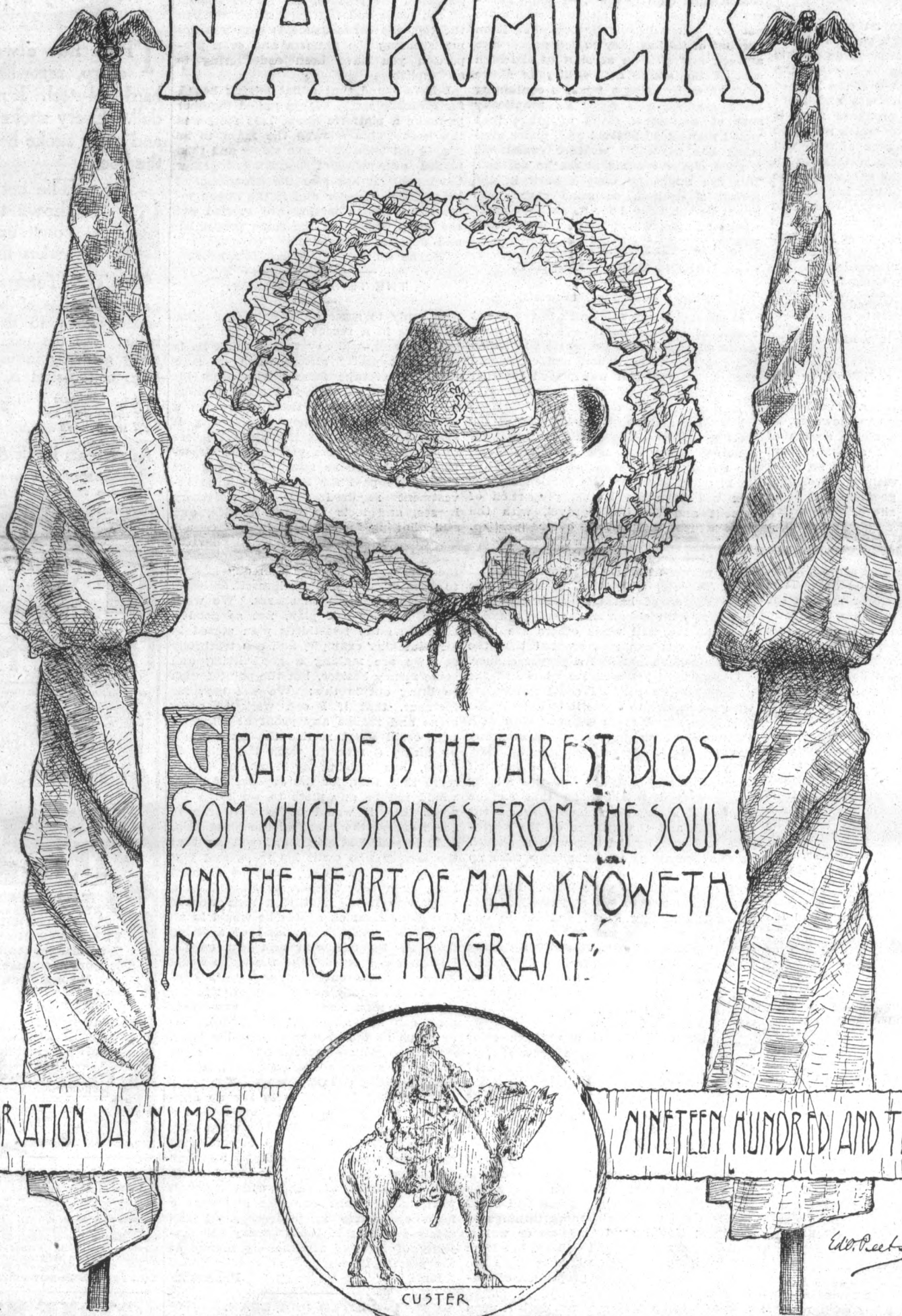


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THE MICHIGAN FARMER



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DECORATION DAY NUMBER

NINETEEN HUNDRED AND TEN



CUSTER

Ed. Reetz

FARM NOTES.

A Substitute for Hay.

Would you please tell me through the Michigan Farmer what would be a good crop to raise to take the place of hay, as my meadows are so light it will not pay to leave them? I have raised millet but do not like it for horses. Do you know of anything else?

Wayne Co.

SUBSCRIBER.

None of our common forage plants which can be sown or planted at this season of the year make a very good substitute for a hay crop. On soil suited to them, oats and peas make a fairly good substitute for clover or mixed hay, but they should be gotten in early for good results. Soy beans can still be successfully grown for hay, but where one is not familiar with a crop it should be tried experimentally before being used as a dependance for forage to maintain the farm live stock. Where no earlier provision has been made for a surplus of forage, there is nothing better to do at this season of the year than to increase the area planted to corn. Corn is the king of forage crops for this climate and more feed per acre can be produced from it than from any other crop which might be grown. Increasing the area of corn will break up the regular crop rotation in an undesirable way and make necessary some definite plan for the future handling of the fields so used. However, this is an after consideration not involved in this inquiry, so we will not attempt to discuss it in this reply.

Eradicating Milkweeds.

I have a 15-acre field of sandy soil that is over-run with milkweed. What would you recommend as a remedy? I have been thinking of sowing it to sweet clover and letting it re-seed itself for several years. Do you think it would smother them out?

Kent Co.

R. B.

Milkweeds are rather difficult to kill, owing to the fact that they spread from root stocks which lie at a considerable depth in the soil. They can, however, be successfully killed by a single season of thorough cultivation, not allowing them to appear above the surface, as no plant can survive for long without developing leaves. Another very good method is to pasture the field with sheep, since sheep like a variety of feed and will trim the stalks of their leaves quite effectually. The writer once eradicated a rank growth of milkweeds in the edge of a swamp adjoining a pasture field in this way. It is improbable that sweet clover used in the way suggested, would smother them out. Many farmers object to sweet clover as a weed, but, in the writer's opinion, it is worth experimenting with as a forage plant and if sown should be cut for hay before it reaches a fibrous stage of growth. It would be better to try it on a small scale and sow the balance of the field to alfalfa, if the soil is sufficiently fertile, although alfalfa can not be considered a sure crop in most sections of our state. All things considered, probably summer fallowing this field, or planting it to a cultivated crop from which the weeds are kept thoroughly in subjection would be the best way of handling it.

Seeding Worn Land to Clover.

Will you kindly give me a little help on solving a problem on a certain field I have been trying for two years to get a crop of clover on? This field is a gravel soil (not sand) but has been cropped for many years without putting any manure on to assist it, until it is considerably run down. If I could get a good catch of clover would turn it under and bring it up from that. Last fall I sowed to rye and seeded. The rye has come on good and bids fair to be a good crop but the clover is a failure. Would it be a good plan to wait until about June 1 to 15 and then plow the rye under, then keep it worked well until late enough to re-seed to rye, then seed it again with a mixture of seeds, or would it work to sow winter vetch about August and pasture that for a few years, then come back to the clover? I care nothing for the crop of rye now growing, and have plenty of stock to pasture it for say two years. One party recommends plowing in the fall and at the same time seeding to clover, (that is, to sow the clover and plow under). Kindly give me some light on the subject.

Ogemaw Co.

W. H. S.

The uncertainty regarding the weather which may prevail during the season makes it difficult to advise intelligently regarding the best method of handling a field of this kind in order to get it seeded to clover. If it were plowed soon, a good seed bed prepared and the moisture conserved by working it after each rain, it might be seeded with success by sowing to clover and timothy early in August, either with or without a cover crop, as might be desired. The rye that is plowed down would furnish some vegetable matter and the continued working would make such plant food as is in the soil available for the young plants as soon as the seed was sown. Then this thor-

ough preparation of the seed bed would kill the weeds which would spring up near the surface, giving the grass the best of opportunities to get established. The only question about the success of this plan is having the clover get large enough to withstand the winter successfully. We know of one farmer who has uniformly secured good results from this plan. This man sows about one peck of rye per acre at the time of seeding to afford some cover for the grass and states that he has secured very good crops of rye from this thin seeding and has never lost a clover seeding when he has followed this plan. All things considered, we believe this would be the best method of treating this field to be sure of getting it seeded so as to afford pasture next year. Vetch is a valuable soil builder and is considered a good crop to grow, by some farmers who have tried it, although others are not nearly as enthusiastic regarding it on account of its tendency to degenerate into a weed and also on account of the high cost of the seed. By seeding as above advised, or by using a mixture containing more grasses, you could be practically sure of getting a stand of grass that would make good pasture and, under anything like favorable weather conditions, a good clover seeding might be secured. The rye might be clipped back in the spring if desired, or some cover crop might be substituted for it, such as buckwheat or oats, which would not live over winter.

MAKING GOOD CONCRETE.

Proper Mixing of Materials.

Much faulty concrete work is the direct result of mixing, as I have found hundreds who condemned concrete when they did not give it a chance, and considered that if the material was placed together in a haphazard fashion it was enough.

If the materials are not evenly mixed while dry, and so preserved during the wetting process, the result is that your concrete work will not be satisfactory, for the cement and aggregates will each be bunched together, one portion of your mix will have the largest proportion of cement and too little gravel, with the opposite result in the other portion. This leaves weak spots in your concrete which will crumble, as you have not given proper attention to the mixing. If your concrete, when dry, is not of the same degree of hardness throughout, if you can, with a hammer, easily crumble spots of the wall while others are hard and firm you can rest assured that the materials have not had a proper chance.

I have used 1:3 concrete which, at the age of three months, I could not batter with a hammer to cause it to crumble, in fact have struck it an ordinary blow with a heavy hammer and without causing any marked effect.

To secure an even mix, place one-half your sand and gravel upon the mixing board, spread this out as thin as the board will allow; now place your cement upon this and the balance of the aggregate and mix by turning with a shovel. In this operation, do not simply take up a shovelful and dump it down again, as that only increases your labor. Lift the shovel from two to two and one-half feet above the mixing board and tip to one side, the result is the sand, gravel and cement pours down in a stream, mixing together as it falls to the board. This is no more work as, with a little practice, you can do it as rapidly as you can in any other way and with one-half the labor of mixing.

The mass should be a uniform color when mixed and before the water is supplied. If you can find spots in same of clear sand you can rest assured that those spots will be weak in your work and if you do not mix until the whole mass is uniform, of one color and density, the fault is yours.

The number of times that the mass is mixed dry must depend upon the condition of the sand; when this is dry the mass requires less turning and will be of uniform color with but three turnings or mixings; if the sand is damp or wet it will not mix evenly and will require from six to seven turnings to bring it to the uniform color and even proportion of materials.

In adding the water do not dash it upon the mass with a pail but use a hose with a sprinkler nozzle or an ordinary sprinkling can. The reason is simple, when a heavy stream of water is used it washes the fine particles of cement and sand away from the coarse gravel and undoes the work you have done in mixing. When the water is applied in a number of fine streams you cover a greater space and

the whole mass is evenly wet; you can thus regulate it so that it is not slushy at one point and dry in another, but thoroughly wet and in the same degree over the entire mass. It may seem wrong to state that you can wet a batch of concrete quicker with a sprinkling can than with a pail, but a trial will prove to you that this is a fact; you can place the water faster with a pail but it does not reach a large part of the mass, while other parts are too wet and in attempting to remedy this you require more labor than to employ the sprinkling can, which insures you an absolutely even wetting.

Again, some imagine that a box is the proper thing to use in mixing concrete and while it does well, yet to employ the hoe you must wet the mass so that it is slushy and the result is that your heavier particles, the pebbles, are in the bottom of the mass and the finer material upon the top, the consequence is that you are not securing the uniform and even proportion you have been endeavoring to accomplish.

I have found that a flat mixing board, for ordinary work, boards nailed together to make a platform about 7x12 feet, was the best. This allowed the mass to be spread out upon the same thinly and then turned over without bunching together too much. It has also the advantage of being much quicker and if the above instructions as to mixing are carried out the mass will be of the same proportion and density throughout.

Wayne Co.

A. A. HOUGHTON.

THE TENANT FARMER.

In reply to some of Edward Hutchins' questions in a recent issue of the Michigan Farmer, will say that I think he is putting it pretty strong when he says that the average farmer who owns his farm unincumbered is just about making both ends meet. If there ever was a chance to make money at farming it seems to me that at the present prices of all kinds of farm produce the opportunity is before us now. Admitting the high price paid for labor, the large investment required for the necessary horses, and tools to work it with, and still allowing for some ill luck, I cannot see why, if there is any money made in hiring a man to work on a farm why there is not money for this day laborer to farm it on shares for himself.

I farm 160 acres on shares. We work it on the one-half plan, not so good a chance as the two-thirds plan stated in Mr. Hutchins' example, and can truthfully say we are making a good living and some money besides, but the point I wish to bring out is this: We will say, for instance, that if I can work 80 acres alone and realize any profit at all, then why could I not realize the same profit by hiring a man to work the other 80 acres, thus doubling my income or a little more than that, for the expense of living would not be any more to work the 160 acres than it would be to work the 80 acres except the board of the hired help.

As to your last question, I will say that the farmer who owns his farm, and just barely makes a living, must be in hard luck, or a poor farmer, or located on a very poor farm. But if a man worked this same farm on shares he would in all probability make some kind of a living from it, for the wear and tear on the buildings and fences, and the taxes would have to come out of the owner's one-third. Or, I may as well say that in my opinion a man renting on the two-thirds plan can make nearly, if not quite, as much as the man who owns his farm.

The majority of married men working today for someone else on the farm just make a living and that is all. Not many of them find it possible to lay up anything. If they can't make more than a living now, what will they do when they get old? My advice is to any married man who works on the farm, and can scrape up enough money to get him an ordinary outfit to farm with, to quit working for someone else and rent a farm on shares in preference. I can safely say that in Ionia county the majority of farmers are making money at the present time.

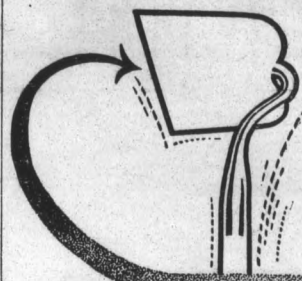
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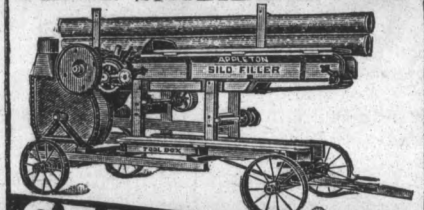
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ALFALFA IN MASON COUNTY.

In traveling over the greater portion of Mason county during the past two weeks, I was forcibly impressed with the number of alfalfa fields. The townships of River-ton and Eden just south of Scottville seem to be the alfalfa center of the coun-ty. Here the soil is a sandy loam, rich when kept up, but easily run. Some por-tions are very light, and on some of the lightest soil I saw fine alfalfa growing. Two farmers had 25 acres and over, and many had from two to ten acres each. We saw many new seedlings, and heard of many who were preparing to sow this year.

Seventeen years ago, S. W. Harley, four miles south of Scottville, began growing alfalfa. I spent two most interesting hours with him in his alfalfa fields, ex-aming plants and roots, measuring with rule, and getting his experience. He is a "skeptical," an "unbeliever" in the gener-ally accepted doctrine of inoculation and liming of soils for alfalfa. He never inoculated or limed his land, and yet this last year he cut and sold 125 tons from twenty-five acres besides saving some to feed. He believes that if the soil is rich, is thoroughly prepared, is free from weed seed, and the seed sown early, success is assured. Without it failure seems cer-tain, and he had his failures in his early experience. Given this thorough prepara-tion, he asserts that whatever there is in inoculation and liming he does not need them on his farm, or at least that they take care of themselves, and his success seems to bear him out in his theories. Yet he has never tried either, and does not know whether he would be benefited by them or not. We examined roots in both his old and new seedlings, and found the nodules, numerous on some plants and only a few on others. While he had early failures in seeding, he seldom has a failure now, and attributes those early failures to lack of richness of soil, weeds and poor preparation of the seed bed.

We examined a field seeded last year that had never been sown to alfalfa be-fore, and found the nitrogen gathering bacteria present. This field had been en-riched with barnyard manure made from alfalfa fed hay, and it may have been in this way the field had been inoculated. It stood nine and ten inches high (April 20), was of a dark green color, indicating plenty of nitrogen. It is also a nice even stand, and gives every indication of a good crop.

From Harley's we tramped back across the section to the farm of Marvin Young. Last year he enriched a field, and kept the weeds down until the last of May when he seeded with 20 lbs. of alfalfa without a cover crop. He got soil from an inoculated field, and sowed on his field prior to seeding. He clipped twice last year, was not bothered with weeds, and secured a fine stand. He sowed no lime. This field seems thoroughly inoculated, is of a dark green color, stands ten inches high, and looks fine. He also seeded by mistake, thinking he had red clover seed, a half acre hog-run in the orchard that had no special preparation for alfalfa. We could pick out quite successfully plants that were inoculated and those that were not simply by the difference in their color and size. Many of the plants there were inoculated, however, but by far the greater number were not, leading me to believe that the bacteria is not native to the soil. We could find occa-sionally a thrifty dark green plant that had no nodules upon it, but none of the sickly yellow plants had nodules upon them.

Mr. Young has three acres more that were enriched with manure last year, planted to beans, and kept clean of weeds, which he will sow to alfalfa this year, with a cover crop of barley. He will cut the barley for hay, believing in this way he will secure just as good a stand of alfalfa, and not lose the use of his land this year. He is also going to try liming a strip across the field in order to note the effects of the lime. He will inoculate as before. This liming will give himself and neighbors a good chance to see if their soil needs lime.

Most of the men who are seeding to alfalfa are now inoculating, but none that we heard of are liming their soil. The success of Harley with his 25 acres and that of Harry Wilson with his 30 acres in Edne township that yielded him four tons per acre in three cuttings last year, has gradually forced the merits of alfalfa up-on their neighbors, and given them confi-dence in getting a stand.

To return to Harley's methods of man-agement, I learned that he cuts his al-falfa earlier than is generally recom-

mended. His test is to look for woody fiber in the stems, and to cut upon its first appearance, which is generally just on the appearance of the first blossoms. He cuts one afternoon, and lets it lay until the next or until wilted, depending on the weather. He then cocks it, and allows it to stand until it cures by sweat-ing out, which takes from four days to a week. He uniformly has three cuttings per year, the first being much the heav-iest, and the last the lightest. His aver-age yield runs from four to five tons per acre. One year when a heavy late frost froze it, he clipped and only got two cut-tings that year.

