amount of plant food in the soil, and that with continual cropping the time must come when the soil will lack a sufficient amount of one or more of the essential elements of plant food to make its cultivation profitable. Soil surveys and experiments conducted by state and national have proved that the average soil of the Central and Eastern states are deficient in the element Phosphorus. The investment of \$1.00 per acre per year in Rock Phosphate will not only restore the Phosphorus removed in the crops but will increase the fertility of the soil till maximum crops are possible. Let us send you literature and prices. Mention this paper.

FEDERAL CHEMICAL CO.
GROUND ROCK DEPT. COLUMBIA, TENN.

Practical Science.

HOG CHOLERA.

History of Cholera.

Hog cholera has been recognized as a specific, contagious disease of swine for about a hundred years. The first authenticated outbreak in this country occurred in 1833, when large numbers of hogs in Ohio died from a disease which answers the description of hog cholera as we now know it.

This highly contagious disease has caused the loss of millions of dollars annually. It has been estimated that the losses during 1912 reached fifty million dollars. One state alone is said to have sustained a loss of ten million dollars from this dread disease in 1912. Although the heaviest losses from this scourge have been suffered in the corn-belt states, Minnesota has been losing large numbers of hogs from cholera during the past few years, especially in the southern counties. Minnesota has gradually been taking a place among the pork-producing states, and cholera has increased in proportion to the increase in her hog industry. The importation of hogs from infected localities of other states has played a prominent part in the spread of the disease not only in this state, but all over the country.

Cause.

Cholera was for a while attributed to several different kinds of germs found in the bodies of sick or dead hogs, but about eight years ago veterinary bacteriologists in the employ of the Bureau of Animal Industry of the Department of Agriculture, investigating the disease, came to the conclusion that hog cholera was not really due to any of the hitherto known organisms, but that it was caused by a germ of some kind which had never been identified up to that time. The germ is so small it will pass through the pores of the finest porcelain filters made, and has never been seen even with the most powerful microscopes used. Other facts bear out the truth of this conclusion. The cause of the disease is classified as a filterable virus and usually spoken of as such. Measles and scarlet fever of human beings, swamp fever of horses, and foot and mouth disease of cattle, are other diseases caused by filterable viruses.

Precautions.

Besides the actual cause of the disease, there are other factors which must be considered from a hygienic standpoint, in the prevention and control of the disease. If the vitality of a hog is weakened by being kept in poor quarters, by being improperly fed, or by being infested with parasites of different kinds, there is less chance to ward off infection. It is, therefore, of the greatest importance that the hog pens and yards be kept reasonably clean, well ventilated and drained; that proper attention be paid to the feeding, so as to insure the animals a wholesome, well-balanced ration; and that watch be kept for evidence of parasites, such as lung worms, lice and mange mites.

Symptoms.

While the symptoms of hog cholera are quite characteristic, they may vary considerably in different animals, outbreaks and localities. Hogs that are susceptible to cholera usually show signs of the disease in from one to three weeks after they have been exposed to infection. Sometimes no symptoms are noticed, but one or more hogs die suddenly without warning. The others will follow, showing some or all of the usual symptoms.

Loss of appetite is the first symptom usually noticed. The animal may lag behind the rest of the herd, show little or no desire for food, and drink large quantities of water on account of high fever. When he walks he has a staggering gait, and is very unsteady in his movements, especially in the hind legs. When he stands still, he frequently braces himself against a post or another hog, and often stands with the hind legs crossed. Diarrhea may be noticed but it is not always present, as the animal may be constipated, depending greatly on the kind of feed it has been receiving. Neither constipation nor diarrhea alone is enough to indicate the presence of cholera. The eyes are frequently inflamed and discharge a sticky mucus, which tends to glue the lids together. This is usually seen only in those hogs in which the disease runs a rather chronic course.

Redness of the skin is often noticed, especially in white hogs. The skin behind the ears, under the belly, and along the flanks is most frequently affected. As the

animal gets weaker and death approaches this reddish color changes to a purplish tinge. Coughing is often noticed, due to the lungs being affected by the disease. However, it should be remembered that lung worms, dust and a number of other causes frequently give rise to a cough when cholera is not present. Vomiting is sometimes observed, and indicates an inflammation of the mucous lining of the stomach. In slowly progressing cases this may go to the further stage of ulceration. Bleeding from the nose is sometimes seen just before death.

With the continued loss of appetite and diarrhea, the hog rapidly loses flesh and the flanks become quite sodden. The hog frequently stands with the head down, the back arched or humped, the tail hanging limply, the hind legs crossed.