One of his fields that has been into alfalfa fourteen years is so badly run out with June grass that he will plow it up this year. He said that he cut this field two years in succession for seed, and that the stand has never been good since. He attributes the dying out of the plants to the ripening of the seed. This is his sec-ond experience in losing a stand in this way. I noticed several fields on other farms run in the same way, and I have wondered if this is the usual result of allowing alfalfa to go to seed.

Farmers with whom I have talked say the success which has been attained with alfalfa has aroused a wide-spread inter-est in its growth and predicted it the coming hay for that section.

H. B. FULLER.

(We would be glad to receive reports of success with alfalfa in other sections, together with a description of the cul-tural methods employed to get the crop established.—Eds.)

LEAVING THE FARM.

A number of farmers in this section in the last year, have become dissatisfied, for various reasons, and have disposed of their farms. Some have exchanged for city property, and are going there to live, while others are moving to some village. And what is true of this section is no doubt true of many others. Many of these farmers who have sold or traded their farms, and have moved to the city or village, have done so with the expecta-tion of bettering their condition. While a few realize their expectations the ma-jority meet with disappointment. At least such are the actual facts that have come under the observation of the writer. Of course, if a farmer is in debt it is sometimes very discouraging, because some years crops will fail, live stock will die, and there will be more or less sick-ness in the family with doctor's bills to pay. And notwithstanding all this, inter-est on the debt will be accumulating both night and day. Having passed through just such experiences, the writer knows something about how discouraging it is for a farmer under such conditions. And when he gets the "blues," as he is very apt to do, he will envy some city ac-quaintance who is getting a salary of say \$100 a month. He does not realize how much of a struggle it has cost the city man to get a situation that commands such a salary. Neither does he realize how soon such a man may be thrown out of his job, and perhaps never be able to obtain a like situation, and be obliged to go to work at anything he can find to do to support himself and family, if he has one. I have personal knowledge of just such cases. A \$2.00 a day job in the city looks like big pay to many who live in the country, especially a young man. But there are only a very few young men working in the city for \$2.00 a day, that ever get a cent of money ahead, and if a man has a family he has a hard struggle to live. Some of my relatives and friends who live in different cities, are getting \$4.00 and upward per day. And they tell me they cannot save a cent, because they have more or less sickness, and for one reason and another there are many days when they are out of work, and before they know it their grocery bill has run so large, that it takes many days' work to pay it, so that most of the time their bills are long overdue before they can pay them. As one of these relatives ex-pressed it, "Bills, bills, all the time; I get sick at the sight of them." This is a fair sample of what thousands have to endure who live in the city. If farmers who are getting discouraged for one reason and another, and think they are having a hard time of it on the farm, would go into the cities and find out what a strug-gle it is for thousands who live there to earn enough to obtain the simplest neces-sities of life, I do not believe they would be in any great haste to leave the farm, even if they are not prospering as well as they think they ought to.

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POULTRY AND BEES

MYSTERIOUS "WHITE DIARRHOEA."

Please tell me what is the matter with my chicks. They seem to be all right until about a week old, then commence to die. Some appear to have bowel trouble while others simply act sleepy and dump around, sometimes picking at the food but refusing to eat. The crops of some bloat up but are soft, in others they are empty. The diarrhoea is of a whitish color and sticks to them. They are incubator chicks. I have been careful about feed. They have had plenty of grit and charcoal and are kept warm and dry; have fed mostly oat meal and bread crumbs, with fine chick feed in clover chaff. I had the same trouble last year and put them with hens. The first ones hatched in the spring seem to do best; the later ones nearly all die. I have tried poultry foods and different things in the drinking water, but nothing seems to do any good. A strange thing is that only a few are sick at a time; when they die others take their places. I have another lot of chicks to come off in about a week. Shiawassee Co. Mrs. M. C.

It is very probable that your chicks have white diarrhoea, so called, a disease which is puzzling poultrymen everywhere. For several years it has been causing serious losses in large poultry plants and, despite every effort to combat it, the disease appears to be gaining ground. At one time it was believed to be a simple bowel trouble resulting from chicks getting chilled in the incubator just after hatching or soon after reaching the brooder. Poultry investigators, however, traced the disease to a certain kind of bacteria, but as to the source of this germ they are still pretty much at sea. The bacteria have been found in litter upon the brooder floor and in the nests of sitting hens, while at the Connecticut station they were traced to the ovaries of hens and found in the yolks of eggs, thus indicating that where the germs have existed in a flock for several years mature fowls may become infected and so pass the disease on to their progeny. With this in mind some poultrymen are now taking the precaution to disinfect eggs before placing in the incubators. Others claim to have checked it by cleaning and disinfecting incubators and brooders.

So far as is now known there is little that can be done for your chicks beyond disinfecting their quarters thoroughly with a weak solution of carbolic acid, first removing all that show any symptoms of the trouble. Then watch closely and promptly remove others when they show the first symptoms. By thus keeping the well ones clean and free from the droppings of the sick you may save a part of the flock. When the new hatch comes on carefully disinfect the brooder or pen which they are to occupy. If they develop the trouble it will mean that the source of infection is probably farther back. If you are starting another hatch, dip the eggs in a solution composed of one gill of creolin and 8½ quarts of water before putting them into incubator. Also disinfect incubator with carbolic acid solution, putting the heat on several days before filling in order to dry it properly.

INBREEDING VS. NEW BLOOD, OR FANCY VS. UTILITY.

A correspondent of the Michigan Farmer recently asked for a discussion of the advisability of inbreeding. I loaned the paper to a friend who wished to look it over with a view to subscribing, so I have forgotten the name of the correspondent.

For eight or ten years I have been endeavoring to combine utility and fancy in my flock, and have, to a considerable extent, practiced line breeding as well as inbreeding, but have introduced new blood occasionally. So far as I can see the only possible advantage of inbreeding is to maintain as nearly as possible, an unbroken line of blood, or a strain of fowl that will be more likely to produce fine specimens for the show room than would be the case if new blood were introduced.

I presume I may have advocated, through the Michigan Farmer, the feasibility of combining utility and fancy, but the more experience I have with poultry the more I am inclined to ask myself the question, is it worth while to strive for both in the same flock? I have about decided to answer this question in the negative, so far as my future poultry operations are concerned. It seems like striving for the dual-purpose cow. They get some very good ones, but they get a good many more that are pretty poor.

My experience teaches that in order to get heavy egg production as nearly the year through as possible, we need to put into our hens every bit of vitality we can, especially where five or six months must

be the housing season because of snow. I have about decided that there is more money in the utility flock, run strictly as such, than there is in the combination of the two. If one is leaning towards the fancy he has not the courage to discard a fowl that is inferior from a strictly utility standpoint for a big, healthy, rugged fowl of the strictly poultry-and-egg type but which lacks color or fine markings. Here is where the mischief creeps in and it is a pity the American Poultry Association, which governs all the larger shows, should not pay more attention to utility qualities than it has yet done.

I think there are few fanciers, who have reached a leading position in selling stock at long prices, who work the utility end of the business for all there is in it. They cannot force their pullets for heavy fall and winter egg production and have their customers get satisfactory results in hatching the eggs in the spring, consequently they sell eggs at long prices as long as they can, then hatch their own stock so as to get it ready for the fall and winter shows and get them to laying again in time for the hatching season. In flocks run on these lines no doubt inbreeding is practiced to the greatest extent, for it is not noticeable in the constitutions of the flock, as the short term of laying does not make the drain on hens that a whole season's laying does.

There are a few poultrymen who have worked to build up heavy laying utility flocks, and their stock has a wide reputation. This is just the kind of flocks we should pick from to renew our own flock, for they have been working for the same object for which we are striving, viz., eggs and poultry.

Most of us keep poultry for the net income. What pays best is for our advantage. In order to get hens with strong constitutions we want broad, long, full-breasted specimens, and we need to use the male to head the pens which most nearly approaches our ideal, whether or not the color is lighter or darker than the standard calls for.

It costs at least \$5 for a male, or \$5 a sitting for eggs in order to have suitable males to head pens where fancy points are to be kept in mind, while for utility stock only, a good deal of the expense is cut out and eggs can be sold for \$1 a sitting at a fair profit for the trouble. If one wishes to try his hand in growing fancy stock, he had much better run his main flock for utility and have a small pen to breed for points.

I would keep pure-bred poultry, but I am going to try strictly utility lines. I believe new blood every year, of the right kind, will result in the loss of fewer mature fowls, increase egg production, give superior quick-growing chicks and better poultry for the table, consequently greater profits. D. J. RYHER.

FOUNDATION AND ITS EFFECT ON THE HONEY CROP.

Bees are inclined, when left to themselves, to rear a superfluous number of queens, it being no uncommon thing to find 15 or 20 queen cells in a colony and I have seen them start 40 or 50 cells. This same prodigality prevails in all their operations, so it is nothing to be surprised at that, when allowed to build their own comb from the start, we find drones altogether too numerous for the financial welfare of the apiarist.

Drone cells average about four to the inch, and worker cells five to the inch. Drone cells vary quite a lot, however, being all the way from slightly larger than the worker cells to cells running only slightly more than three to the inch. Worker cells, if only slightly enlarged, are usually used for drone cells, but are sometimes found quite a lot smaller than the standard size, especially in natural comb, caused by crooked combs, one side being convex and the other concave, the small bees coming from the concave side.

These small bees make an amusing spectacle as they sport about at the entrance, but for practical service the larger bee seems to be the better, as it can reach the honey in blossoms which the smaller bee, with correspondingly shorter tongue, would not be able to secure. Working on these principles the manufacturers of comb foundation have built it with cells exactly five to the inch each way, or 25 to the square inch of comb surface each side. The bee-keeper using full sheets of foundation, therefore, secures a hive full of workers instead of rearing a lot of useless drones.

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LIVE STOCK

SELECTING BREEDING SOWS.

I have read with considerable interest the series of articles that have been published in the Michigan Farmer during the spring months, written by W. Milton Kelly, of New York. Those articles have contained a good deal of good, practical advice for the general farmer, and if followed by many the general conditions that would follow should be an improvement over what we too often find. There seems to be, on the part of many, a lack of appreciation of what the hogs are capable of doing in adding to the general income on the average farm. At present the hogs are the best paying stock we have, and yet at the present time, there are farms where there is a good deal of feed being wasted because there is not a hog kept on the place to eat it and convert it into pork meats that are selling at extremely high prices.

But when Mr. Kelly gets into advising breeders of pure-bred swine in regard to selecting and developing breeding stock he falls into some grave errors, some of which I would like to notice. On page 5 of April 30 issue, he says in the third paragraph of the first column toward the bottom of the page: "Young sows that are to be grown and developed for breeding stock should be selected at weaning time."

It is a fact that should be known by all careful and painstaking breeders, that at weaning time, if the sow is a good milker, and the pigs are in the pink of condition, which they generally are at that time, they are in the most alluring and deceptive condition to sort out the best for fancy or practical purposes, that is experienced during the whole life of the pigs. During the time that the pigs are running with the sow they are depending very largely, if not entirely, on the sow for their food. Some will get an advantage and get fatter than the others, and fat, at that time, is a deceiver, for it will cover up a multitude of faults. A trained judge of what a pig ought to be, can get a more accurate knowledge of the structure and general build of the pigs at the time they are farrowed. It is very often the case that fat, and fine appearance, is what will take the eye of some experienced and fairly good breeders of swine. It is a fact that the pigs that get the most milk and get very fat while running with the sow, are the ones that are injured in the long run, and are likely to fall behind when compelled to subsist on such feed as they generally get after they have been weaned. They have been loaded with adipose membrane, the vital organs have not been well developed, their vital energies have been reduced, and their constitutional vigor will not be equal to that of some of the others of the same litters.

I believe that the most of the experienced breeders will call to mind very many instances when their best sows, bred and raised on their farms, have developed and shown their best qualities as prospective as well as actual breeders later in life than weaning time; yes, and after the first six months. There are important changes taking place with the pigs, and some of those that did not do as well as others, gradually "shape up" and become the most desirable ones in the litter.

With the breeder of pure-bred pigs there are fine shadings in make-up that he looks for, and desires, that the untutored individual may not appreciate, and yet he wants them in order to keep up to, or surpass, his competitors. It is often the case that the breeders themselves are unable to decide which of the pigs will make the best sows until they have nearly or quite, reached their mature form. The changes have taken place along, a little at a time, until the sow has become fixed in her characteristics and is doing business as a breeder. No breeder who expects to remain in the business, who has his best interests in mind, will part with the best from his herd, unless it is for a long price and can not afford to take the chances of letting them go by selecting in a wholesale manner at weaning time.

In the same paragraph Mr. Kelly says: "Much, in fact, all, of the sow's future usefulness as a breeder depends upon how she is fed and developed until she has reached the age and size that it is desired to breed her for her first litter." Well, that is putting it pretty strong on the side of feed. It is casting aside the inherent traits and depending on feed to

make the desirable breeding sows. There are inherent characteristics that remain even beyond the gap of good or poor feeding for the first six or eight months of a pig's life. Fecundity or prolificacy runs in families and the feeding of a sow that is of a family that only farrow from four to six pigs at a litter will not change her to one that will increase in a ten or twelve fold ratio. Some of these things are well worth considering, and a fair discussion of them will be likely to fix some of the facts of the matter in the mind of the practical breeder.

Wayne Co.

N. A. CLAPP.

WARDING OFF SHEEP AILMENTS.

Successful sheep husbandry depends quite as much upon warding off ailments to which sheep are susceptible as administering proper treatment after disease has once gotten a foothold. The average flock owner pays little or no attention to attacks of disease among his sheep until conditions develop that compel some method of treatment. As a general rule sheep are difficult animals to administer medical treatment to and in a majority of instances succumb to attacks of disease before aid can be given. Some of the most common ailments of sheep run their course very rapidly and unless proper treatment is given immediately fatal results follow.

Few flock owners thoroughly understand the administration of medical treatment of diseased animals. The calling of a veterinary at frequent intervals is not only expensive, but impractical because of the fact that many common dis-

stagnant pools and become infested with the deadly stomach worm. Sheep should always be pastured on upland free from small depressions where water can accumulate and become stagnant. It is a great deal easier to ward off an attack of internal diseases than administer a treatment.

Keeping the ewes in good flesh condition during the suckling period is one of the best means of preventing attacks of disease. Germ diseases always infest animals of low vitality and unable to resist attack. A great many times an animal will ward off a disease because of strong constitution that would otherwise fall a victim and succumb. When animals have a heavy drain on their system, as ewes suckling their young, they are very apt to become reduced in flesh. Deep milking ewes are the most profitable ones in the flock and ought to be well cared for during the suckling period. When an animal becomes run down in flesh it is more susceptible to disease and less apt to ward off attack.

No flock owner should overlook the vital importance of providing the flock with plenty of shade during the hot summer months. Sheep can not endure intense heat and when exposed to it generally suffer later from digestive ailments. When the flock is turned upon pasture that possesses no natural shade of any kind, artificial protection should be provided. Shade during the heat of the day keeps the temperature of the system down to normal and conserves the vitality of the ewes. Many intestinal diseases of sheep find their source in the overheated condition of the system caused from un-



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eases run their course quickly and others are incurable. There are, however, few diseases of sheep that can not be warded off if proper precaution is exercised in due time. The great hindrance to keeping sheep in a healthy condition is that flock owners are slow to eliminate unfavorable conditions which bring on attacks of diseases that ultimately claim their victim.

Perhaps during the summer months, while the sheep are on pasture the stomach worm is the greatest enemy the flock owner has to contend with. Few flocks in this country are entirely free from the parasite and under present methods of management are constantly subject to loss. Rigid medical treatment, combined with strict precautionary measures, is the only method of stamping out this infectious ailment of sheep. However, if proper precautions are taken in due time much can be done to ward off severe attacks and to a large measure hold the disease in check. It is inadvisable to allow sheep infested with stomach worms to pasture on old meadow lands later than the first of June. If possible, a frequent change of pasture is prudent. If two fields are convenient it is a good practice to alternate the flock weekly to insure against parasitic infestation.

Few flock owners realize the danger involved in permitting sheep to pasture where they can drink out of stagnant pools. No other one place about the average farm is more filthy with deadly germ diseases than small depressions containing water which has no inlet or outlet. During a wet season there is increased danger, especially if the land is somewhat rolling. It is a common practice among flock owners to allow their sheep to pasture on low, wet land where the water level is very near the surface. While sheep are very particular relative to the kind of food they consume they will readily drink, when thirsty, from

due exposure during the hot summer months.

The lack of sufficient salt during the summer season reduces the action of the digestive system and makes it susceptible to disease. Sheep, like all domestic animals, must also be well supplied with essential food to not only sustain the body, but to restore broken down tissues as well.

Shiawassee Co. LEO C. REYNOLDS.

FLIES ABOUT THE STOCK BARN.

This topic is suggested by the contrast in the number of flies about two barns with which we are familiar. Both barns are devoted to the housing of show cattle. One is warm, filthy, uncomfortable, and swarming with flies. The other is cool, comfortable, and free from flies.

What makes the difference? The one in which flies are bad in summer is surrounded by yards where the cattle from the barn are turned frequently. Other cattle run in them from time to time also. These yards are never thoroughly cleaned up. Manure lies in the corners and around the outside feed lots from one season to another. The barn has never been known to be thoroughly cleaned out. True enough, the cattle stalls are cleaned out several times a day and fresh bedding put in but in some stalls that are unused manure from the previous winter has been seen in August. There is an inside tank at one end of the barn. When the cattle go to this tank to drink, of course there is more or less manure dropped. This is seldom gathered up and taken out.

Flies are fond of manure and filth. These make ideal places for the depositing of eggs by the flies. Nowhere will the larvae of flies develop faster than in such places. As a result this barn is a perfect haven from the flies' point of view—plenty of feed, a splendid place for young to develop, and animals for them to annoy.



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But the other barn is always as free from flies as any barn that can be found. Flies are fought in a rational, systematic manner. All refuse and all rubbish about the barn and lots that might possibly attract flies is kept scrupulously cleaned up. The entire barn was not being used during the past summer. It is a large barn and a row of box stalls on either side held all the animals kept in the barn for the most part. The unused portion had a cement floor. This was frequently washed and no manure was allowed to accumulate upon it from the animals that passed over it in going to the outside yards daily. The box stalls were cleaned out regularly and thoroughly. Once a week the floor and walls were sprayed with a weak disinfectant.