If the temperature be taken, the thermometer will usually show quite a high fever, up to 107 or 108 degrees Fahrenheit. The course of the disease varies. The first animals stricken in the herd usually die very soon. As the disease progresses, the later cases do not die so rapidly and some hogs may develop a chronic form of the disease, and may not die for several weeks. Some may even recover, and such hogs are rendered immune against the disease for life.—H. Preston Hoskins, Ass't. Veterinarian, Minn. Sta.

(Continued next week.)

LABORATORY REPORT.

Filters vs. Pure Water.

Will you kindly help me with a bit of information? This town empties its sewage into the bay and takes water from the same bay. I don't like to use the water. What I wish to ask is this: Can I make a filter that will do to purify all the water I want to use, and if so, will you tell me how to do it? Or must I buy a filter instead of trying to make one; or won't a filter do at all?

Grand Traverse Co. M. G. G.

The writer of the above question surely asks a very pertinent one when he takes up the question of the use of water from a point near the outlet of a sewer.

We do not know from his question whether the current is such in that particular part of Grand Traverse Bay that the sewage is invariably carried in an opposite direction from the intake, but we should be inclined to look with some considerable skepticism upon any idea which suggests the use, for general drinking purposes, of water from Grand Traverse Bay, if a considerable quantity of sewage is in turn dumped into this bay, unless we were sure, as stated above, that the natural currents take proper charge of the sewage.

We do not know of any satisfactory filter which can be used to properly purify the water. The writer has not been willing so far to accept any filter on the market which has come to his attention as giving good results. In your particular case we should advise that water used for drinking purposes be boiled. This will destroy any pathogenic organisms present and if properly and carefully cooled will not be found unpalatable. The writer has used boiled water in his own family for over two years and while it is an inconvenience and an annoyance without question, still the feeling of safety that is carried by this procedure we feel amply repays us for the trouble to which we go. It is too bad indeed that in a country that abounds with such water as does the Grand Traverse region it should be necessary to look with suspicion on the water supply of any single place. Grand Traverse Bay ought to furnish a pure water and if it is not doing so because it is being pol-

CATALOG NOTICES.

"The Chatham System of Breeding Big Crops," is the title of a handsomely illustrated pamphlet published by the Manson Campbell Company, of Detroit, Mich. This fully illustrates and describes the Chatham devices for grading, cleaning and separating seed grain, and seeds of all kinds, as a means of increasing the production of farm crops. Every reader who is interested in this important subject should send for a copy of this interesting and instructive pamphlet.

Bulbs and Seeds for Fall Planting are listed in a handsomely illustrated catalog sent upon application by D. M. Ferry & Co., Detroit, Mich. All interested in flower culture should get a copy of this Webster's Secondary-School Dictionary. Full buckram, 8vo, 864 pages. Containing over 70,000 words, with 1,000 illustrations. Price, \$1.50. American Book Co., Chicago.

At Detroit
Sept. 15-20



Michigan State Fair

Mammoth Exposition of the Wolverine State's Industrial and Agricultural Interests.

\$100,000 in Premiums and Purses

Some of the many interesting Attractions:

CONQUEST OF THE AIR. Korn's Giant Tractor Biplane will carry passengers on daily trips to the clouds. Practicability of the air machine at last demonstrated. Thrilling and instructive.

HORSE SHOW. All the spectacular features of the Eastern Show Rings. Sensational feats of horsemanship. High steppers. Chariot Contests. Something worth while every evening.

AUTO RACES. Most powerful machines. World's most famous pilots. Oldfield, Mulford, Burman, Tetzlaff, Disbrow, Endicott. Competitions, and not merely exhibitions. Electrical timing Devices used insuring authentic time.

SPECIAL ATTRACTIONS. WORTHAM & ALLEN'S enormous circus. No fakes. Clean, wholesome entertainment. Music by WEBER'S Prize band every Afternoon and Evening. Thrilling fireworks display. Live stock competitions and parade. Gigantic exhibit of Michigan game birds in wooded surroundings.

RACING PROGRAM. Grand Circuit Races. With \$40,000 in purses. World's greatest Pacers and Trotters. Foremost Reinsmen. "Pop" Geers, Murphy, Cox and many others.

ACCOMMODATIONS. Tented City with all Sleeping Comforts and Properly Policed. Hospital and Rest Tents for the women folks and little ones.

ADMISSION, 50 Cents; Children, 25 Cents. Monday, Opening Day, Children 10 Cents.

Plan Your Vacation in Detroit at the

Michigan State Fair

Sept. 15-20, 1913.