The nurse cows and milch cows were brought into the yard adjacent to the barn every evening. Of course, more or less manure was dropped from them while they were in the yard. Dung heaps from these cows were either taken up with a shovel and loaded upon the manure wagon or were broken up and scattered.

The first barn has trash, refuse, and manure about the lots and in the barn. This barn has flies by the million. The other is kept scrupulously clean and flies are so few that they cause little annoyance to the stock.

Iowa. H. E. McCARTNEY.

THE WELSH MOUNTAIN PONY.

His Many Good Qualities Have Made Him Popular in America.

A new branch in animal industry in America is now established and is destined to become one of considerable importance—that of Welsh pony breeding. A society for registry has been formed under the name of The Welsh Pony and Cob Society of America. It is in the hands of experienced and reliable breeders. The rules governing membership and registration are strict and will be adhered to. A candidate for membership must have the unanimous vote of all the directors, hence no one with a cloudy reputation need apply. Every pony offered for registry must be inspected and produce a veterinarian's certificate of soundness, the purpose being to promote a high standard of breeding and avoid the scandals that have thrown suspicion on other horse registers.

The popularity of Welsh ponies in America has not grown up suddenly, but resulted from practical experience of the past twenty-five years. My attention was first called to them while making my annual trip to England for Shires. I saw them put to all sorts of uses, from children's pets to huckster's carts. I was particularly attracted by their great strength, intelligence and patient endurance. One fine morning in June, 1884, I was driving near Peterboro, England, and met a band of gypsies with a drove just from the Welsh mountains. They were a lot of beauties, but wild as deer. I looked them over and bought twenty, thinking they would be a curiosity in Illinois. After arriving at my home in Aurora I gave them little attention until one day I found my superintendent's children had caught two, made rope harnesses for them, and were cutting the lawn and having lots of fun. I picked out two for general use about my place and the remainder were soon bought by farmers who came for Shires, and in that way they were scattered from Michigan to Nebraska and Minnesota.

To that little lot belongs the credit of starting the popularity of Welsh ponies in the middle west. A few importations have been made since then, but no move made to form a society for registering, till 1907, which was incorporated under the laws of Illinois and in conformity with the requirements of the U. S. treasury department.

A trip through Wales is to me one of the most enjoyable in Europe. The scenery is beautiful and the mountain air so bracing that one seldom feels tired after a day's jaunt. It is usually necessary for one to walk fully half the distance after hiring a rig for the day, because the hills are so long and steep it is quite enough for an ordinary horse to haul the heavy vehicles empty. The ponies are often compelled to zig-zag their way up the hills. It is an amusing sight to watch the little things race over the mountain pastures, jumping ravines like rabbits.

With immense strength and remarkable endurance, Welsh ponies are noted for their pleasant tempers and intelligence. Those which appear wild when first taken in hand soon become, with gentle treatment, perfectly tame and as safe for chil-

dren as collie dogs. They take naturally and kindly to children in preference to grown people. An instance of this was shown when the two wild ponies submitted to my superintendent's children, but resented his rough treatment later. In taming a wild pony the first step is to gain its confidence by gentle treatment, and then the war is over. I never allow one of my ponies to be struck with a whip under any circumstances. Among my home-bred ponies I entirely avoid having wild ones by handling them almost from birth. In fact, that is my way of handling all foals to insure perfectly safe and kind grown horses.

Welsh ponies can be had ranging from 44 inches to 54 inches in height, but the majority range between 46 and 50 inches. Above 54 inches they are rated as cobs. Illinois. G. E. BROWN.

FIRST AID TO SICK ANIMALS.

The average farmer is a very helpless individual when any of his stock are stricken with illness, and though I have no great belief in the amateur veterinary, still it is well for the farmer to know as much as possible in regard to simple remedies useful on the farm.

The quack veterinary surgeon is an abomination, and I thoroughly believe that more stock is killed by the use of powerful drugs in the hands of unskilled men than would have died in the ordinary way. Every man who treats stock, should have a work of reference at hand, as it is dangerous to trust to memory, when making up a drench, or any dose of medicine. A veterinary thermometer is a necessary instrument on the farm, as by it a man is able to find out whether a beast has fever or not. The farmer should also carefully note first symptoms in the case of a cow or horse falling sick, so as to be in a position to give the Vet. reliable information when he arrives. If this is not done, the Vet. has to work in the dark, and if this practice were always adopted the life of many a valuable beast would be saved.

Much injury is often done to horses by holding their heads too high when giving them a drench, as the medicine is thereby forced on to the lungs instead of going into the stomach. In giving a drench the horse's head should not be held too high, and the liquid should be poured into the mouth slowly, no attempt being made to force it down the throat of the animal. One of the best drenches for a horse that can be safely administered by the layman, is a pound of epsom salts, an ounce of ginger and a tablespoon of salt, but this is not often used—it is too simple, and too cheap! When treating sick or injured animals it is necessary to use antiseptics—as is the case of human beings—such as carbolic acid, for it is noticeable how careless the average farmer is in the matter of washing hands, ropes, instruments, etc.

As has been pointed out numberless times, scour in calves is due to a germ, and not to the use of separator milk, as was thought for a long time. Cleanliness is the best preventive.

It is to be hoped that it will not be long before a serum is found that will build up the system and render cattle immune from tuberculosis. In the hands of a competent man, the tuberculin test is practically infallible, and although the tuberculin will not give a healthy animal the disease it would cause the disease in a beast to show more readily than if it had not been subjected to the test. In treating stock, it is better not to use radical measures; nature should be assisted to effect a cure.

Canada. W. R. GILBERT.

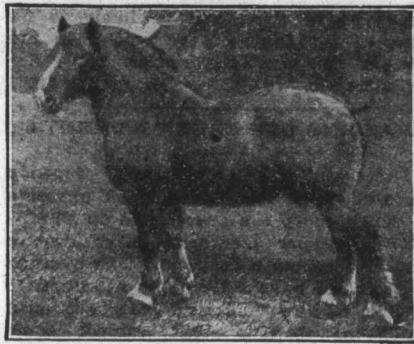
THE CHAPMAN JERSEY SALE.

H. S. Chapman, of Cassopolis, Mich., proprietor of the Linden Lea herd of registered Jersey cattle is sending out a catalogue describing 28 lots which will be sold on June 14, to close out the herd.

Charles J. Zeller, of Illinois, a well known stock feeder, showed up at the Chicago stock yards recently with a car load of steers averaging in weight 1,074 lbs., that brought \$7.30 per 100 lbs. They came to over \$78 per head and made the owner plenty of money, having cost him but \$28 last fall. Mr. Zeller said cattle in his part of the country had been nearly all marketed, and none were going on feed, owing to the high prices of feeders everywhere. He reported a good spring pig "crop."

Thus far sheepmen have sold very little of their spring clips of wool, prices offered having been unsatisfactory, contrasting unfavorably with the higher prices recorded in London. Some medium wool has been sold in Ohio at 16¢ per lb., while some of the choicer Utah clips brought 17¢ per lb. Sheepmen are prepared to store their wool in the enormous warehouses in Chicago and Omaha if they cannot get satisfactory prices.

KEKIONGA STOCK FARM DECATUR, IND., Importers and breeders of Belgian & Percheron Stallions and Mares.



Our last importation arrived last November, and are in a very good condition and of the VERY BEST TYPICAL DRAFT QUALITY. We have over 60 head of Stallions and Mares from two to five years for sale, and we invite prospective buyers to come to our barns where we will find THE IDEAL DRAFT HORSE, of both breeds above mentioned. Our terms are liberal, and every sale is backed up with the best of guarantees. Write, or better—come and see us. Address FRISINGER & SPRUNGER, Decatur, Indiana.

FOR SALE HORSES—Auction Sale of Horses every Friday at 10 A. M. Private Sales daily. A number of draft and farm horses always on hand including some city mares a little payment sore suitable for farm work. All horses sold are as represented or money refunded. **JOS. GEROU HORSE MARKET, 475 Gratiot Ave. Detroit, Michigan.**

REGISTERED PERCHERONS For Sale—1 mare 2-yr-old & 1 Stallion 1-yr-old, grays. Stubblefield Register. M. A. Bray, Okemos, Ingham Co., Mich.

For Sale—Horses, Cattle, Sheep, Hogs, Dogs or Poultry, nearly all breeds. Sires exchanged. Southwest Michigan Pedigreed Stock Association, R. E. Jennings, Sec., Paw Paw, Mich.

BREEDERS' DIRECTORY.

CATTLE.

ABERDEEN-ANGUS.

Herd headed by **UNDULATA BLACKBIRD** ITO 53836, one of the best sons of **PRINCE ITO 50066**, and Grand Champion Bull at the Detroit and Grand Rapids Fairs of 1907, 1908 and 1909. Herd consists of Ericsas, Blackbirds, Prides, etc. **WOODCOTE STOCK FARM, Ionia, Mich.**

Aberdeen-Angus—Males—Females. Polled Durhams both sexes. Devons, male & female. Buy quick at the Clover Blossom Farm, Port Austin, Michigan.

Ayrshire Bull Calves. Berkshire swine. Eggs for setting. High bred stock. White & Buff Oringtons, White & Barred Rocks, Light Brahmas, White Leghorns and White Wyandottes \$1 per 15. Mich. School for the Deaf, Flint.

GUERNSEYS—BULL CALVES from tuberculin tested cows. **ALLAN KELSEY, Lakeview, Mich.**

FOR SALE—Registered Guernsey Bull three years old. **GEO. W. PEEVES, R.R. No. 2, Grand Rapids, Mich.**

Maple Ridge Farm Breeders and Importers of high class Guernseys. Write us your wants. **E. & J. T. MILLER, Birmingham, Mich.**

FOR SALE—Young herd of Holstein heifers, 7 yearling bulls, 8 calves—the oldest established herd in Ind. **W. C. JACKSON, 715 Rex St. South Bend, Ind.**

TOP NOTCH HOLSTEINS.

Top Notch registered young Holstein Bulls combining in themselves the blood of cows which now hold and have in the past held World's Records for milk and butter-fat at fair prices. **MCPHERSON FARMS CO., Howell, Mich.**

HOLSTEIN FRIESIAN—Bull calves. Herd headed by Canary Mercedes Royal King. **W. B. Jones, Oak Grove, Mich.**

For Sale—Eight choice registered Holstein Sires, ready for service. The bunch at a bargain. **William B. Hatch, Ypsilanti, Mich.**

5 Holstein Service Bulls For Sale. Any one of which have breeding and individuality that qualifies them to head any herd. Bull calves and a few good cows. **L. E. CONNELL, Fayette, Ohio.**

HOLSTEIN BULL CALF from two best families of the breed. **C. D. WOODBURY, Lansing, Michigan.**

HEREFORDS—Both sexes and all ages for sale. Also Poland-China hogs. **R. E. ALLEN, Paw Paw, Mich.**

LILLIE FARMSTEAD JERSEYS We have some splendid young bulls for sale. Some of them are old enough for service. They are from cows with records of 300 to 425 pounds of butter last year. Write for description and prices. **COLON C. LILLIE, Coopersville, Mich.**

JERSEY BULL CALF born October 4th '09. Dam gave 9,386 lbs. milk in one year, test 5 to 5½%. Sire's dam's record 10,060 lbs. milk in 10½ months test 5 2-10 per cent. The Murray-Waterman Co., R. D. 6, Ann Arbor, Mich.

FOR SALE—12 registered Jersey Cows of St. Lambert and Island blood, from 2 to 10 years, all fresh or nearly so. Price \$100 each if taken at once. **C. A. Bristol, R. F. D. 5, Ponton, Mich.**

AUCTION—Closing out Linden Lea Jersey Herd, **JUNE 14th.** Catalog free. **H. S. CHAPMAN, Cassopolis, Michigan.**

FOR SALE—Jersey Bull Calves from 3 to 9 mos. old. Fine thirty fellows and from extra good cows. **A. Newman, Mariette, Mich. R. F. D. No. 1.**

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

Register of Merit Jerseys. Official yearly records. **T. F. MARSTON, Bay City, Michigan.**

NORTHERN GROWN JERSEYS WITH BIG MILK RECORDS. TUBERCULIN TESTED BY STATE VETERINARIAN. ROYCROFT FARM, Sidnaw, Mich.

BIDWELL STOCK FARM.
FOR SALE—10 Reg. Shorthorn Bulls. All good, reds and roans, from 12 to 24 months old, from the best of breeding at \$75 to \$125 each. Some of them Scotch and Scotch-topped, of the herd heading type. Also, young cows and heifers, all ages. Fifty head in herd. Farm—Two blocks from Lake Shore Station. **L. I. BIDWELL, Tecumseh, Michigan.**

DAIRY BRED SHORTHORNS—No stock for sale at present. Visitors welcome. **J. B. HUMMEL, Mason, Mich.**

SHEEP.

Oxford-Down Sheep and Polled Durham cattle for sale. **A. D. & J. A. DEGARMO, Muir, Mich.**

OXFORD DOWNS A few good field rams for sale. **H. J. De GARMO, R. No. 1, Clyde, Mich.**

PARSONS OXFORD RAMS also registered Hornless Delaines grade X \$15; XX \$20; XXX \$25. Romyen C. Parsons, Grand Ledge, Mich. Michigan's largest breeder of good sheep.

SHROPSHIRE HALL STOCK FARM Will import one hundred yearling ewes and 15 rams in June for Michigan and the same for Boise, Idaho. Branch of this Farm. Will make a fair price on yearling ewes or rams, also on some aged ewes with lambs at side, for 60 days. **L. S. DUNHAM & SONS, Concord, Michigan.**

130 Reg. Rambouillet Ewes for sale, descended from the best flocks and bred to a pure Van Horney and a ram sired by a Gilbert, ram and imported dam. All in perfect health. In lots to suit buyers—none reserved. **J. Q. A. Cook, Morrice, Mich.**

HOGS.

LARGE ENGLISH BERKSHIRES. Have fine lot of spring pigs of both sexes. Few young sows for fall farrow. Vigorous and strong, the type for profitable pork production. Satisfaction guaranteed. **F. A. BYWATER, Memphis, Mich.**

HUPP FARM BERKSHIRES! **WON 189 PRIZES IN 1909.** Stock of both sexes and all ages for sale. Breeders of Guernsey Cattle, M. B. Turkeys, Barred Rock Chickens, Pekin Ducks. **GEO. C. HUPP, Mgr., Drawer A, Birmingham Michigan.**

BERKSHIRES Unexcelled in breeding. Selected boars, sows and gilts. Choice fall pigs. **T. V. HICKS, R. No. 11, Battle Creek, Mich.**

HIGH CLASS LARGE ENGLISH BERKSHIRE PIGS, either sex. **W. J. ROSS, Rochester, Michigan.**

BERKSHIRES of the most fashion a ble type and strains. **C. S. BARTLETT, Pontiac, Mich.**

NORTHERN GROWN BERKSHIRES. **ROYCROFT FARM, Sidnaw, Mich.**

A DAMS BROS. Litchfield, Mich., breeders of Improved Chester White and Tamworth swine. Pigs, either breed, by 1st prize State Fair winners. Buff Rock, Buff Wyandotte eggs \$1 per 15; W. Orpington \$3 per 15.

Berkshire—A few choice fall gilts bred for early farrowing and a choice lot of spring pigs with prices right and the right breed. **A. A. Pattullo, Deckerville, Mich.**

Improved Chesters—Sows bred for Aug. and Sept. farrow. Choice March and Apr. farrow, either sex also W. Wyandotte Eggs \$1 for 15. **W. O. WILSON, Okemos, Mich. (Both Phones).**

PURITAN HERD OF CHESTER WHITES The peer of any in America. Spring pigs for sale. **WILL W. FISHER, Watervliet, Michigan.**

DUROC JERSEYS. **CAREY U. EDMONDS, Hastings, Mich.** Nothing for sale at present.

DUROC JERSEY SWINE. Shepherd Dogs, B. P. Rock eggs, \$1 for 15. **J. H. BANGHART, Lansing, Mich.**

WALNUT HILL FARM Herd of Durocs. Bred sows all sold. 35 fine fall sows, 15 fine fall boars ready for service. 100 spring pigs to date. Write **J. C. Barney, Coldwater, Mich.**

O. I. C. bred sows all sold. Boars still on hand. **GEORGE P. ANDREWS, Dansville, Mich.**

O. I. C.—A few bred sows. Orders booked for spring pigs from very choice stock, pairs not akin. **S. J. COWAN, Rockford, Michigan.**

O. I. C. REGISTERED PIGS, 10 to 12 weeks from World's Fair winners. **Glenwood Stock Farm, Zeeland, Mich. Phone 94.**

O. I. C.—Orders booked for spring pigs from State Fair winners. **C. J. THOMPSON, Rockford, Mich.**

O. I. C. Spring Pigs For Sale, 14 choice boar pigs and 17 choice sow pigs. Satisfaction guaranteed. **Fred Nickel, Monroe, Mich., R. No. 1.**

30 P. C. Fall Pigs—by two champion boars. Booking orders for weaned pigs by 10 different boars. **WM. WAFFLE, Coldwater, Mich.**

MULE FOOTED HOGS—Greatest vitality of for sale from 5 big boars. Send stamp for information. **J. H. DUNLAP, Williamsport, Ohio.**

HEAVY BONED POLAND-CHINA PIGS at reasonable prices. Eggs from big, business Barred Rocks \$1 per 15. **ROBERT NEVE, Pierson, Mich.**

MICHIGAN'S GREATEST HERD of big Poland-China Hogs. Big Boned, Long Bodied, Big Litters. The farmers' hog. A bigger, better and more profitable Poland-China. Write for what you want. Bell phone. **J. C. BUTLER, Portland, Mich.**

FOR SALE—4 P. C. boars ready for service. Eggs for hatching & prize winning Regal White & Columbian Wyandottes, Zach Kinne, Three Oaks, Mich.