Michigan's Greatest Fair

"Elephant Head" Rubber Boots are Selling Ten Thousand a Day

Ten thousand a day means this famous brand is giving absolute satisfaction. Out-selling all others—means that it is the strongest, toughest boot the farmer can get.

Made by the largest rubber company in the world, is proof that behind this popular boot is an organization that leads the others.



WOONSOCKET
ELEPHANT HEAD
RUBBER BOOTS

Insist upon "Elephant Head" Brand Rubber Boots. Made of the purest, finest gum cement known to science.

—made of extra strong duck.
—reinforced at every point.

All the best dealers carry "Elephant Head" Brand Rubber Boots in all lengths and you can depend on them to carry the best of everything.

WOONSOCKET RUBBER CO.
Woonsocket, R. I.

BONDS

BONDS SECURING POSTAL SAVINGS FUNDS

BONDS YIELDING 4% - 5% PAYABLE SEMI-YEARLY

BACKED BY CERTIFICATES FROM UNITED STATES TREASURY

CERTIFYING THEY PROTECT POSTAL SAVINGS BANK FUNDS

AVAIL YOURSELF OF THIS PROTECTION

SEND FOR OUR BOOKLET "BONDS OF OUR COUNTRY"

BONDS SENT TO ANY BANK OR EXPRESS COMPANY SUBJECT TO EXAMINATION

THE NEW FIRST NATIONAL BANK COLUMBUS, OHIO.

BONDS

SHERWIN-WILLIAMS PAINTS & VARNISHES



The weather wears out your wagons and implements faster than usage does—if you let it. The way to prevent it is to paint—not with odds and ends, but with paint carefully made of weather-resisting materials, scientifically ground and mixed. Such a paint is

Sherwin-Williams Wagon and Implement Paint

It spreads easily, covers well and sticks tight—adding years to the life of your wagons and farm machinery.

For every surface about the farm there is a specially made Sherwin-Williams paint, varnish or stain. If you want to know just what to get for your barns, your house, your floors, your woodwork or your furniture, and just how to use it, write for our booklet, "Paints and Varnishes for the Farm." We mail it free.

The Sherwin-Williams Company 669 Canal Road, Cleveland, O.



Poultry and Bees.

INTEREST IN POULTRY STEADILY GROWING.

When we speak of poultry on the farm nowadays we mean keeping hens and raising chickens. Because of certain conditions, other kinds of poultry are not raised in such quantities as in former years. The possibility of succeeding with turkeys seems to grow less and less each year, as favorable conditions are few and different diseases, notably blackhead, prey upon them, so the good farmer's wife who has been depending upon her turkey money for Christmas time is frequently obliged to look elsewhere.

One of the men who dispense poultry information from offices high up in one of the skyscrapers in New York city, gravely remarked a short time ago that poultry keeping on the farm is not a paying business, that there is too much expense for feed and labor. It is clear that such a remark could only come from a man who has had more experience in keeping poultry with his pencil than by coming in actual contact with it in a practical way.

It must be admitted that each and every hen were to have all that she consumes charged up against her, and if all the steps taken in looking after her were to be paid for at going prices, the outlook would not be flattering. But on the farm grow grasses which the hens nip off; grains are raised which the hens eat, and it is safe to say that they do not get their share of credit according to the profits which they return. Much of the labor is but an incident in connection with other duties, and when the money comes from the sale of poultry products it represents the prices at which the feed and labor were sold. Much of the feed picked up by the hens costs the farmer nothing and the hens should be credited with being an actual benefit to the place, for they are gleaners of things which would otherwise be a detriment, and the income from them is a benediction of blessings that bring comfort and actual happiness to the family.

Signs of Advancement.

Among evidences that poultry on the farm pays, we notice that upon many farms in all parts of the country improvement is steadily being made in the equipment for poultry keeping. On every hand we see better henhouses, bet-

intense interest taken by farmers' wives in the problems of feeding hens for best results. Instead of the hens being compelled to shift for themselves, gathering what they can find or steal from the growing crops which are within easy access, they are fed such feeds as are required to make bone, muscle, feathers and eggs. In other words, the bodily needs are considered and a sufficient amount of food furnished to sustain the body, with a liberal supply left over with which to make the eggs. By keeping pure-bred hens of the laying strains of the breed selected, and feeding carefully and continuously, a supply of eggs is had during the larger portion of the year.

These are reasons why we may take pride in what has been accomplished by the poultry raisers of the country. In taking the census, the professional poultry breeder cuts but a small figure. The products from flocks kept on the farm count for about all that is to be reckoned in the final summing up of the year's proceeds. The income from the flocks of poultry during an entire year aggregates upwards of \$700,000,000, a sum only second to the income from the dairy cows of the country, which exceeds \$800,000,000. Let us be not deceived by the pencil farmers, for we know whereof we speak when we say that poultry raising on the farm, if well managed, is not only profitable but one of the farm's best paying branches.

Wayne Co.

N. A. CLAPP.

EVERY FARM SHOULD HAVE SOME BEES.

Bee-keeping is one of the most interesting rural industries. Once commenced, it continues to please and increase until you find that you are deriving no small income from this source every season. For money invested, bees are much better dividend payers than the farm itself.

There are thousands of acres of excellent bee pasturage going to waste annually, also many orchards and clover fields that would produce a much larger and better crop of fruit or seed if bees were in their locality in sufficient numbers to effect perfect fertilization.

How to Make a Start.

I advise the buying of bees in your own locality. Black or brown bees in

Running Water

In House and Barn at even temperature Winter or Summer at Small Cost. Send Postal for New Water Supply Plan. It will bring you 100 pictures of it in actual use. Do it Now. Aermotor Co., 1144 S. Campbell Av., Chicago. Aermotor Co., 2d and Madison Streets, Oakland, Cal.



AMERICAN INGOIT IRON ROOFING

GUARANTEED FOR 30 YEARS. Money back or a new roof if it deteriorates or rusts out. No painting or repairs required. Our Indemnity Bond protects you. Costs no more than ordinary roofing. Write for big illustrated book FREE. The American Iron Roofing Co., Station G, ELYRIA, OHIO.

WANTED.

At once a few men, who are hustlers, for soliciting. No experience necessary. Good salary guaranteed and expenses paid. The work is dignified, healthful and instructive. In writing give references and also state whether you have a horse and buggy of your own. Address BOX J. F., Care Michigan Farmer, Detroit.

WANTED—Men and women for Government positions. Examinations soon. I conducted Government Examinations. Trial examination free. Write, OZMENT, 17 R. St. Louis.

POULTRY.

Barred Rock Cockerels and Hens, Bargain Prices W. C. COFFMAN, R. No. 6, Benton Harbor, Mich.

BARGAINS. Best strains S. C. W. Orpington breeding stock at greatly reduced prices, also half grown cockerels and pullets. Mrs. Willis Hough, Pine Crest Farm, Royal Oak, Mich.

Prize Winning Barred Rock, R. I. Reds, Mammoth Pekin and L. Runner ducks. Stock for sale. Eggs \$1.25, \$2.00 per set. Utility \$5 per 100. ELMWOOD FARM, R. R. No. 13, Grand Rapids, Mich.

COLUMBIA Wyandottes. Winners at Chicago, Grand Rapids, South Bend and St. Joseph. Stock and eggs. RICHARD SAWYER, Benton Harbor, Michigan.

SILVER LACED, golden and white Wyandottes. Eggs for hatching at reasonable prices; send for circular. Browning's Wyandotte Farm, R. 30, Portland, Mich.

LILLIE FARMSTEAD POULTRY B. P. Rocks, R. I. Reds, and S. C. W. Leghorn eggs for sale. \$1.25 for \$1.50; \$2.50 for \$3.50. OOLON C. LILLIE, Coopersville, Mich.

White Wyandottes—Noted for size, vigor and egg production. 1913 circular ready in February. A. FRANKLIN SMITH, Ann Arbor, Mich.

DOGS.

HOUNDS FOR HUNTING Fox, Coon, Skunk and Rabbits. FERRETS Send 2c stamp. W. E. LECKY, Holmesville, Ohio

FOX AND WOLF HOUNDS of the best English strains in America; 40 years experience in breeding these fine hounds for my own sport. I now offer them for sale.

Send stamp for Catalogue. T. B. HUDSPETH, Sibley, Jackson Co., Mo.

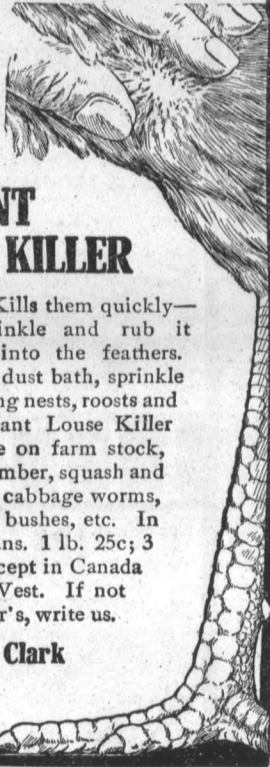
Don't Let Lice Get Hold of Your Flock

—to breed, cause endless irritation and all manner of skin diseases and sore spots. Take quick steps to get rid of lice.