Poland Chinas—Boars, Gilts and Pigs of quality at the right price. **B. M. WING & SON, Sheridan, Michigan.**

POLAND-CHINAS—Booking orders for spring pigs. Nothing else to offer. **WOOD & SONS, Saline, Mich.**

Large Improved English Yorkshires. The hogs that make good. September gilts bred to farrow next August or September. Spring pigs of either sex. Pairs not akin. Satisfaction guaranteed. **COLON C. LILLIE, Coopersville, Mich.**

Keep Hogs Healthy



A DIPPING TANK OR A HOG WALLOW WITH KRESO DIP NO. 1 WILL DO THE WORK

THERE IS NO EXCUSE FOR LOUSY MANGY UNTHRIFTY PIGS. IF YOU HAVE SOME OF THIS KIND YOU WILL FIND IT WORTH WHILE TO GET OUR CIRCULAR ON TANKS AND WALLOWS. IT TELLS HOW TO MAKE THEM OF CEMENT

KRESO DIP NO. 1

IS A REAL NECESSITY ABOUT ALL LIVE STOCK FOR KILLING LICE, TICKS, MITES, FLEAS, FOR TREATING SCAB, MANGE, RINGWORM, AND OTHER SKIN DISEASES: TO DISINFECT, DEODORIZE, CLEANSE & PURIFY.

ALL OF THESE USES FULLY DESCRIBED IN OUR BOOKLETS. WRITE FOR COPIES ASK YOUR DRUGGIST FOR KRESO DIP NO. 1

PARKE, DAVIS & CO., DEPARTMENT OF ANIMAL INDUSTRY.

DETROIT,

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Kendall's Spavin Cure

THE cure that saves horsemen and farmers millions of dollars every year. Nothing equals it for Spavin, Curb, Splint, Ringbone, Bony Growths, or any Lameness. This man says:

"Used 25 Years; Great Success"

"Please send me copy of your 'Treatise on the Horse.' I have been using your Spavin Cure for the past 25 years, with the greatest success."

Yours Respectfully,
G. H. Oberhoff,
Fort Worth, Tex.

Keep your horses at top condition all the time. Don't worry about that spavin or other growth, cut, swelling or lameness, but use Kendall's Spavin Cure. Keep a bottle for emergency use. It has proven itself to be the world's greatest liniment for man and beast. Sold by all druggists, \$1 a bottle; 6 for \$5. Get the book, "Treatise on the Horse," free, of druggists, or write to

DR. B. J. KENDALL CO.
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Try My Stanchions, Feed and Litter Carriers at My Risk

I guarantee satisfaction with every part of my equipment, whether you buy one stall or a complete barn equipment.

JAMES SANITARY STALLS, ALIGNING STANCHIONS, FEED AND LITTER CARRIERS and other conveniences are endorsed by the best business dairymen for convenience, sanitation and economy. New improvements place JAMES goods more than ever beyond comparison with others. Write for prices and full particulars.

W. D. James, Mgr., KENT MFG. CO., 181 Cane St., Ft. Atkinson, Wis.

Save Your Sheep

Don't let them die from Distemper, Snuffles, Etc.—get CRAFT'S DISTEMPER REMEDY. No risk. So sure it is sold on a money back guarantee. Endorsed by largest breeders. If dealer can't supply it, send to us and get 3. Valuable Books Free. Wells Medicine Co., 11 Third St., LaFayette, Ind.

HORSES Coling Blind. BARRY Co., Iowa City, Iowa. Can Cure.

PASTURING PEAS AND RAPE.

I have some peas which I have sowed for hog pasture which are now about one and a half inches high. I also have a piece of rape sowed for the same purpose, which is just out of the ground. How far should these crops be advanced before I should be justified in pasturing them?

Lenawee Co. B. W. A.

The greatest profit is derived from Canada peas for hog pasture if the hogs are turned in about the time the peas become well developed and long enough before they ripen so that the whole crop may be secured by the hogs before the rainy season of the fall. If turned in before the proper stage, the grain secured will not be large and the forage secured will not be enough more valuable to offset this loss. Rape should not be pastured until it attains a fair growth, say eight inches to a foot in height according to the area to be pastured and the number of hogs to be run upon it. This growth will, under favorable conditions, be attained six or eight weeks from the date of sowing.

LIVE STOCK NOTES.

The recent announcement that Germany had to relax in its rigid inspection of American pork turns out to be untrue, and pork shipped from this country will continue to be subjected, along with other foreign pork, to rigid examination by German sanitary authorities. Of course, the German practical prohibition of American pork does not cut much figure at the present time, owing to the fact that our hog products are much too high in price to admit of free exportation, and domestic consumption is sufficient to absorb the production, most of the present limited hog marketings being needed for the fresh meat trade.

Rough pasture land in New York valued at \$15@20 an acre is to be stocked this summer with sheep, and western sheep are to be used. Not only in Yates and Ontario counties in New York, but also in many parts of New England, there is a marked revival of the sheep industry, the high prices having started farmers to thinking and reminding them that their rough pastures might return them plenty of money, providing dogs were kept at a distance. Population is increasing throughout the east, and there is a great lack of home-grown mutton. The prevailing opinion is that sheep are not likely to become cheap again, as with the rapid narrowing of the ranges of the country, it will be no easy matter to materially increase the mutton and wool supply. Buyers of yearling breeding ewes left New York some time ago and have been traveling through the western country in search of well-bred stock.

It is time for stockmen to get their fat cattle to market, for past experience has shown that when the vegetable and fruit season arrives the consumption of beef falls off suddenly and materially. It has been a rarely equalled year thus far in the cattle trade, extraordinarily high prices having been paid for cattle of every description, from the choicest down to the commonest. They are still very high in price, despite sharp reductions in recent weeks, and owners should take a good price when it is obtainable. Receipts of cattle at Chicago and Missouri river markets have kept up much better than was expected, most reports having represented feeding operations as on a much reduced scale, and many corn-fed cattle remain to be marketed, while Kentucky has the largest number of distillery-fed cattle for marketing ever known. It is always extremely difficult to receive really accurate information regarding the country's cattle supplies, for there is a tendency on the part of stockmen to understate the numbers of cattle in their respective sections. Where stockmen have cattle that are thin it is best to put them on grass, and that is what many farmers are doing at this time. Furthermore, corn is cheap enough to feed to stock, but the prevailing tendency is to graze cattle instead of placing them in feed lots. Before long southwestern grass cattle will show up in the markets of the country in good numbers, and that means usually a slump in cattle prices. Under present conditions it is out of the question to expect any foreign demand worth mentioning, prices being much too high. The American stockmen must depend on the home demand in the future, Argentina having captured the English trade by furnishing cheap beef.

Dall Campbell, one of the most extensive stock feeders of Custer county, Nebraska, topped the Chicago market not long ago with a car load of fancy cross-bred Hereford Shorthorns that averaged 1,483 lbs. at \$8.35 per 100 lbs. He stated that cattle in that region were roughed through the winter successfully, notwithstanding the severe weather, and during the last few weeks stock has gone on grass, pastures being in fine shape. In the comparatively small area of western Nebraska, where irrigation is practicable, farming operations are starting up, but cattle raising promises to be the great industry in other places. Mr. Campbell said that settlers have crowded out ranchmen in Beam and Laup counties, but it seems doubtful whether attempts to make farming pay will be a success. Winter-fed cattle have been largely marketed, and farmers are not disposed to grain feed cattle in the summer period. About half of the old alfalfa fields were winter killed, and new fields will be devoted to that crop, it being the best paying crop and the acreage increasing yearly. Mr. Campbell has been feeding 200 hogs. J. B. Turner, the leading Custer county stock feeder, fed last winter 700 cattle and 900 hogs. Stockmen rely largely on alfalfa, which furnishes three or four cuttings every year and averages in a season about five tons to the acre.

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. Initials only will be published. Many queries are answered that apply to the same ailments. If this column is watched carefully you will probably find the desired information in a reply that has been made to some one else. When reply by mail is requested, it becomes private practice, and a fee of \$1.00 must accompany the letter.

Looseness of Bowels.—Our cattle have been feeding on low land and the grass appears to cause great looseness of bowels. What had I better do for them? J. P. M., Yale, Mich.—Mix together equal parts by weight, powdered sulphate iron, powdered catechu and ginger and give a dessertspoonful to each of them in some feed once or twice a day. The low land grass is no doubt causing their trouble and if you can conveniently change to upland pasture until the weather grows warmer, do so.

Diseased Tooth.—Catarrh.—For the past three months one of my horses has been discharging from one nostril and about a week ago another horse began to discharge in much the same manner. What ails them and what had better be done? G. E. N., Canton, Mich.—The horse that discharges from one nostril only has perhaps a diseased molar tooth and as soon as the tooth is extracted the discharge from nose will cease. The other horse has caught cold and now suffers from nasal catarrh. Give 1 dr. powdered sulphate iron, 4 drs. gentian, 2 drs. nitrate potash and ½ oz. ginger at a dose in feed three times a day.

Cow Falls to Come in Heat.—I have a cow that calved last November, which has not come in heat since. I gave her ginger, capsicum and rosin, but it has not produced any results. My druggist tells me that capsicum and red pepper are the same, but I had a doubt. F. T. Yale, Mich.—Your cow may never come in heat again. However, you may try giving 20 grains powdered cantharides at a dose in feed twice a day, also dilute opening into womb and this will perhaps induce her to come in heat and breed. Your druggist is right.

Ringbone.—I have a very nice yearling heifer that has every appearance of having a ringbone. She begins to show a little lameness and I would like to know what can be done for her. A. J. M., Crofton, Mich.—Ringbone lameness should be regarded as a serious ailment, therefore, you should commence treatment right away and keep it up until the filly gets well. Apply one part red iodine mercury and eight parts lard to bunch once a week.

Grub in the Head.—I have lost several sheep, caused by grub in the head, and as several more of my flock are running down I would like to know how to treat them. H. P., West Branch, Mich.—By blowing some Scotch snuff up the nose it will bring on sneezing spells and it is possible for the sheep to expel the grubs that are nested high up in the nasal passage. In bad cases I trephine through bone of face and wash out grub with tepid water. In some cases steaming has a good effect.

Barren Cow.—I have a cow that has had two calves. Since then she has failed to get with calf although served by two different bulls. G. O., Allegan, Mich.—Dissolve 3 ozs. bicarbonate soda in a gallon of water and inject cow once a day, using plenty of this lotion each time she is treated. If she fails to get with calf and has much discharge dissolve 1 oz. alum in ½ gal. of water and inject her twice a day for a few days then once daily with be often enough.

Hard Milker.—I have a cow that is an exceedingly hard milker and have been told that it can be remedied by dilating the duct through the teat. I have also heard that plugs for the teats help to overcome this trouble and if so where can I purchase them? O. W. W., Butternut, Mich.—Polished metal sounds of different sizes should be used in dilating the channel through teats or teat plugs can be used; however, I prefer the steel sounds. The Lawrence Publishing Company can supply you with teat plugs.

Sore Shoulders and Neck.—I have a 10-year old horse that is troubled with sore shoulders and neck; besides, wherever the harness rubs the skin seems to get sore. What shall I apply to heal and toughen the tender skin? N. T., Lewiston, Mich.—Dissolve ¼ lb. acetate lead, 3 ozs. sulphate zinc and 1 oz. tannic acid in one gallon cold water and apply to sore parts three times a day. Give 3 drs. Donovan's Solution at a dose in feed two or three times a day.

Nodular Disease.—Dropsy of Throat.—I have a flock of 50 ewes that have not done nearly as well this year as they did last and their wool yield fell short 100 pounds. I notice some of them have a swelling under the throat which extends up on each side but produces no pain. O. F. M., Galesburg, Mich.—The swelling in throat is a result, not an ailment, caused, perhaps, for want of feeding the ewes a balanced ration of sufficiently nutritious food, or it may be the result of indigestion brought on from bowel parasites. Give each ewe a ½ teaspoonful of the following compound powder: Powdered sulphate iron, ginger, quassia, cinchona, gentian and bicarbonate soda, equal parts by weight, mixed thoroughly in feed twice daily. Paint the swelling in throat with tincture of iodine twice a week. The sheep should be well fed.

Cows Do Not Come in Heat.—I have a seven-year-old cow that came fresh last fall and two heifers 18 months old that

(Continued on page 571).



Clean Up and Disinfect

everything about the barn, hog pen, cow stable, chicken yard, sinks, drains, cellar, cess-pools, etc., with a solution of

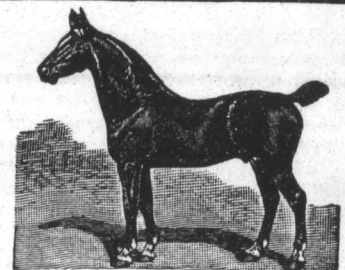
Dr. Hess Dip and Disinfectant

One gallon Dip makes 70 to 100 gallons of solution. The greatest preventive of disease known.

Kills lice, mites, sheep ticks, fleas. Cures sheep scab, mange, eczema and other parasitic skin diseases of horses, cattle, sheep, hogs, dogs and poultry. Also heals cuts, burns and infectious sores.

If your dealer cannot supply you, we will. Write for circular.

DR. HESS & CLARK
Ashland, Ohio.



WILL NOT SCAR OR BLEMISH.

GOMBAULT'S CAUSTIC BALSAM

is the safest and most effective lotion or blister for ailments of

HORSES and CATTLE

and supersedes all cautery or firing. It is prepared exclusively by J. E. Gombault, ex-Veterinary Surgeon to the French Government Stud.

As a HUMAN REMEDY for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

Shoo-Fly THE ANIMALS' FRIEND KILLS EVERY FLY

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THE DAIRY

CONDUCTED BY COLON C. LILLIE.

DEFENDS THE DAIRY FARMER BEFORE THE COMMITTEE ON AGRICULTURE AT WASHINGTON.

Statement by Mr. Colon C. Lillie before the Committee on Agriculture of the House of Representatives at the final hearing on the Burleson Oleomargarine Bill:

Mr. Chairman, and Gentlemen of the Committee:

I am opposed to the sale of oleomargarine as butter. I am convinced that it is practically impossible to prevent the sale of oleomargarine, colored in imitation of butter, as butter. Therefore, I am opposed to the selling, or offering for sale, of oleomargarine that looks like butter. If it requires the taxing power of our government to prevent the manufacture and sale of oleomargarine in imitation of butter, then I am not only opposed to the removal of the present tax of 10c per pound, but I am in favor of increasing the tax to such an amount that the manufacture and sale of it will be absolutely prohibited. If you can do this without resorting to the taxing power of the government, then remove the tax.

When a customer asks for butter and is sold oleomargarine instead, a gross fraud is perpetrated and it is an imposition as well. The oleo may answer the purpose of butter, but it is not butter and it lacks that fine aroma and exquisite flavor that good butter possesses. The chemist may tell you that oleo is just as nutritious and just as digestible, and therefore, just as good as butter. But the same chemist will tell you that dried grass, or hay, is just as digestible and just as nutritious as green growing grass; but the cow that eats it knows better. She likes the grass better and does better when allowed to eat the grass. This leads some of us (including the cow), to believe that a chemist cannot tell, for instance, the effect palatability has upon digestion and assimilation.

The oleomargarine people may argue from now until the coming of the millennium, they may swear expert chemists, and the like, to prove that oleo is just as good as butter. They may cause some people to believe that they think it is just as good, but they never will make the great mass of the consuming public believe that hog lard and beef tallow is as good as butter-fat. The people know better.

Again, when oleomargarine is sold as butter, a gross injustice is done to dairy farming, one of the greatest industries of this country; an industry that produces annually nearly or quite \$800,000,000 of wealth; an industry that is doing more today for the permanent prosperity of this country than any other industry we have; an industry that always follows in the wake of the soil robber—the wheat grower, the corn grower, and the cotton and tobacco grower, and builds up the soil that they have exhausted. This industry is restoring the producing power of the worn-out wheat fields of the north west, it is making two bushels of corn grow where but one grew before in the corn belt; it would, if it were given the opportunity, make two bales of cotton grow where now only one grows, in the cotton states. Encourage this industry and you lay the foundation for future prosperity of this nation, because you lay the foundation for successful agriculture. Every pound of oleo that is sold for butter strikes at the very foundation of this great industry.

You ask what effect the unrestricted sale of oleo would have on the dairy industry. I answer, how long could any industry endure if its products could be substituted by the products of another industry in which the cost of production was less than one-half? It is perfectly logical to conclude that unless adulteration and fraud were resorted to, that the industry in which the cost of production was greatest would be soon exterminated.

While the sale of oleo as butter does an injustice to the industry of dairying, compelling its sale by law for what it is, does no injustice to the cotton, the cattle or the hog industries. We are asked to believe that the use of cottonseed oil would be curtailed if the color was legislated out of oleo; but as I understand it, cottonseed oil is not used for the purpose of coloring oleo, but for softening the hard brittle tallow and other ingredients to give the proper butter body to the product. Hence there would be

as large a per cent of cottonseed oil used in the manufacture of uncolored oleomargarine as in colored. So the cotton grower's market would not be restricted and no injustice done to his industry.

I am informed that the fat from winter-fed, or stall-fed cattle makes a higher grade product than that from summer-fed or grass-fed cattle, although the fat from the latter is more highly colored. Consequently, in legislating color out of oleo, no injustice is done the great cattle industry of the country.

We are confronted with the fact that dairy products are higher than usual. But are they higher in proportion than corn or oats or hay which the farmer must use? I think not. If you will investigate this subject, I think you will ascertain that butter has fluctuated in price very closely with these food stuffs. Comparatively speaking, butter and other dairy products are not excessively high in price at the present time. It has been stated that if for any reason the sale of oleo should be restricted, or curtailed, that butter would advance enormously in price. I do not believe this. It would only be temporarily, at least, because the advanced price would stimulate the increased production of butter. If you will settle this oleo question and settle it right, the investments in dairying will be largely increased in the future. People are afraid to invest their money in dairy farming because they are afraid that oleo may, through fraud, destroy their market. It is on the same principle that people are afraid to invest in certain kinds of manufacturing when there is a constant agitation of the tariff.

My experience in attempting to enforce pure food laws warrants me in saying that it is practically impossible to prevent the sale of colored oleo as butter. An inspector would have to be stationed continually in every shop where it is sold, which, in my judgment, would be impracticable.

Oleomargarine can probably be sold for what it is at a greater profit than is realized by the producer in the manufacture and sale of dairy butter. There is a natural and legitimate demand for oleo, as such, at proper oleo prices. In my own home town one dealer sells oleo in its natural color and does not sell butter. People buy it for what it is and seem to be satisfied. Its price has not exceeded 18c per lb. during the past winter. There is no attempt at deception. Other dealers sell butter only. People buy this for what it is and at butter prices, and are satisfied. In both instances people get what they desire and nobody is deceived or defrauded. I make no war on oleomargarine when honestly sold. It has a field and a market of its own, but as a brother it has no right to wear Jacob's coat, and as a wolf, it has no right to grandmother's cloak.