Dr. Hess INSTANT LOUSE KILLER

Kills Lice. Kills them quickly—surely. Sprinkle and rub it thoroughly into the feathers. Put it in the dust bath, sprinkle it in the laying nests, roosts and cracks. Instant Louse Killer also kills lice on farm stock, bugs on cucumber, squash and melon vines, cabbage worms, slugs on rose bushes, etc. In sifting-top cans, 1 lb. 25c; 3 lbs. 60c. Except in Canada and the far West. If not at your dealer's, write us.

Dr. Hess & Clark Ashland Ohio

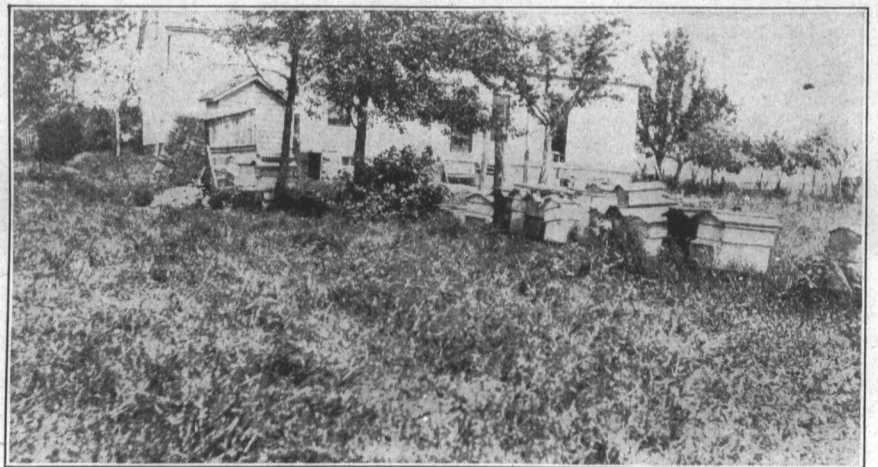


CARBO FLEXIBLE STEEL POSTS

Anchor direct in earth. Flexible line posts. Stiff corners. No concrete and no special tools. CARBO STEEL POST CO. 153-10th St., Chicago Heights, Ill. FREE Booklet

If your Leg Cut Off you would insist upon the wound being carefully dressed and cared for; why not give the same care to the minor injuries of daily occurrence? The danger of blood poisoning is as great in one case as in the other. Use OXALBITOL for dressing wounds, it is an antiseptic dressing that has merit and is sold by mail only. Price 35 cents. Money returned if not satisfied. OXALBITOL CO., Honesdale, Pa.

LEARN TELEGRAPHY—Positions guaranteed Catalogue free. North-Western Telegraph School, Eau Claire, Wis.



A Farm Apiary which, though neglected, Pays its Owner Well.

ter parks and runs for the hens to spend the days in, more attention paid to securing a supply of pure water and to furnishing shelter from the burning sun in summer. More attention is being paid to cleanliness in and about the houses, and a rigid warfare is being waged against parasites and diseases that annoy and would destroy if they were not held in check by means known to be effective.

Another evidence is the appearance of the flocks themselves. In the place of dunghill hens that had but little to recommend them, except that they were hens, and cross-breeds of all colors and varying characteristics, there are flocks of pure-bred hens, all of the same color and distinguishing characteristics, all bred for the purpose of making the most of the feed they consume and yielding in return a generous supply of eggs. In many cases we find the flocks all Plymouth Rocks, Rhode Island Reds, or Wyandottes, breeds from which broilers can be profitably raised, or good-sized, plump chickens for the general market.

Still another evidence of profit is the

boxes may be purchased in most localities for \$2 to \$4 per colony. These may be quickly changed to the more profitable and gentler race—the Italians—whenever you wish.

Care should be taken when moving the bees to your place. Take off hive cover and tack a wire cloth over entire top of hive. If weather is cold, stop up entrance entirely, but if it is warm weather, cover the entrance with wire cloth. Then nail cleats on sides of hive (use nails that won't go through into the inside) to hold parts together, and cover the entrance so as to be sure that all bees are in the hive. Use an easy riding vehicle for hauling the bees and drive so as to avoid any sudden jerks or drops, as comb inside the hive is liable to be broken.

When safe at home, the next thing is to transfer them into the more profitable modern hives, if they are not in good ones that are up-to-date. New hives can be bought in the flat, five in flat box, and, by having one set up as a pattern, you can nail them up and paint them yourself.

Shiawassee Co.

N. F. GUTE.

Farmers' Clubs

OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

President—Jas. N. McBride, Burton.
 Vice-President—C. B. Scully, Almont.
 Secretary-Treasurer—Mrs. C. P. Johnson, Metamora.
 Corresponding Secretary—Mrs. Wm. T. McConnell, Owosso.
 Directors—C. P. Johnson, Metamora; H. W. Chamberlain, White Lake; Wm. T. Hill, Carson City; Jerry Spaulding, Belding; R. J. Robb, Mason; J. F. Rie-man, Flint.

Associational Motto:

The skillful hand, with cultured mind, is the farmer's most valuable asset.

Associational Sentiment:

The farmer, he garners from the soil the primal wealth of nations.

OUTSIDE TALENT FOR THE CLUB PROGRAM.

Perhaps the most valuable influence of the Farmers' Club upon any community lies in its educational influence upon the members of the Club. Through the discussions which occur in the local Clubs the members learn to express their thoughts logically in public, which in itself is a most valuable acquirement and one which too many farmers as well as too many people in other callings have not had the opportunity to cultivate to an extent which would make them either fluent or logical talkers.

We believe that in the Farmers' Club will be found as many men, and women, too, for that matter, who are able to give forceful and logical expression to their ideas as would be found among a similar number of men and women in almost any other calling in life which does not, from its very nature, develop this faculty. But for best results in an educational way, as well as along with the development of a better faculty for the expression of ideas, there should be a corresponding development of ideas.

Too often the ideas expressed in discussions of this kind are based upon preconceived opinions without regard to the fact that a more careful study and painstaking investigation of the subject under discussion might oftentimes lead us to change our ideas very materially. By way of illustration, the writer will refer to a very well remembered incident in his own experience.

The Farmers' Club of which he was a member was honored by the presence of a man who had long been identified with the Club work and was known throughout the state as a leader in this line of work. At the time of his visit he had also been honored with a responsible public trust and naturally was asked to address the Club along the line of the duties and responsibilities which that trust involved. Now, the writer had very strong preconceived ideas upon this same subject, and notwithstanding the fact that he knew the visiting gentleman to be a man of the highest integrity and a student who was undoubtedly far better informed than himself upon this particular line of thought, at once plunged into the discussion and took issue with the visiting speaker by the expression of very radical ideas—preconceived ideas, of course. It so happened, however, that a few years later the writer found himself in identically the same position that the visiting speaker of the Farmers' Club of which he was a member was in upon that occasion and the reader may be assured that it did not lighten the force of the criticisms which were made of his position upon similar issues, to remember that he, himself, had expressed the same radical views and the same harsh criticism upon that former well remembered occasion.

For this reason it will be profitable to have outside talent appear frequently upon the program of the Farmers' Club, since this will insure the bringing of fresh ideas into the discussion and the expression of different viewpoints from those held by the members and which have probably often been heard in the Club. This cannot help but have a broadening influence upon the members and be a strong factor in the development of their ideas, particularly along lines involving questions of public welfare.

There are also other reasons which are worthy of consideration why it is profitable for any organization of this kind to frequently employ outside talent in its discussions, which reasons will be presented in a future article upon this topic.

Grange.

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

THE SEPTEMBER PROGRAMS.

Suggestions for Second Meeting.

Song by children of the Grange.
 Roll-call responded to by each member mentioning the name of some person whose home he passes on way to Grange, who does not belong to the Grange.
 How did you start in life for yourself? Answered by two men and two women.
 Shall father and mother move to town when they cannot work as they once did and children are grown? Why, or why not?
 Some things a retired farmer and his wife may do for their community. Discussion.
 Short farce.
 Light refreshments, served by the "bachelor girls" of the Grange.

AMONG THE LIVE GRANGES.

Calhoun Has New Subordinate.—About a month ago the preliminary steps looking to the organization of a Grange at Partello, Calhoun county, were taken by Deputy Master C. J. Miller, and Saturday night, Aug. 23, saw the completion of the effort, Partello Grange being added to the roster under especially favorable conditions. Partello being located near the county line, the patrons of Charlotte Grange, of Eaton county, and of Rice Creek Grange, of Calhoun county, united in helping along the formation of this Grange. These and other neighboring Granges have volunteered to exemplify the various degrees for the benefit of the new Grange in the near future. Deputy Miller, assisted by Mrs. Miller and several from Rice Creek and Charlotte Granges, installed the new officers as follows: Master, E. H. Luff; overseer, Mrs. E. H. Luff; lecturer, Grace Thomas; steward, G. W. Allen; assistant steward, V. Thomas; chaplain, E. C. Schneider; treasurer, W. C. Butterfield; secretary, Ivah Oxby, R. F. D. 5, Olivet; gatekeeper, Clyde Bahmer; Ceres, Mrs. Bessie Oxby; Pomona, Hazel Keating; Flora, Gladys Allen.