In my estimation the oleomargarine manufacturer made a mistake in a commercial way when he first attempted to deceive people by selling oleo as butter. He would have had a better market today than he has and the whole business would be looked upon with greater favor by the public.

Give us a law that will enable all to readily distinguish between oleo and butter; give oleo a tinge of yellow if you wish, so that people with false pride will not blush when they spread it upon their bread; but make the distinction clearly, so that you, and I, and everybody, can readily see that this is oleomargarine, and that is butter. Give us this kind of a law and both the dairy industry and the oleo industry will be justly treated. All will have a fair chance and a square deal.

Do this and you will see development in the dairy industry that will tend to reduce prices, and this development will add to the material prosperity of our country, agricultural production will increase all along the line. The railroads will groan under the amount of freight to be carried, our factories will not want for raw material and our farmers will do their best to produce good food in abundance at a moderate price.

THE HEARING ON THE OLEO BILL.

The hearing on the oleomargarine bill was adjourned to the 12th and 16th of May. The oleo people were given the 12th—the 13th and 14th were devoted to the dairy interests—and then on Monday the forenoon was also given to the dairy interests and the afternoon to the oleomargarine people. The delegates present representing the dairy industry were satisfied that they made quite an impression on the house committee on agriculture, with reference to their cause. In fact,

at the close of the hearing, the chairman of the committee, Mr. Scott, of Kansas, intimated that we had made a splendid showing, upon which he congratulated us. The principal points which the oleomargarine people emphasized before this committee was, that as long as dairymen colored butter that they had a right to color oleomargarine. That oleomargarine ought not to be taxed because the tax increased its price and thus made it a burden upon the poor man, and third, they attempted to prove that oleomargarine was as wholesome, or even more so, than butter. They did not succeed in convincing the representatives of the dairy industry upon any of these points. Perhaps, however, we were not qualified to sit upon a jury of this sort because we had made up our minds before and might have been prejudiced. However, when we take everybody's interest in this question into consideration, it does seem that their contentions are not well founded. As a matter of fact, there is no argument in any of their views that were presented before the committee. In the first place dairymen do color butter a portion of the year, but it is not done to deceive the consumer, while oleomargarine is colored solely for the purpose of deceiving the consumer and making him believe that he is getting butter when he is really getting oleomargarine. The natural color of butter when cows are upon grass pasture is yellow. That is the trade mark of butter. The dairymen could not deprive butter of this color if they tried. Their only excuse for coloring butter is to have the butter produced upon dry feed, uniform in color with that produced during the summer months. They do not try to sell the product which they color for anything only just exactly what it is. Therefore, the dairyman has a right to color butter and the oleomargarine people do not have the right to color oleo in semblance of butter, because it is done to deceive.

On the question of tax enhancing the value of oleomargarine and thus making it a burden upon the laboring man, especially, it was proved before the committee that 97 per cent of the oleomargarine sold last year was sold without paying the ten cent tax, only paying a quarter of a cent a pound, which proves conclusively that the ten cent tax is not a burden upon the consumer. Much of this oleo sold without paying the ten cent tax was fraudulently sold. When the Grout bill was enacted in 1902, at the last moment the wording of the bill was changed from a prohibition of coloring oleomargarine any shade of yellow butter, to oleomargarine artificially colored. This idea was not approved by the dairymen at that time because it was believed that the oleomargarine manufacturer would find some way of coloring oleomargarine other than coloring it artificially. That is, they would get ingredients together which would produce a yellow color. But at that time there was no known way of coloring oleomargarine only by artificial coloring, and consequently rather than have all their work fall flat, this compromise was tolerated. The fears of some of the leading men, like Mr. Flanders and Governor Hoard, have proven true. The oleomargarine people have found a way of coloring oleo by using colored ingredients rather than artificial coloring, consequently the colored oleomargarine that is sold largely escapes the ten cent tax. Therefore this tax is not a burden upon the consumer. If oleomargarine was sold for just exactly what it is, and no attempt made to deceive or defraud, there would be no burden upon the consumer because there would only be a mere nominal tax of a quarter of a cent a pound. Consequently, there is no force in this argument.

The oleo people, of course, have always, from the very beginning, had the burden thrust upon their shoulders to show that oleomargarine was wholesome and nutri-

(Continued on page 567).

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PER CENT OF CREAM DETERMINED FROM YIELD OF BUTTER.

About what per cent of butter-fat would cream test that churns 45 per cent of butter, after being salted and worked over ready for use? About how much cream will the average cream separator take out of 100 lbs. of milk after having 50 lbs. of water added and standing 12 hours and then remove what cream there is in it?

Hillsdale Co.

J. A. P.

As I understand the problem, a given amount of cream, say 100 lbs., turns out 45 lbs. of butter. Now what is wanted is to know the per cent of butter-fat in the cream. This cannot be told absolutely without knowing the over-run in the butter, but we will suppose that the over-run is about normal, or 16 per cent, consequently the 45 lbs. of butter is the amount, and 16 is the rate per cent and what we want to find is the base, or the butter-fat. Given the amount and rate per cent, to find the base we divide the amount by one, plus the rate per cent. Dividing 45 lbs. by 1.16 gives us 38.8 per cent butter-fat in the cream.

If I remember correctly, careful experiments at our experiment station determined that the water separator, that is diluted with half its volume of water, did not skim closer than one per cent and in many instances it was even more than this. Now a good centrifugal separator will separate as close as one or one and a half of one-tenth per cent. Consequently, if the milk was not diluted with water we could expect to get eight or nine-tenths of one per cent of fat from it by running it through a centrifugal separator.

CARING FOR MILK PROPERLY.

There certainly would be a great improvement over present conditions of caring for milk if dairymen generally could realize the importance of this matter, that certain precautions are necessary in handling milk unless one goes into the matter and studies out how the milk becomes contaminated.

Impure milk will be the result if the utmost precautions are not taken in handling it and impure milk necessarily means that its products will also be impure and have very poor keeping qualities.

It should be remembered that all contamination depends upon some form of bacteria, which are present everywhere and which multiply very readily under certain conditions and temperatures.

Taking this to be true, that contamination depends upon some form of bacterial infection it is at once apparent that the precautions necessary are to prevent, as much as possible, the bacteria coming in contact with the milk and to make the conditions for their growth and multiplication as unfavorable as possible.

The stable in which the cow lives, and particularly that in which the milking is done, should be kept in as clean a condition as possible. The habit of removing the cows to a separate milking room is one which is undoubtedly very useful in reducing the chance of bacterial contamination.

It is desirable that the place where all manure and barnyard refuse is placed should be removed as far as can be from the milking stall and no stagnant water should be allowed near the barn.

Manure is not only a source of bacteria, but is a great breeding place for flies, which are also a great nuisance; one fly falling into the milk pail has been shown to be capable of introducing 250,000 bacteria in milk.

Especially care should be taken in regard to the condition of those who do the milking or have anything to do with handling the milk. Special clothing is advised to be worn during the milking. That the worker should carefully wash his hands before entering upon the duty of milking is taken as a matter of course.

The milk vessels should be thoroughly scrubbed with hot water containing soda and should then be scalded in boiling water and without rinsing in cold water should be turned upside down and allowed to stand in the air until needed for use and in no case should they be wiped with a rag after scalding.

As bacterial growth and multiplication depends largely upon temperature it is necessary that this temperature be avoided as much as possible. The temperature at which the maximum growth occurs seems to be near 70 degrees Fahrenheit, and many grow best even at 95 degrees.

It is quite evident that these temperatures should not be retained in the milk after the milking is done, but it should be reduced immediately to a temperature which will not favor this growth.

Many dairymen think it necessary to aerate the milk to get rid of the so-called animal odors. The milk has a certain odor which is removed by the aeration, but if contaminations are reduced to the minimum there will be less necessity for aeration and animal odors would be very slight if at all appreciable. But under any circumstances, whether the milk is aerated or not, immediate cooling is an important factor in the keeping of the milk.

Illinois.

W. H. UNDERWOOD.

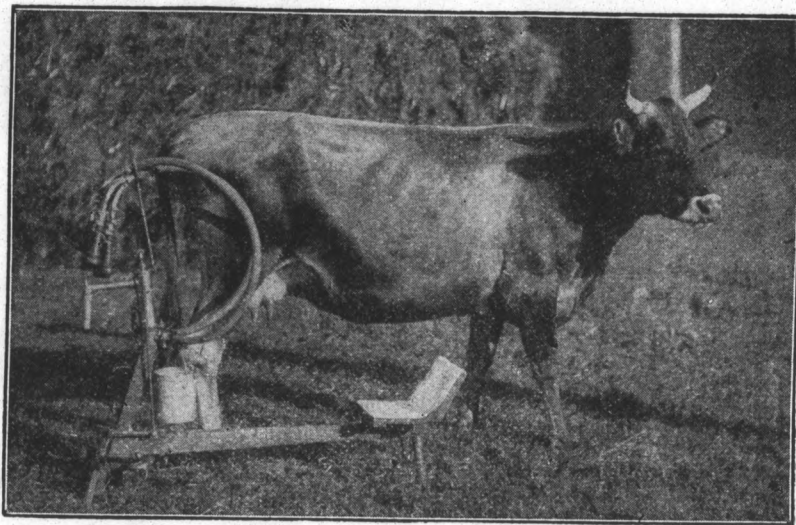
DISPROVES THEORY THAT FEED DOES NOT AFFECT QUALITY OF MILK.

In The Farmer of April 30 we read a scrap of the old, old theory, "Can I feed up or down the per cent of butter-fat." This per cent business in the cream pot partakes strongly of the old "wheat and chess" theory. Feeders, breeders of finely improved dairy stock, and men of scientific study, tell us common folk, "No, you can't," and we common folk are rather inclined to side with the cow. The cow says: "Fiddlesticks! give me a ration balanced up right and I'll show you a

some instances milk cans were permitted to air and dry on back porches where poultry, dogs, cats and house pets enjoyed perfect freedom in their movements. The presence of sediment in the milk containers was a common occurrence.

Few, if any, facilities were found for boiling the water to cleanse the utensils used in the handling and transportation of milk, the hands of the milkers, or the udders of the cows. Polluted water readily contaminates milk. The knowledge which is rapidly being accumulated as to chronic carrier of the typhoid bacillus and the common custom which prevails in rural communities of depositing human excreta upon the ground, frequently in close proximity to residences, barns and water supplies, demand that the water supply on dairy farms should be frequently examined and carefully guarded against contamination.

The above facts go to show the necessity for a general awakening among milk producers of the necessity for more care in the production and handling of milk. Regulation by local authorities will not accomplish reform. Education must go first and police authority should be used



Pedro's Brown Bessie 2d, 213309, A. J. C. C., the first cow tested officially for over 300 days for a high record, and milked during test by milking machine.

thing or two." That article in The Farmer kicked up quite a storm in and about here. The cream hereabouts is gathered into a factory nearby and the woman folk oversee the whole business. We asked a lady who sells a considerable amount of cream what she thought of the article and she elevated her nose to 45 degrees and stated, "I know better, our cows disapprove of the old scientific regime every day in the year. When we turned our cows onto green rye and dropped 50 per cent on grain, the per cent of butter-fat fell off nearly one-half. Again, when we removed the cows from creek flats to good June grass pasture the same thing happened. Again, when we cut wheat straw from our ration and add good clover hay the same things happens. Men may write and science recite, while old bossy holds the fort."

Kent Co.

T. L.

PLENTY OF ROOM FOR IMPROVEMENT.

There has been great improvement within the last few years in the direction of obtaining more wholesome and sanitary milk, but much remains to be done for the protection of the health of consumers. It is important that there should be not only legislation and competent official supervision, but a better understanding by the producers and the public of the dangers from contaminated dairy products and how these dangers can be avoided and overcome.

Inspection by officials of the Department of Agriculture has revealed many unfavorable conditions both at the farm and at the city depot. Unsanitary houses, milk houses and barns were common. The attendants upon the cattle were careless of their personal habits and frequently were suffering from disease, sometimes of a contagious character. Cattle were frequently found covered about their flanks, legs, udder, and tail with manure and other dirt, which readily dropped into the pails while milking was done. Cattle were many times found suffering from constitutional diseases as well as local affections of the udder. Flies swarmed about the premises. Frequently on the surface of the milk in the pails floated dead and dying flies. With the knowledge now available of the habits of the fly, this condition alone is a most dangerous source of milk infection. In

only in cases where the dairyman persists in wilfully disregarding sanitation when he knows better. Little improvement will come through regulations requiring clean cows, clean milkers and clean methods of milking and handling the milk unless the dairyman understands the object of such regulations and the effect they will have on his work.

MILK DELIVERED IN BOTTLES.

Although the number of private dairymen who make their deliveries to customers in cans are growing fewer each year through competition and demand for superior milk, it is still to be lamented that so many intelligent farmers continue the practice. The exposure milk is subject to when in a can that is opened dozens of times on dusty streets precludes all possibility of its being reasonably pure. The milk bottle or glass jar in which the milk of a customer is placed and sealed at the dairy-house is far more cleanly. Odors and contamination of the city air, of dust and dirt, of drip from the moistened reins and hands of the delivery man are excluded. A full sealed bottle will not allow churning of the milk like its conveyance in a large can that is handled as much as it is necessary to a can from which supplies are being constantly taken. This churning, too, makes it more difficult to retain a low temperature, while the glass of itself is more capable of remaining cool than tin. The customer sees the amount of cream on his bottle at a glance, which, if you are doing a square thing by furnishing a high grade product, is good advertising. Finally, the "metallic" flavor that cans impart to the milk is not present. Consumers are fast being educated to the virtue of pure milk and though their nature impels them to endeavor to secure the product as cheaply as it can be had, yet they concede to paying high prices (which are necessary where more work is put upon the production of the article), much quicker than they do to drinking sour or impure milk with a distinctly "cowy odor." For the sake of humanity we would write that the thousands of our towns and cities may enjoy the merits of better milk, but the hundreds of proofs that could be had of where men have favored their own income by greater care impels us to urge the universal use of the bottle for delivering milk.



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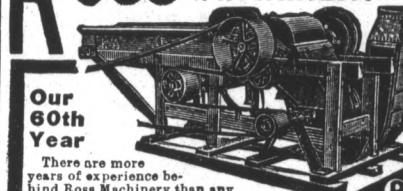


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DETROIT, MAY 28, 1910.

TO THE OLD SOLDIERS.

May 30, 1910.

That gentle spirit whose earnest words gathered about him the fishermen of Galilee, we hail as the Prince of Peace, yet the beneficent influence of christianity which came from His life and is flowing over the world, hath many times seemed to good men, to devout men, to require the defense of the sword. In the word "peace" we typify the broadest christianity, yet peace is but slavery except it include the means of justice and security for the rights of individuals, and nations, and when all other means fail, there follows war, with its swift machinery of destruction, to which this world of strange paradoxes seems at times compelled to make final appeal in behalf of peace. When, after all other means have been sincerely, earnestly appealed to in vain, the defense of a righteous cause compels an appeal to the final arbitrament of war; that war becomes a righteous war and all its heroism remains a most precious memory to be cherished in gratitude and sacredly preserved as an inspiration to the noblest human endeavor.

And therefore on this Memorial Day the nation pauses to honor its heroes. This day we give our thoughts and seek again to realize our indebtedness to the heroic virtues that have sustained the nation in its hours of trial and peril.

We look back with exultation and gratitude to hero forefathers who gave us independence and jealously nurtured and guarded the infant republic to the stability of its honored place among the nations.

We look back within the memory of the older of the generations still living and rejoice that hero fathers and brothers saved the nation from disruption and cleansed it of the blot of slavery—with gratitude unmeasured, limitless, but an exultation even yet tinged with the sadness of the countless sorrows of war. We look back but a few years to that short, decisive conflict in behalf of humanity, in which America, as the swift nemesis of fate, drove the Spaniard back to Spain as the only way of stamping out the cruel war torch of brutality and spoliation which had been kept aglow in the new world for four hundred years by that old world nation that buried Columbus in his chains.

This day we would recall very briefly but a single thought—a picture of Faith sketched broadly and simply, not alone a faith in the future of individuals, but that comprehensive, intelligent faith in the future of the nation which is the basis of the highest patriotism—the "Rock of Ages" of national progress.

After successful revolution in maintenance of the Declaration of Independence, our fathers in the same exalted spirit devised and inaugurated a system of self-government, purposing the largest freedom to the natural energies of a people, a perfect equality before the law and environment with the means of universal enlightenment. A national growth with

agricultural and industrial development, splendid, incomparable in all previous history, has resulted. Under our Constitution—an example of constructive statesmanship which our late cousin, the renowned Gladstone, pronounced "the most wonderful work ever struck off at a given time by the brain and purpose of man"—the arts and sciences and everything contributing to the material comfort and well-being of mankind have made wonderful progress.

There has developed a system of common schools supplemented with special schools and higher institutions of learning for literary, scientific and professional training, providing us means of education, with doors opening wide with welcome to every child in the land.

Practically all questions effecting the public weal are determined before the firesides of the nation and thence by representative action, molded into public law.

In the main, we have been true to the purpose and spirit of our origin—true to ourselves. Once only has division of sentiment reached the clash of arms in civil strife and then the right prevailed gloriously, and today witnesses the profound spectacle of victors and vanquished perfectly reunited in eager, devoted service to one country and one flag.

And yet all this does not imply that the millenium has arrived or that the reformer's occupation and opportunities are gone: on the contrary, herculean labors, many and diverse, await the reformer's skill.

Let us endeavor that all people may be animated with the exalted spirit of the genuine reformer, intelligent, far-seeing, broad, disinterested, patriotic. Let all questions be patiently worked out in the faith that "nothing is ever finally settled until it is settled right."

Are these not pictures of a splendid faith that has raised up so many heroes who have braved privation and suffering, and faced death itself that the nation might live?

All the world witnessed and marveled when Washington spurred his horse midway between the lines at Princeton, and after the volley from the enemy, led his soldiers in a successful charge.

When Perry stepped from his sinking flag ship and in an open yawl in the midst of shot and shell carried his colors to another ship, reformed his lines and won the day.