Gratiot Pomona held a highly successful meeting with Arcadia Grange, Saturday, Aug. 23. Among many excellent program features may be mentioned a very instructive talk on "Flower Gardening," by Mrs. Francis King, of Alma. She said that the greatest reward in flower growing is found in the work itself. Then she told of their garden club in Alma and its work, extending a cordial invitation to all to be present at its next meeting. Specimens of gladioli, which had been grown by members of the garden club, were shown by Mrs. King, some of which had attained a height of more than five feet. She also presented packets of seeds from her own garden to the ladies present and was given a vote of thanks by the Pomona for her helpful contribution to the program. State Master Ketcham held the close attention of the patrons for more than an hour, his talk being full of suggestions for more progressive Grange work. Every Grange, he believes, should plan to take up some line of work which will benefit its membership and the community in an educational, social or financial way, and then strive to carry out that plan. He especially urged that the Grange begin the use of the parcel post C. O. D. for delivering produce, holding that a general rational use of that system will spell the beginning of the end of the high cost of living.

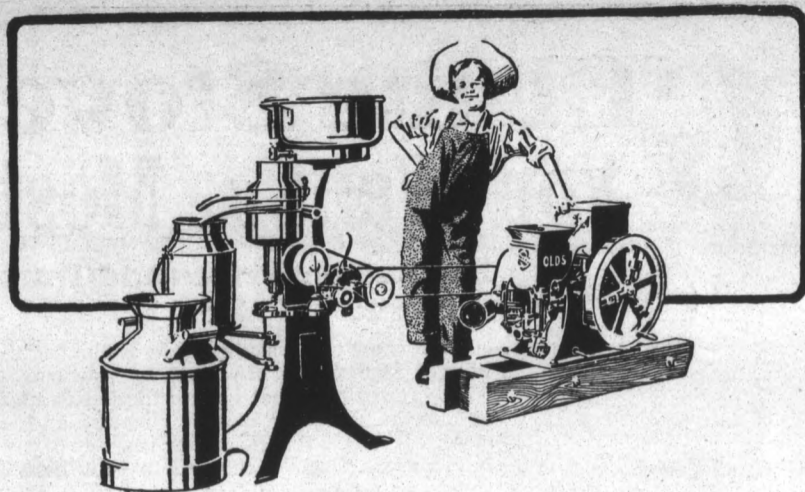
THE GRANGE IN OTHER STATES.

State Master Wolcott, of Kentucky, has recently resigned, due to his desire to make a tour of foreign countries for the benefit of his health. For a period of 40 years Master Wolcott has been active in promoting the interests of the organization in his state.

Oregon State Meeting.—The meeting of the State Grange held in Oregon during the month of May found the state with a total Grange membership of 10,182. Twenty-nine of the state's 33 counties are now organized, containing a total of 188 subordinate Granges in good standing. A class of 118 received the sixth degree, and the delegates chose Monmouth as the place for holding the next annual meeting. Among the most important of the questions considered and acted upon at this meeting the following may be mentioned: Favoring the use of soldiers from the regular army in the protection of the national forests; favoring a state industrial school for girls and the introduction of the study of domestic science in the public schools; favoring the loaning of United States postal deposit money to holders of real estate at four per cent on half the appraised value of the land. The committee on legislation reported in favor of abolishing the state senate, and this resolution brought out considerable discussion, but when the vote was taken only 11 votes in opposition to the proposition appeared. An amendment to the by-laws was proposed to the effect that the referendum privilege should be granted to the members of the Order on actions of the State Grange on any measure that might come before it. It was discussed at great length and was finally adopted.

COMING EVENTS.

Pomona Meetings.
 Clinton Co., with Wacousta Grange, Wednesday, Sept. 17.