When Stedman at Chickamauga leading the awful charge that saved Thomas' corps from destruction, grasped the colors of a regiment that recoiled at first from the shock and called them from a threatened retreat by holding the flag above his head, and in a voice that rang the length of the line shouting, "Go back boys, if you will, but the colors will not go with you."

When the little crew of the Merrimac, defying many thousands of the enemy in the face of awful peril sank their ship in the throat of the harbor of Santiago.

Myriad the number of heroic deeds on land and sea by soldier and sailor at the battle front; myriad the instances of sacrifice at home hardly less heroic, by wife and mother and daughter.

We love to picture, as in a vision, the constantly lengthening, silent procession of the Grand Army of the Republic, that to us is so silently waiting, "Just over in the morning land."

At the head of that line we love to place Washington upon that splendid white charger that helped him save the day at Princeton, that hurried him to Yorktown and then in triumph carried the "Father of his Country" over the flower-strewn path from Mt. Vernon to the first inauguration of a President of the United States.

We see Sam Adams, the Father of the Revolution, and Jefferson, the author of the Declaration, on one side and on the other, Franklin the wise counsellor and Robt. Morris the self-sacrificing financier.

Then follow the long lines: Warren, Putnam, Green, Lincoln, Knox, John Paul Jones, the "Old Continentals in their ragged regimentals."

Time does not permit the calling of many names as the long procession passes silently by—the soldiers and statesmen, nor should we forget the heroic women of the Revolution, who, in some way during that long struggle made the little farms produce food and clothing for the family at home, and for fathers, brothers, husbands and sons away fighting for freedom. On and on that silent procession of self-sacrificing men and women. The war of 1812, with Perry and Jackson, of 1847 with Taylor and Scott, to the great conflict which gave us Grant, the comprehensive, Sherman, the invincible, Sheridan, the whirlwind, and Farragut, the thunderbolt.

God only can call all the names enshrined in the American heart, of the men and women who have helped to make and preserve the great republic.

One more we must call—the great, wise leader, the war president who guided the nation mid awful peril to peace and the certain promise of tranquility, and then yielded up his life while his people were rejoicing in victory. So long as letters and books shall exist, the name of Abraham Lincoln will continue a sacred treasure in all honest hearts, the noblest token of human sympathy—a very watchword of humanity.

Said John Wesley, standing by his father's grave in Epworth Churchyard, "God buries His workmen but His work goes on."

Let their glorified faith be ours none the less in time of peace for "peace hath her victories no less renowned than war." For no small portion of the glory of our progress are we indebted to the arts of peace, to the system of education, to the faithful army of teachers, to the school houses, the libraries, the ministry and the press, potent influences that have made us an intelligent people.

This day let us pledge ourselves anew in loyalty to the forces for good that have helped us to our present attainment and let us look upward and onward in faith that the progress of the nation is to reach ever higher ideals in the century to come.

"With firmness in the right, as God shall give us to know the right, let us strive on."

Do this in honor, the most worthy honor of the heroes of the past.

Do this in honor, the most loving honor of the heroes dead.

Do this in honor, the most appreciative honor of the heroes living.

Do this in honor, the highest honor of America's future; for therein continues the certainty that the nation's every need of hero services shall never lack response.

Oh, that this century might be glorified by the uplifting of humanity, the broadening of the spirit of fraternity, in a deeper, stronger, more quickening sense of the love and brotherhood of man—the fatherhood of God!

Let us labor in the faith that inspired Tennyson's call:

"Ring out the old, ring in the new."

"Ring out the false, ring in the true."

"Ring out old shapes of foul disease
Ring out the narrowing lust of gold.
Ring out the thousand wars of war,
Ring in the thousand years of peace."

"Ring in the valiant man and free
The larger heart, the kindlier hand,
Ring out the darkness of the land,
Ring in the Christ that is to be."

CURRENT COMMENT.

There are a great many advantages to be derived from making exhibits at state and local fairs, not alone by the breeders of choice live stock, but as well by the growers of fruits, grains, vegetables or farm products of any kind. It is not alone in the premiums which may be secured that these advantages lie. In fact, while the premiums won often represent a considerable source of income and are almost certain to more than pay the expense of preparing and making the exhibit, yet the greatest benefit to be derived is of an educational nature. The opportunity afforded to compare the best products of our farms with those shown by other exhibitors can not but prove beneficial to every exhibitor in every department of such a show. The opportunity to talk with other exhibitors regarding the good points of their exhibits and the methods employed in their production will broaden the exhibitor's knowledge in no small degree, while the experience gained will help to make any farmer a better business man and better citizen.

But perhaps the greatest benefit derived from the making of such exhibits comes from the early determination to make them. The farmer who resolves at this season of the year to make an exhibit of some one or more of the products of his farm at this year's fair, will give his crops, his live stock, his poultry, or whatever he may aim to exhibit, better care during the intervening period, when there is much to do upon the farm than will the man who has no such object in view. And this will be reflected in the better results that will be obtained from his season's campaign upon the farm, so that in a great majority of cases the man who begins at this season of the year to make plans for exhibiting some of his

products at the fairs this fall will be paid for all the time and trouble involved before the fair season arrives. It is not too early to make definite plans for the exhibiting of this season's products at this year's fairs. Our agricultural fairs are undoubtedly of great benefit to the agricultural industry, but nothing like the benefit that they might be made if more farmers exhibited their products each year. These fairs belong primarily to the farmers of the state, who should take steps to get the greatest possible amount of benefit from them, and the greatest possible benefit can be derived from them only by being identified with them through well prepared and well placed exhibits, instead of by an intermittent patronage which is the extent of the average farmer's connection with them.

The recent distribution of primary school money by the auditor general affords some interesting comparisons when reviewed in detail. A statement recently issued by Auditor General Fuller showed that the total tax levy of 1909, for state purposes, was \$5,929,719.74, while the primary fund distributed this spring reached a total of \$4,902,551.20. Of this sum, distributed to the 83 counties comprising the state, 50 counties received more at this apportionment of primary school money than they paid in state taxes. These 50 counties were the poorer counties of northern Michigan and by this means the children residing in that section of the state will be guaranteed better school advantages than would otherwise be possible. Of our northern Michigan counties, only the five counties of the upper peninsula which have large mining industries paid more in state taxes than they received at this apportionment of primary school money. As the reader knows, this primary school money is derived from the taxation of railroads, telephone, telegraph and other public service corporations, and the large distribution of primary school money is made possible by the increased taxation of this class of property under the ad valorem tax laws which provide for its assessment and taxation in the same manner and at the same rate as all other property is taxed.

It is not always easy for all in conducting an agricultural paper to give to every special industry in the territory covered, the space which its importance merits at all seasons of the year. This is especially true in a state like Michigan which has such a wide diversity of agricultural interests and in which so many special lines of production may be successfully followed. However, by having the matter contained in the various departments of such a publication timely and to the point, covering as nearly as possible the entire range of agricultural development, the greatest good can be done to the greatest number. This has ever been the publisher's plan in conducting the Michigan Farmer, yet we have ever tried to keep pace with those special industries which have grown in importance from year to year, by giving them an increased amount of attention and space, notwithstanding that this has made it necessary to publish a larger paper at greatly increased expense. That our efforts in this line are appreciated is proven by the frequent receipt of letters similar in tone to the following, which was just received from the pen of a Mason county fruit grower:

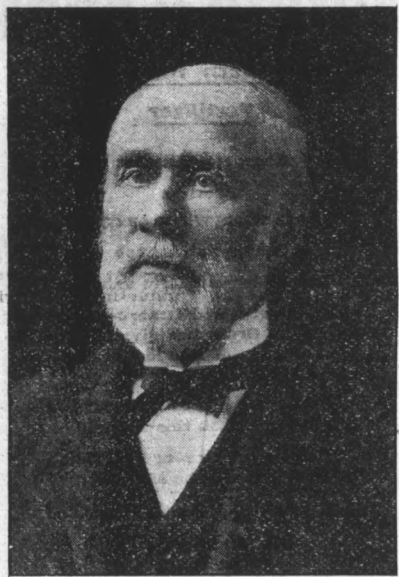
I am much pleased to learn of your intention to pay more attention to the fruit growers of western Michigan. While those of us who practice general farming in connection with fruit growing found The Farmer to be invaluable, yet it did not cover the ground satisfactorily, any more than do the leading fruit papers, one in the east and the other in the southwest. This is a rapidly growing section and land values are going up by leaps and bounds. There are no better opportunities offered to a beginner in fruit culture, anywhere in the United States than here on the east shore of Lake Michigan. What is needed is the help of just such a paper as yours to develop this great boon to our state, viz., fruit growing. If I can be of any service to you in this line of work please feel free to ask. Yours for a richer and a better Michigan.

Unquestionably the fruit belt of western Michigan is peculiarly adapted to the production of a wide variety of high grade fruits to an extent which is not enjoyed by any other section of similar area in our country. The fruit product of Michigan is many times greater than that of the special districts of the west, which, though very limited in area, have been boomed to a degree that has impressed the average mind with their importance, while the favorable conditions for growing

all kinds of fruit right in our own state have been too largely overlooked. The fruit lands of these limited areas in the west sell for exorbitant prices, owing to the fact that they are limited in extent. But the wide area in our own state which is adapted to fruit culture offers so many opportunities to purchase cheap lands that the real value of these lands for fruit producing purposes has not been generally appreciated, even by the residents of that district. There is abundant evidence, however, of a general awakening among the residents of the Michigan fruit belt, particularly its northern portion, and in response to that effort to improve this industry and this section of our state, the publishers of the Michigan Farmer have taken steps to strengthen the departments of the paper which will be particularly beneficial to the farmers of the fruit belt and have established a branch office at Grand Rapids, as noted in previous issues, to keep more closely in touch with their interests and needs. Such evidences of appreciation and offers of co-operation from farmers of the fruit belt are gratifying. We desire the active co-operation of each and every farmer interested in this great industry and in building up this section of Michigan to the limit of its almost boundless possible prosperity, and in return will strive to aid them in such manner as to prove that their confidence has not been misplaced.

DR. BEAL TO LEAVE M. A. C.

Dr. William James Beal, head of the Botanical Department of the Michigan Agricultural College, has announced his intention to resign from his present position at M. A. C. about the first of September next. This announcement will be received with regret, not alone by the



William James Beal, Ph. D., S. C.

governing board, faculty, students and alumni of the college, but by a host of friends throughout the state, including very many readers of the Michigan Farmer who have profited not a little by his writings which have from time to time appeared in our columns. Dr. Beal's career as an educator has indeed been a remarkable one. For more than 40 years Dr. Beal has been actively connected with the Michigan Agricultural College. He has seen the seedlings which he planted about the grounds grow into sturdy trees. Much of the experimental work which he has carried on has been greatly augmented in value owing to the fact that it has extended over a long series of years. The results of his work are so well known that it is unnecessary to recount them here. Suffice it to say that in addition to his educational and research work at the college, he has found time to associate himself with scientific bodies in his line of work, becoming recognized as one of the most eminent botanical authorities in the world, and to write a number of books as well as many articles for the public press. Among the most notable of his works is that on the "Grasses of North America," which is not only the most complete, but the only complete work of its kind in existence.

While still hale and hearty, although in his seventy-eighth year, and while he feels it is time to give up his active work in the routine of the college class, yet his plans do not include an idle old age, since he contemplates the writing of a history of the Michigan Agricultural College at his new home in Amherst, Mass. The fact that he has been for so long connected with the institution, makes him peculiarly well fitted for this undertaking,

which will be a crowning achievement in a life which has been devoted almost wholly to the interests of Michigan agriculture. Someone will have to be secured to carry on his work, but none can fill his place, either as an educator or in the hearts of the people of Michigan, who bid him God speed in his new undertaking and wish him many years of health and strength in which to round out an unusually useful life.

HEARING ON THE OLEO BILL.

(Continued from page 564). tious, and it was expected that much stress would be put upon this point, but to have them attempt to prove that oleomargarine was more wholesome and just as nutritious as butter, was not looked for. Dr. Wylie was put upon the stand and he stated that oleomargarine as manufactured today was a wholesome and nutritious product. This the dairymen do not deny. They do, however, deny that it is as nutritious and digestible as butter. The oleo people, however, went just a little bit too far with Dr. Wylie and at last asked if he could tell the difference between oleomargarine and butter. He said he thought he could and stated that he liked butter, but that he did not like oleomargarine. The attorney undoubtedly regretted that he asked this last question of the doctor. An attempt was made to show that there was danger from tuberculosis from butter. If butter was made from milk that contained the germ of tuberculosis, this would be incorporated with the butter and when people consumed the butter, they would be inoculated with the tubercular bacilla. There isn't any doubt but what milk from which cream is extracted and butter made is inoculated with the tubercular bacilla that they are liable to be incorporated, and probably when people consume the butter, there would be a very remote probability of their being affected with this disease. However, as yet there has been no case of tuberculosis that has been traceable to butter. People have consumed butter since time immemorial and until a case is cited where, in all probability the inoculation came from this source, people have not much to fear from this disease from eating butter, but it was shown in this case that oleomargarine in its manufacture, is churned in milk or cream, or butter is added to give it a resemblance to butter. What they try to do is to get a product that smells like, looks like and tastes like, butter. Oleomargarine would be no freer from these germs than butter itself and their argument here fell flat again.

The probability is that no bill will be reported out from this committee during this term of congress, but probably will be next December or January. The object of this hearing was for the committee to get ideas from all interested parties.

HAPPENINGS OF THE WEEK.

Foreign.

At a cabinet meeting at Copenhagen held May 23, the ministers authorized Premier Zahle to hand the king their collective resignations upon his return from London whither he has gone to attend the funeral of King Edward. A failure to obtain general support in the recent elections is the occasion for the dissolution of the cabinet.

The circulated reports that Queen Alexandra, wife of Edward VII. of England, was about to make her future home in Denmark is denied by her.

The different European powers interested in the recent action of the parliament of Crete which voted allegiance to the King of Greece and thereby renounced affiliation with the Sultan of Turkey, have remonstrated in a note prepared by England and France and submitted to Russia and Italy for their approval—the note warning the Cretans not to join Greece but to pay allegiance to the Sultan of Turkey and obey his commands. The protection afforded by the powers will be withdrawn should the government of the island persist in its desire to become politically united with Greece.

National.

The closing arguments in the Ballinger-Pinchot inquiry will be made on Friday and Saturday of this week if the schedule is carried out. Following these arguments 15 days will be given the attorneys to submit their briefs when the committee will go into executive session to weigh the evidence. The inquiry has been in progress four months.

It is stated that fully 10,000 persons were in attendance at the World's Sunday School Convention at Washington. Practically every country in the world and every state of the Union were represented. Recent reports of the fruit situation in western Michigan, especially in the Grand Traverse section, are to the effect that the first news of damage was greatly exaggerated.

The last Michigan legislature passed a law exempting old soldiers of the civil war from taxation upon their homes, where the valuation does not exceed \$1,200. It did not occur to the law makers that there were Mexican war veterans still living, until after the measure was

made effective, when many inquiries began coming to the attorney general's office inquiring about the matter.

Last week a resolution was introduced into congress authorizing an investigation into the business methods and practices of the express companies. The demand for lower express rates and the uncertain opposition that is being waged against the parcels post measures were largely responsible for the motion.

There appears to be an unusual consumption of strawberries this year, producers being unable to satisfy the public with the ordinary quantities sent out.

The Michigan railroad commission has received numerous complaints of excessive charges for baggage on three-cent lines. To secure an understanding in the matter a hearing was given to both the carriers and the public. It is anticipated that these roads will be compelled to make the same regulations and charges as are in force on the other roads.

The annual meeting of the ladies of the Maccabees of the World will be held at Cadillac in June.

The average wage for employees of Michigan for the year is \$1.90 per day according to the recent report of the department of labor.

At Ida, Texas, wind, hail and rain did much damage to property. Fruit trees and cotton were practically ruined by the hail.

The United States senate passed a bill this week authorizing the construction of two new dreadnaught battleships and other fighters for the navy, estimated to cost in all about \$34,000,000.

Giving the government valuable testimony in the prosecution of the sugar fraud cases, was a means whereby Oliver Spitzer, who was serving a sentence in the federal penitentiary at Atlanta, Ga., gained his freedom. President Taft granting him a pardon. Through the evidence supplied by Spitzer the government believes it will be able to successfully prosecute the persons "higher up" who are responsible for the wholesale frauds against the government through a manipulation of the scales used in weighing sugar importations.

It is asserted that the prosecutor of Hudson county, N. J., will apply for an order to dissolve the National Packing Co., otherwise known as the beef trust, since he has been refused extradition papers by the executive of his state for compelling the officers of the company to appear before the circuit court of that county.

Seven boilers forming a battery for generating steam at a tin plate plant at Canton, Ohio, exploded last week, killing 13 men instantly and injuring 30 others. The reason for the explosion is unknown.

Two fires in one night last week destroyed considerable property in the city of Kalkaska. A few weeks ago a \$50,000 loss was suffered from a similar cause.

The Michigan supreme court recently decided that a hotel man could not serve persons liquor in the rooms of his hotel under the ruling that a man could serve it in his own home. Only his own room can be considered his home.

The state railroad commissioner is investigating the practices of unscrupulous shippers who pay straw rates for cars and then ship more valuable commodities. Through this fraud the carriers lose much during the course of the year.

CROP AND MARKET NOTES.

Kent Co., May 20.—The late frosts did much damage, but did not kill all the fruit. Apples, cherries, plums, currants, gooseberries and strawberries have been greatly thinned, but not entirely destroyed. Strawberries, as luck would have it, were not far enough advanced to be frozen. However, it is yet a little early to correctly estimate the fruit crop. Considering the early spring the corn crop is rather belated. Little, if any, going in before the 25th. With good growing weather from now on, haying and harvest will be here unusually early. The acreage in clover is fully 50 per cent greater than usual. Old meadows occupy little space, owing to their intimate relations to the potato crop, the old sod receiving the fall and winter manure is invariably turned for potatoes. Old potatoes are moving rapidly at a few cents advance; 20¢ to 23¢ is now paid at home stations. The pig crop proved equal to the demand and the phenomenally high prices at which this little porker sold early in the season are falling as demand slackens.

Steuben Co., Ind., May 18.—We had a very nice, warm March and the pig and lamb crops are unusually good. So far May has been cold and dry. Wheat, oats and grass doing well, but clover has been injured by the cold. Good horses and cows are very scarce and bring almost any price asked. There are more young colts this spring than ever before. Wool is selling very slowly at around 25¢; hogs, 9¢; eggs, 18¢; butter, 18¢; corn, 50¢; sheep and cattle all sold.

Jefferson Co., Ohio, May 18.—Farmers nearly done planting corn. Hay not doing well, looks as if it will be a short crop. Oats all sowed but not growing much on account of a few heavy frosts which we had lately. The frost injured the orchards. We will have very little fruit this year. Wheat is looking pretty fair. Last fall potatoes sold at 60¢ per bushel but farmers thought they would get more for them in the spring so they kept them over winter and had to sell them this spring for 30¢ a bu. Butter 25¢ per lb; eggs, 18¢ doz; chickens, 13¢ lb; bacon, 15¢. Live stock looking good but very scarce. Produce of all kinds selling high except potatoes. Wheat \$1 a bushel; oats, 55¢ to 60¢; corn, 75¢.

Montgomery Co., Ohio, May 21.—We have been having lots of wet and cool weather this month. Corn all planted and is coming up yellow. Oats looking fine. Wheat is looking good. The grass has not been doing well until lately. It is now growing fine. Good prospects for hay. Too wet to work the ground at

(Continued on page 571).

SELF-LOADING HAY RACK!



ONE MAN does it all! NO ONE owning a loader can afford to be without one. Works on ANY WAGON high or low. Send for circular describing this and my STEEL BEAM LAST FOREVER HAY RACK. Lighter, Stronger, Cheaper and Longer-Lived than the ordinary hay rack. Barbed Wire Reeler & Unreeler. Attaches to any ordinary farm wagon. Winds a symmetrical spool as fast as team can walk. Roller Harrow, Greatest Machine in the World for destroying clods and making ideal seedbed at one operation.

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Write names plainly with postoffice and if on a rural route the number of same. Give your own name and postoffice as sender. Address THE MICHIGAN FARMER, DETROIT.

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MICHIGAN FARMS—Fruit, grain and stock farms, big bargains! splendid climate, water, roads and schools. Write for list No. 3. C. R. BISHOP & Co., Hastings, Mich.

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In Osceola county near Tustin, Michigan. These are cut over hardwood lands, without pine stumps. The soil is gravelly or rich clay. Well settled country with schools and good roads. Write for literature. H. W. MARSH, Manistee, Mich.

Farms and Fruit Lands in Western Michigan, sold on easy terms. Unimproved land from \$10.00 to \$15.00 per acre. Improved land from \$20.00 to \$65.00 per acre. Well located near good markets. Write for booklets. HAMMEL, KANN & CO., Manistee, Michigan.

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when you can buy the Best Land in Michigan at from \$6 to \$10 an acre near Saginaw and Bay City. Write for map and particulars. Clear title and easy terms. Stafford Bros., (owners) 15 Merrill bldg., Saginaw, W. S., Mich.

BUY A FARM

in the fertile Saginaw Valley of Mich. Pay for it quick raising sugar beets. Farmers are making money here. We've a good list. Write today. UNITED REALTY CO., Room 1, Cass Block, Saginaw, Mich.

LAND OPENING—233,295 acres of ceded Chippewa Indian Lands in MINNESOTA will be thrown open for Homestead entry at 9:00 o'clock, A. M., JUNE 20th, 1910. For lists and further information address Minnesota State Board of Immigration, Room 269, State Capitol, St. Paul, Minn.

"The Hylands of Yamhill"

OREGON FRUIT LANDS in large and small tracts. No blizzards or crop-killing storms in the late spring. Ten acre apple tracts in the famous Willamette Valley at \$100 to \$150 per acre. Climate, soil, air and water drainage, unsurpassed. 50 miles from Portland on the Southern Pacific also on electric line survey. See Union Pacific for special June rates to Oregon. Write me today. C. T. PRALL, 925 Board of Trade Bldg., Portland, Ore.

Fertile Farms in Tennessee \$5 to \$10 per acre

Fortunes are being made on fertile Tennessee farms. They raise big crops of Cantaloupes, Cabbage, Tomatoes, String Beans, Green Corn, etc., also Horses, Cattle, Sheep, Swine, Poultry and Eggs. Write me at once for Free Literature. I'll tell you how to get one of these splendid farms for \$5 to \$10 per acre. Act quickly! H. F. Smith, Trsf. Mgr., N.C. & St. L. Ry., Dept. F, Nashville, Tenn.

Fancy Farm For Sale.

Cost \$18,000. Price \$6,000

Improved by wealthy New Yorker, now dead, sacrificed for immediate sale: 60 acres tillage; one 40 acre field is the show field of that section; 10 acres in wood, 50 acres pasture; large orchard; 1/2 mile to depot village; two large barns, box stalls, 20-cow basement tie-up; poultry house; splendid neighborhood; high elevation, grand view; 12 large maple and elms on broad lawn. For picture of this splendid 14-room residence and details of bargains in Eastern farms from \$800 up see "Strout's Big Farm Catalogue No. 30." Copy free. E. A. STROUT, Station 101, Union Bank Building, Pittsburg, Penna.

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GEORGE KOINER,

Commissioner of Agriculture,

RICHMOND, VA.



HORTICULTURE

AN EXAMPLE OF NEED OF NURSERY INSPECTION.

The secretary of agriculture has cited to the house committee on agriculture, an instance where federal inspection of all plants and nursery stock from foreign countries would have saved the department much trouble and worry.

A lot of seedlings received from Angers, France, got past the custom house in New York. The state inspector in New York notified the department of agriculture in Washington that there had been nests of the brown-tailed moth found in some of the stock. The department at once notified the treasury department. The destinations of all suspected shipments were traced. About 800 notices were sent out, covering 35 states. All the shipments were examined by competent state inspectors. Nests of moths were found in shipments sent to fifteen states.

The brown-tailed moth is a companion of the gipsy moth that has been doing so much damage in Massachusetts. There over \$2,000,000 has been spent in combating the pest, to say nothing of the damage that the moth itself has done.

The officials of the department of agriculture believe that the danger of an outbreak has been avoided, but there is continual danger that there will be some importation of noxious insects into the United States, owing to the absence of a federal inspection law.

YOUNG TREES ATTACKED BY CUT-WORMS.

I have set out a peach orchard and the cutworms come out at night and eat the buds. What would be good for them? Would a ring of salt around the tree, or would lime sprinkled around the tree, help?

Oceana Co. G. H. L.
Much damage is sometimes done young fruit trees by cutworms. The pests work during the night. They climb the trunks and eat off the buds and tender growths. This habit suggests an effective remedy which is generally used where the worms trouble. A piece of cotton is wrapped about the trunk of the tree and tied at the lower edge, whence the upper part is pulled down over the string, making an obstruction that the worms cannot get over. Where the worms are real numerous good results follow the application of poisoned bait about the plants. Dip newly cut clover or pigweed in water poisoned with arsenate of lead, or Paris green, and scatter this about the plants; or if these materials are not to be had, bran poisoned with the same chemicals and scattered over the ground will prove effectual. These poisoned baits are valuable, not only in combatting the worms in the young orchard, but also in the garden and corn field. Where it is anticipated that plants are to be troubled by the pests, as one can usually foretell where sod ground is planted, it is well to put the bait on before the plants are up for then the cutworms are hungry and will devour the bait with more relish and consequently with greater benefit to the grower. Still another manner of getting rid of cutworms is to go over the orchard or garden in the night with a lantern and gather the enemies. They are out crawling about and because of their color can be readily seen. When hunting for them in the orchard give each tree a jar to dislodge any among the branches as they easily release their hold when disturbed.

STARTING RHUBARB.

Will you please tell me what to do for pieplant which does not grow well? When and how do you transplant? How long does it take to produce plants from seed?
Calhoun Co. J. M. P.

The probable reason for the pieplant or rhubarb not doing well is the lack of food elements in the soil. This plant is a very vigorous feeder and if a good supply of the elements of growth are not at hand for the use of the plant it will suffer. It is a good practice to cover the plants each fall with barnyard manure and then carefully spade it in the soil in the spring. Watering the plant with barnyard water that is enriched by liquid from the manure pile is excellent to apply during the growing season. Nitrogenous commercial fertilizers are also excellent to restore run-down plants. If located upon high ground and there has been a lack of rain, plants may suffer from insufficient moisture for when the large leaves are developing much water is required. Rhubarb is transplanted by using divisions of the fleshy roots. Unless the soil is unusually rich, dig a hole two and one-half or three feet deep, fill the bottom with well-rotted manure, pack firmly and cover the top with the earth taken from the surface. Plant the root division about four inches deep in this soil and firm well so that no large air spaces remain. Do this in spring. No stalks should be cut until the second year. To grow firm seed, it is necessary to begin in March or April by planting seed in cold frames; when danger of frost is by, transplant to open field, putting the sets about a foot apart each way. Cultivate thoroughly that season and the following year they are placed in the permanent plot with plants from four to five feet apart each way. If the soil is not in good fertile condition it should be given the same preparation as for the root divisions. Stalks should not be gathered till the second season after the last transplanting, since all the leaves are needed to get the roots well established the first season.

RASPBERRY CANE-BORER.

I would like to ask about the worms that are in the raspberry bushes. What can we do for them? A florist here says there is only one way and that is to cut below the last spot, as they destroy the heart of the stalk.
Gratiot Co. S. M. S.

The raspberry bushes of our Gratiot county subscriber are attacked with cane-borers. The mature beetle lays her eggs near the tip of the cane, and during this process she girdles the cane just above the place where the eggs are deposited, presumably for the end of causing an abnormal amount of plant food to collect to feed the young grub when it hatches. The tip soon wilts after the girdling is done. The grower should be watchful of his canes and whenever wilt shows cut off the affected canes below the girdle and destroy, preferably by burning. This will prevent the grub from hatching, save the cane from being channelled by the grub and if the work on the part of the gardener is done diligently will ultimately reduce the pests and the damage done by them.

ANOTHER METHOD OF PLOWING ABOUT FRUIT TREES.

In a recent issue we published the method used by Mr. Horn, of plowing his orchard. He used a long evener with horses attached at one end and a stone boat at the other to balance the plow. We have just received a card from S. K. Marsh, of Montcalm county, who employs another method of doing this rather objectionable duty. He uses a chain some eight or ten feet long between the plow and the team. Two men are required—one to drive and the other to hold the plow. By reason of the long hitch it is perfectly easy for the man holding the plow to guide it about the trees while the horses are kept far enough away so the whiffletrees and harness do not harm the trunks or limbs. Granted that the work is done as well, this manner of doing it would have the advantage of requiring less energy on the part of the team, than the way Mr. Horn uses, although with the latter's way the second man is not necessarily required. Take your choice, or if you do it differently let us hear from you. Even with these precautions it is wise to harness the horses with the short hames and cover the ends of the exposed whiffletrees with padding to make them less severe in case of accidental contact with the tree trunks.

CULTIVATION OF STRAWBERRIES.

To grow strawberries to perfection, they require a good deep loam resting on a clayed sub-soil, as the roots delight in a cool moist bottom, and when this can be secured for them, no amount of sunshine will hurt them, but on the contrary they will be all the better for exposure as regards the quality and flavor of the fruit. When huddled together with a mass of foliage overlapping, or grown under the shade of bushes, as is frequently the case, they never attain that degree of perfection which they do on a nice sunny border, or in an open position. Shade is fatal to flavor, and the other good qualities for which the strawberry is prized, for without moderate sunlight the crude juices are not converted into saccharine matter, without which they are little better than so much insipid and flavorless matter.

In order to obtain good strong plants for planting out in August or September the runners should be taken off the plants

in July and planted into nursery beds, where they should remain until they are strong and well rooted, when they can be transplanted into their permanent quarters. Many growers depend upon chance runners, that is, such as root naturally in the ground, but it is rarely these can be obtained as good as those treated as directed.

The site for the beds having been decided upon preparations for the plants must be made by trenching and manuring the ground. The amount, kind, and quality of the manure to be used must depend entirely on the richness or otherwise, of the soil to be treated, and its adaptability for the purpose required. If light and poor, the strongest and coolest manures, such as those from the cow yard, should be liberally employed, keeping it well down beneath the surface of the soil. As to the depth the trenching can be carried, the subsoil and other circumstances will have to be taken into account, but when it can be done, it ought in no case to be less than 18 inches. It does not necessarily follow that the subsoil should be brought to the top, as this, in most cases, would have an injurious effect on the plants, from their roots coming into immediate contact with the dead inert stuff that has never been aerated or contains the least particle of vegetable matter, and in which, therefore, they would make but little progress. Should the natural soil be sandy or loose a good dressing of clay worked in, will have a most beneficial effect by giving compactness and enabling it to retain the moisture for the plants to feed on during dry weather. Having made the necessary preparations by trenching and manuring the ground the next thing is to knead it as firm as possible before putting in the plants, otherwise they go too much to leaf and do not produce fruit so freely as when the ground is thoroughly consolidated.

In planting, the rows should be placed at a distance of two feet apart, and the plants 18 inches from each other in the row, and press the soil firmly around the ball to insure having it properly filled in, and that no cavities occur. Afterwards keep the plants well watered till they get a strong hold of the ground. As soon as that takes place runners will begin to show themselves and these should at once be taken off so as to concentrate the whole energies of the plant in developing fine crowns. This done, there should be an abundant crop next year, unless the blossoms are destroyed by frost.

Digging or breaking up the soil amongst them is most injurious and should never be resorted to on account of the way it breaks up the roots, which, in the case of strawberries, are very near the surface. The only stirring they should have should be with the hoe, for the purpose of cleaning and this should be followed by a top dressing of half decomposed manure which will act as a mulch, protecting them from the severity of the weather.

Canada.

W. R. GILBERT.

MAKING THE GARDEN PAY.

Little labor is required in growing cabbages after the plants are set out. As early cabbages are always in demand, there is no difficulty in disposing of them at a good price. Some plant early Jersey Wakefield seed in cold frames in October. They are transplanted about three inches apart, and kept under the glass during the winter. In spring, the stout, hardy plants can be set out earlier than it would be possible to set out tender greenhouse plants.

The ground has been previously well fertilized. The soil thus enriched, enables the young plants to begin growing immediately. Cabbages set out in this way are usually immune from worms. Frequently large fields, planted a little later, have been ruined by worms.

The ground is heavily manured in the fall, and after a good rain, the field is plowed and stands until spring; 600 lbs. of potash is sown to the acre and worked into the soil. Then 400 more pounds to the acre is used and the ground is planted in rows of two by two feet each way. In ten days a bit of nitrate of soda is worked into the plants and the cultivator is kept going until harvest time.

Another source of income is the tomato. Select an early strain of Earliana. Transplant them from the cold frames after danger of being cut down by the frost. Soak the bed in water, and with a square shovel cut in blocks, and lift out the plants in large flats with all the soil. In this way the roots are not disturbed.
Oakland Co. Z. I. DAVIS.

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C. T. Raynolds Paris Green is what you want for the potatoes; pure, unadulterated, dark, granular; a sure thing, and goes farther than the poor stuff.

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GRANGE

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

THE JUNE PROGRAMS.

State Lecturer's Suggestions for First Meeting.

"And what is so rare as a day in June? Then, if ever, come perfect days." Lowell.

Opening song.
In the home—IV. Practical talks about disease germs.
Recitation.
One magazine that interests me and why; ten-minute talk.
Reading, "Disease, Danger in Dirt."
General discussion on above topics, led by the Master.
One book that I enjoy, and why; fifteen-minute talk.
Instrumental music.
One poem that many people like, and brief sketch of the author.

THE GRANGE AND BETTER ROADS.

The Grange in Michigan has steadily favored the extension of the policy of state aid for highway improvement, and has watched with interest the various efforts made at Washington to secure federal aid, without committing itself to any particular method or attempting to work out the details of such legislation. It recognizes that had or impassable roads have contributed their full share in raising the question now agitating the public mind—the high cost of food products—and the Grange therefore stands irrevocably committed to the general proposition of road improvement.

In his annual address at Traverse City, State Master Hull declared that poor roads are expensive—much more so than the farmers of Michigan can afford. The question was recommended to the Grange as one of the most important and far reaching that it had to consider, and the State Grange executive committee has given it a prominent place among the few measures which are receiving special attention from the committee this year. As a result the committee has just sent out to the Granges of the state copies of a proposed amendment to the highway law of Michigan which has been drafted by the Director of Public Roads, of the U. S. Department of Agriculture. In asking that each Grange in the state carefully study and discuss this proposed law the State Master expressly states that it has not as yet received the endorsement of the Executive Committee; that it is submitted for the purpose of bringing out, in a rather definite form, the views of Patrons as to what changes in the present highway law are desirable. In other words, the committee wants the consensus of opinion, as to the working details of the proposed law, of the members in each and every Michigan Grange. If one-half or two-thirds of the Granges fail to respond the replies received will mean little. Therefore, each subordinate master should at once assume the responsibility of securing an expression of the views of his membership and of having it forwarded to the Executive Committee.

Some Features of the Proposed Act.

The proposed act provides for the establishment of a state highway commission which shall consist of a Professor of Civil Engineering in the University of Michigan, to be selected by the Board of Trustees of said university, a Professor of Civil Engineering in the Michigan Agricultural and Mechanical College, to be selected by the Board of Trustees of said college, and one civilian, to be appointed by the governor, who shall hold office unless removed for cause and who shall be chairman of the commission. Vacancies in the membership of the commission shall be filled in the same manner as is prescribed for the original appointments. The members of this commission shall serve without pay, but each member shall be allowed his actual and necessary traveling and other expenses incurred under the provisions of the act. This commission shall appoint a state highway engineer, who shall be a competent civil engineer and experienced and skilled in highway construction and maintenance, and who shall receive a salary not to exceed \$4,000 per annum in the discretion of the commission and shall be allowed his actual traveling and other expenses incurred under the provisions of this act. He shall hold office until removed for cause by the commission.

The state highway engineer shall file a bond of not less than \$5,000, conditioned upon the faithful performance of his duties, this bond to be approved by the

highway commission, and then filed with the Secretary of State. He may appoint in his discretion such assistant engineers, clerks and other assistants as may be necessary to the proper conduct of the work of the commission by and with its advice and consent.