Paying Engine Combinations

We've made it easy to pick out your engine and the machines that you'll run with it. We have most of the machines you'll need, in sizes to fit your engine—and we have just the size of engine you'll need, from 1½ to 35 horsepower, gasoline or kerosene. Consider these suggestions—then ask our dealer to make up a complete outfit for you. Just for example:

Size of Engine	Machines
1½ h.p. up	Rumely Pressure Pump Rumely Pump Jack Dynamo, Saw, Etc.
3 h.p. up	Rumely Saw-Rig Rumely Grain Dump Rumely Sheller No. 2
3-5 h.p.	Rumely Baler, Junior Rumely Feed Mill
6 h.p.	Rumely Baler—Standard
4½ h.p. up	Rumely Sheller No. 4B
8 h.p.	Rumely Silage Cutter
6-10 h.p.	
15-35 h.p.	

Also Bigger Engines Bigger Rumely Machines
 Send for "The All-Round Power Plant". Ask our dealer in your town for the GasPull Data-Book, or the Olds Engine Data-Book, or a special book on each other machine.

RUMELY PRODUCTS CO.

(Incorporated)
 Power-Farming Machinery
 Battle Creek, - Michigan.
 La Porte, - Indiana.

Tractor Combinations too, a GasPull or OilPull Tractor, 15 drawbar, 30 belt horsepower, with Rumely Corn Sheller, Advance Husker-Shredder, Rumely Hay Baler, Advance Silage Cutter.

This boy could learn to run our tractors. So could you.

793

Tile Your Farm!

Increases Crop Profits 25%

Don't put it off any longer. You are losing hundreds of dollars every year by farming land that is not thoroughly tilled. Hundreds of farmers are using

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YEARS AGO the Kalamazoo Stove Company began manufacturing stoves in a small factory in Kalamazoo. The factory was small, the capital limited.

The company had two things to distinguish it from hundreds of other small factories that have ventured into the stove business and gone on the rocks.

The heads of the company were counted the best stove builders in America. Not the best stove sellers, but the best stove makers.

And the Kalamazoo men had something else. They had a faith in the people that was the "joke" of the stove industry. They proposed to sell every stove they made on 30 days' Free Trial and a year's Approval Test. They said to the people—

"Here, you take the stove we have made, set it up in your house, use it. If it isn't the greatest stove bargain you ever saw, send it back and we'll pay the freight both ways and return all your money."

Other stove makers grinned. They gave Kalamazoo six months to live. They didn't think any company selling on that liberal basis would last long enough to be real competition.

But the "Direct-to-You" Stove Factory began to grow—and kept on growing. It kept on making fine stoves, ranges, gas stoves, oak heaters, and finally furnaces, and sending them out for the approval of the people.

TODAY Kalamazoo Stove Company is the wonder of the whole stove industry. The company's faith in the people has proven a magnet drawing stove buyers by the hundreds of thousands.

And today, as at the beginning, the Kalamazoo Stove Company is a company of stove makers, not salesmen.

Today the stove world is again looking toward Kalamazoo. People are looking to Kalamazoo for ideas in beautiful stove design, for suggestions in new ways of fuel saving, for stove men to man other stove factories.

From being an experiment, the Kalamazoo Company has sprung to leadership in the whole stove world. From having just faith in the people and a remarkably generous open-handed sales plan to recommend it, the company has come into a broader leadership. Today, Kalamazoo quality of material, Kalamazoo design and Kalamazoo finish is standard throughout the stove world.

And today, as at the beginning, the Kalamazoo Stove Company puts its faith in the hundreds of thousands of Kalamazoo Stove users and in the millions of Americans that will be Kalamazoo users in the future.

The company comes to you, the buyers, without slick salesmen, with a giant stove factory, with a splendid trained force of stove makers and, as at the beginning, says to you—

"Forget the salesman's talk, forget this talk. Get a Kalamazoo Stove Catalog and select the stove or range you need and like from among the 400 shown; then have it sent into your own home, on free trial, freight prepaid, and decide for yourself."

KALAMAZOO Stoves are really sold in the factory, when the workman puts in extra time to make the stove right so it will stand the free trial test. They are sold in the designing room, where our trained artists work and study to get strength and beauty into design. They are sold in the foundry, where the brawny workmen use a higher grade mixture in the castings than does the company which has smooth salesmen to cover up the workingman's carelessness.

And most of all Kalamazoo Stoves are sold in the American home, where the woman and the neighbor woman, the father and the children can pass judgment on the stove in use, knowing that if it isn't up to the Kalamazoo advertisements and Kalamazoo High Standards, they are free to send it back to Kalamazoo, freight collect, and keep every penny of their money.

The Kalamazoo Stove men publish a wonderful book of stoves. In it is every kind of stove you may want, and at surprising prices. It is the same kind of a book (with new design and new stove information) that started hundreds of thousands of other people on the right stove way.

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