The state highway commission and state highway engineer shall constitute the state highway department, which shall be provided with suitable rooms in the state buildings at the Capital, which office shall be under the charge of the state highway engineer and shall be kept open at such times as the business of the department and the convenience or interest of the public shall require. The state highway commission shall hold meetings at such times and for such periods as they may deem essential, and consider at their meetings all questions relating to the general policy of the state highway department, and the conduct of the work in general.

The Financial Side.

For raising the necessary funds the act provides for the levy, in addition to the levy for general state purposes, of an annual tax of one-fourth mill on every dollar of taxable property in the state, to be collected as other state taxes are collected, and paid into the state treasury and there held as a "State Highway Fund," for the exclusive uses and purposes of this act. Also, all moneys accruing from the licensing or registration of automobiles within the state, over and above the necessary expenses incident to such licensing or registration, shall be paid into the state treasury and be applied to the "State Highway Fund." Any portion of the "State Highway Fund" unexpended at the expiration of any fiscal year, shall remain available for apportionment and expenditure during succeeding years.

This state highway fund shall be apportioned among the various counties of the state in proportion to the ratio that the taxable property in each such county bears to the total taxable property of the state; and not more of this fund than the amount so apportioned to any such county shall be expended therein in any one year. The total cost of all highway and bridge construction or improvement shall be paid by the state treasurer, upon the warrant of the state highway engineer, out of this state highway fund, the county in which the work has been performed to refund to the state one-half of such total cost when the taxable valuation of such county is \$10,000,000 or less, and two-thirds when said taxable valuation is more than \$10,000,000. Provided, that in the case of any necessary bridge, including its piers, abutments, wing walls, and foundations for same, so constructed on any such highway, under the provisions of this act, the cost of which shall not exceed \$1,000, the state shall pay 50 per centum thereof, and where such cost shall exceed \$1,000, the state shall pay 50 per centum of the first \$1,000, thereof, and 10 per centum of each additional dollar of such cost over and above \$1,000; provided, further, that the state shall in no instance contribute more than \$5,000 to the construction of any such bridge in any one county in any one year; and provided, further, that not more than one-third of the proportion of the state highway fund allotted to any one county in any one year shall be used for bridges during such year.

Another feature is a provision for utilizing convict and prison labor in the preparation of road materials and in the manufacture of road tools and implements required by the state highway department.

Close to 200 Mark.—Harmony Grange, of Wayne Co., received a half dozen applications at its first May meeting. It will initiate at one of the June meetings and as it now has 187 members in good standing a strong effort is being made to secure a class sufficiently large to bring the membership up to 200.

Pruning and Cultivation as Important as Spraying.—At the last meeting of Wilson Grange, No. 719, held May 14, the topic, "What other things are as important as spraying in the growing of fruit?" It was decided that pruning and cultivation are fully as important. Wilson is one of Charlevoix's good Granges and meets the second and fourth Saturday evenings of each month with a good attendance.

COMING EVENTS.

Pomona Meetings.
Benzie Co., with Thompsonville Grange, Tuesday and Wednesday, May 31 and June 1.
Western (Ottawa Co.), with Conklin Grange, Saturday, June 11.
Lenawee Co., with Hudson Center Grange, Thursday, June 2.
Osceola Co., with Sears Grange, Thursday, June 23.
Kent Co., with Cascade Grange, Wednesday, June 29. Dr. C. E. Marshall and Bro. C. S. Bartlett, speakers.

FARMERS' CLUBS

OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

President—B. A. Holden, Wixom.
Vice-president—Mrs. C. A. Mathews, St. Johns.
Secretary—Mrs. C. B. Johnson, Metamora.
Treasurer—Henry T. Ross, Brighton.
Corresponding Secretary—N. A. Clapp, Northville.
Directors—T. B. Halladay, Norvell; E. C. Hallock, Almont; A. R. Palmer, Jackson; Wm. H. Marks, Fair Haven; C. L. Wright, Caro; E. W. Woodruff, Blanchard.

Address all communications relative to the organization of new clubs to Mrs. C. P. Johnson, Metamora, Mich.

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.

THE YOUNG PEOPLE AND THE CLUB.

One of the features which most impressed the thoughtful listener at the conference of local clubs, which is held each year during the associational meeting, is the fact that so many delegates in speaking of their club work say that they find difficulty in interesting the young people. This is not at all as it should be. There is no good reason why the Farmers' Club should not be made a social center in every community where one exists. If it is made such, there will be little difficulty in interesting the young people and keeping them interested in the club work, or at least the social features of it.

There are many ways in which this can be done. The special feature work of the club can be made to serve this end. Plan on some phase of the program in which the young people will be interested. Get them to arrange for athletic sports at the midsummer picnic. Have some feature of the club fair in which they may be particularly interested. Interest them in the giving of an evening entertainment during the winter season for the benefit of the club treasury. Arrange to have them serve the meal at some special feature meeting where a more elaborate spread is served than at the ordinary club meeting. Get them to stage entertainment features for the club meetings where these are held in halls which make such entertainment possible. Arrange to bring the young people of different communities together for some one of these purposes when a union meeting affords the occasion. Anything which will bring the young people together for wholesome intercourse and association will not only interest them in the Farmers' Club, but will tend to gradually interest them in its routine work as well, so that its membership will be replenished from their numbers and its permanence be thus insured as an institution in the community. This will likewise be good for the young people who naturally crave the society of others of their own age and are bound to have it, if not in the Farmers' Club, then elsewhere. Why not bring them together under the wholesome influences of the club, to the benefit and advantage of both, instead of leaving them at home and at work while the older members of the household attend the meeting?

ALFALFA VS. RED CLOVER.

Synopsis of paper read before the Columbia Farmers' Club by Walter Redding. "When I held an auction in Illinois just before coming to Michigan the neighbors there paid \$8 per ton for my red clover and \$14 per ton for alfalfa. I had cut two crops of red clover and three of alfalfa. Red clover is too dusty to feed to horses, but not so with alfalfa, and I have seen horses leave their oats to eat it. A man that worked my team on the highway got so he would take no other hay to feed the team. I have seen a difference of 100 lbs. of milk a day in 20 cows fed alfalfa hay twice a day instead of timothy. I had five acres of alfalfa that we cut for five years. Then the ice smothered it, and I raised two good crops of corn. Since then they have raised 40 bushels of barley to the acre and got a fine catch of alfalfa again, and this piece never received any manure. But the land must be rich in the first place in order to get a catch.

"The first year it was a failure with me here. Last year I got about half a stand

by using nitro-culture. This spring I sowed more seed and also tried another piece.

"In the U. S. Bulletin 339 the following estimate is put on the feeding value of good alfalfa hay as compared with the other feeds named:

"Alfalfa hay per ton, \$20.16; clover hay, per ton, \$14.12; timothy hay, per ton, \$9.80; wheat bran, per ton, \$22.80; shelled corn, per ton, \$20.16.

"Please consider what this estimate means. Every farmer is willing to persevere year after year growing corn. If he fails on one crop or three crops in succession it makes no difference. At it he goes again next spring. And yet, a ton and a half of shelled corn per acre is more than the great majority of farmers will get. And that, too, means a lot of work before the crop is shelled. It is a rather poor crop of alfalfa that will not yield three tons per acre, really three times as much feeding and market value as corn will give. And yet, in view of all these striking considerations staring the farmer in the face, but few will really set themselves to work in a determined way to master the trick of growing alfalfa."

CLUB DISCUSSIONS.

Women's Day.—The May meeting of the Ray Farmers' Club was held with Mr. and Mrs. R. W. Coykendall, on Thursday, May 12. A fine dinner was served by the farmers' wives, for which plates were laid for 60. After dinner was served the meeting was called to order by the president and the program carried out. "What are some of the greatest needs of farmers' wives?" were told in response to roll call. The graphophone furnished some very nice music. Mrs. C. S. Priest then read a paper on "Flowers," after which the topic, "Influence of flowers in the home," furnished material for a lively discussion. Eight new members were enrolled. The club then adjourned to meet again next month and observe Children's Day, with Mr. and Mrs. J. A. Priest.—Hazel M. Green, Cor. Sec.

Discuss the Dairy.—The Laketon Farmers' Club held a pleasant meeting on Thursday evening, May 12, at the home of Mr. and Mrs. John Fenner. A program of recitations and music was given, which was followed by a discussion on the subject, "The care of the dairy cow," led by Mr. Black. The next meeting will be held at the home of Mr. and Mrs. John Baars on May 26.—Mrs. Mattie Gilbert, Cor. Sec.

Discuss the Garden and Poultry Yard.—The May meeting of the Washington Center Farmers' Club was at Willowdale, the home of Mr. and Mrs. Frank Brattin. This was the first half-day meeting of this year, and was called to order by the vice-president, Mrs. Frank Brattin. Music, miscellaneous business and reading of the minutes followed. "The Farm Garden" was a timely topic. Gardening is both pleasant and profitable. Try new varieties of vegetables and don't neglect the old ones. Test your seeds, and avoid failure. A hand cultivator makes gardening a pleasure. Keep the garden free of weeds. Happy is the man who grows vegetables, where life is worth living. "Out on a farm." "Profit in the poultry yard" was next taken up. Every well conducted farm has its poultry yard. There is good money in chickens and eggs. Keep good stock and don't neglect them in warm weather. Recitations, readings and music finished the program. Roll call was responded to by "Eminent Men of Michigan." Next meeting at East View, June 9.

Alfalfa vs. Red Clover.—The May meeting of the Columbia Farmers' Club was held with Mr. and Mrs. Sumner Ladd with a good attendance, considering that it was just corn planting time. Roll call was responded to with names of our favorite heroes, each one having a favorite. Miss Agatha Cash favored the club with a piano solo and kindly responded to an encore. The subject for discussion, "Alfalfa vs. Clover," Mr. Reading taking the side of alfalfa with a comprehensive paper, a synopsis of which appears on this page. The side of clover was taken by Mr. Dunn, who is very much in favor of red clover as a standby for keeping up the fertility of the soil. There was quite a lively discussion of the merits of each. Angelo Palmer was present and gave a brief report of the meeting of the State Association of Farmers' Clubs held at Lansing, he being a delegate from Columbia club. This concluded the program for the day and adjournment was taken to partake of a bountiful supper, and a short social hour. The next meeting will be held with Misses Agnes and Jennie Neely, assisted by Mrs. Mattie Blowers.

Success in Poultry Raising.—At the May meeting of the Ingham County Farmers' Club with Mr. and Mrs. W. A. Diamond, Mrs. Shafer gave a paper, "Success in Poultry Raising," treating it in a plain, common sense way. She had about one-half an acre of ground set out to fruit trees to give shade, and fenced with poultry wire fence. She kept old hens, some as old as five years, for mothers, as they become broody earlier in the season and take the place of the incubator. She told how to prepare the nests, use plenty of insect powder, and remove them from the poultry house, and invariably had good hatches. Mrs. Horton led in the discussion, telling how one could engage in the poultry business without any capital, and was followed by Mrs. Haskell, Messrs. Cheney, Jenkins, Bullen, President Ives, and others. Mrs. Diamond's modesty prevented her from saying anything, but a glance at her clean houses and healthy fowls said more than words could say. That she is interested in poultry goes without saying, for she did not forget to feed the little peeps, even on so momentous an occasion as club day. W. H. Taylor read a petition about our public highways, urging the present congress to pass an appropriation of \$500,000 for improving the roads. The next meeting will be held at Ridgevale with Mr. and Mrs. J. B. Thorburn, on June 11.

MARKETS

DETROIT WHOLESALE MARKETS.

May 25, 1910.

Grains and Seeds.

Wheat.—The market was in the hands of the bears this past week. The quotations below show a steady decline. Crop conditions did not appear to be the influential factor it has been other weeks for the reports of Hessian fly damage are on the increase; but the spring wheat prospects are improving since the recent rains soaked the soil in sections suffering for lack of moisture. The call from foreign countries is weakening and prices there are declining fully as much as here so that no greater margin exists than before the change to a lower basis. The main point to the argument of the bears is the heavy receipts. From every quarter they come in quantities that inspire buyers with confidence that quotations will go down. A year ago the price for No. 2 red wheat was \$1.55 per bu. Quotations for the past week are:

	No. 2	No. 1	Red.	White.	July.	Sept.
Thursday	1.11½	1.11½	1.04	1.02½		
Friday	1.11½	1.11½	1.04	1.02½		
Saturday	1.11	1.10	1.02½	1.01½		
Monday	1.09	1.09	1.01½	1.00½		
Tuesday	1.08½	1.08½	1.00	.99½		
Wednesday	1.09	1.09	1.00½	.99½		

Corn.—To keep company with the wheat deal, corn values declined. The market was influenced by warmer days, but excessive rains was a stay to the Chicago market since it is known that in important corn districts planting has been delayed thereby to the probable detriment of the crop; but these rains were not general in their effect. The local market is weak. One year ago the price for No. 3 corn was 76½¢ per bu. Quotations for the past week are:

	No. 3	Yellow.
Thursday	.65	.65
Friday	.64	.65
Saturday	.63½	.64½
Monday	.62½	.63½
Tuesday	.62	.63
Wednesday	.61½	.63

Oats.—Values rule lower. The crop has been benefited by recent rains. There was some apprehension for the crop in many sections owing to lack of moisture, but the fear was almost, if not altogether, relieved by the rains. The demand is not as heavy as it was. One year ago the price paid for No. 2 oats was 64½¢ per bu. Quotations for the week are:

	Standard.
Thursday	.45½
Friday	.45½
Saturday	.45½
Monday	.44½
Tuesday	.44½
Wednesday	.43½

Beans.—There is no dealing on the local market. Nominal quotations are lower than a week ago. They are:

	Cash.	Oct.
Thursday	\$2.25	\$2.07
Friday	2.20	2.05
Saturday	2.20	2.05
Monday	2.20	2.05
Tuesday	2.20	2.05
Wednesday	2.20	2.05

Cloverseed.—This trade is quiet, with the little activity confined to the October option. The quotation for the past week for that future was:

	Prime Oct.
Thursday	\$6.50
Friday	6.50
Saturday	6.50
Monday	6.50
Tuesday	6.45
Wednesday	6.42½

Rye.—Market is dull and firm. No. 1 is quoted at 82½¢ per bu., which is an advance of ½¢ over last week's quotation.

Visible Supply of Grain.

	This week.	Last week.
Wheat	22,030,000	22,872,000
Corn	6,541,000	7,780,000
Oats	7,416,000	7,276,000
Rye	573,000	559,000
Barley	2,152,000	2,025,000

Flour, Feed, Provisions, Etc.

Flour.—Market is improving under the range of prices established a week ago. Quotations as follows:

Clear	\$5.15
Straight	5.25
Patent Michigan	5.55
Ordinary Patent	5.35

Hay and Straw.—Both kinds of hay and rye straw are lower. Quotations: No. 1 timothy, new, \$17@17.50; No. 2 timothy, \$15.50@16; clover, mixed, \$15.50@16; rye straw, \$7@7.50; wheat and oat straw, \$6.50@7 per ton.

Feed.—Prices are steady. Carlot prices on track: Bran, \$25 per ton; coarse middlings, \$26; fine middlings, \$28; cracked corn, \$27; coarse corn meal, \$27; corn and oat chop, \$24 per ton.

Potatoes.—For the first time in many months buyers are stating that the local market is firm. Prices rule a little better than a week ago. In car lots, Michigan potatoes are quoted at 23@25¢ per bu.

Provisions.—Family pork, \$28@29; mess pork, \$26.50; medium clear, \$26@26.50; pure lard, 14½¢; bacon, 20@21¢; shoulders, 14½¢; smoked hams, 18@18½¢; picnic hams, 13¢ per lb.

Hides.—No. 1 cured, 10½¢; No. 2 cured, 9½¢; No. 1 green bulls, 8½¢; No. 1 green calf, 15¢; No. 2 green calf, 14¢; No. 1 cured calf, 16¢; No. 2 cured calf, 15¢; No. 1 horsehides, \$3.50; No. 2 horsehides, \$2.50; sheepskins, as to wool, 50¢@1.50.

Dairy and Poultry Products.

Butter.—A very firm tone crept into the butter deal the past week and encouraged an advance of 1¢ for creamery grades. The price is 3¢ above the 1909 figures. Dairy goods are steady. Quota-

tions are: Extra creamery, 28¢ per lb; firsts, do., 27¢; dairy, 21¢; packing stock, 20¢ per lb.

Eggs.—The active buying continues. Receipts are liberal but could not prevent an advance. Last year's price was a cent higher for fresh receipts. Fresh eggs, cases included, are exchanged at 20¼¢ per dozen.

Poultry.—Market is steady with a week ago. Offerings are scarce. Live—Broilers, 25@26¢; spring chickens, 18¢; hens, 18@18½¢; old roosters and stags, 12@13¢; ducks, 15@16¢; geese, 12¢; turkeys, 18@19¢ per lb.

Cheese.—Michigan, late made, 15@15½¢; Michigan, fall made, 18@18½¢; York state, 19@20¢; Limburger, Wisconsin, 17@18¢; New York, 18@19¢; bricks, 16@16½¢; Swiss, domestic block, 21¢; Swiss loaf, 28¢.

Calves.—Steady. Choice to fancy, 11½@12¢; ordinary, 10@11¢.

Fruits and Vegetables.

Apples.—Steady and in good demand. Spy, \$4@4.50; Baldwin, \$4@5; Steel red, \$6.50@7.

Cabbage.—Selling at \$3@3.25 per crate for new.

Strawberries.—Trade brisk. Per 24-qt. crate, \$3.50.

Vegetables.—Beets, 60¢ per bu; brussels sprouts, 25¢ per qt; carrots, 75¢ per bu; cauliflower, \$2.25@2.50 per bu; celery, 45¢@50¢ per doz; eggplant, \$1.50@1.75 doz; green onions, 10@12¢ per doz; head lettuce, \$2.50@3 per hamper; mint, 25¢ per doz; parsley, 25@30¢ per doz; radishes, 15@25¢ doz; spinach, 90¢ hamper; turnips, 50¢ per bu; watercress, 20@25¢ per doz; wax beans, \$2.50@2.75 per bu; pieplant, 25¢ per doz; asparagus, \$1@1.25 per doz.

OTHER MARKETS.

Grand Rapids.

The business done on the city market is steadily increasing as the season advances. Outdoor lettuce has arrived and is bringing 85¢ per bu. Pieplant is worth 75@80¢. Old hay is scarce, the few loads offered bringing \$15@17. Not much change is noted in the egg market since last week, though the tendency is downward. The bulk of the eggs delivered here are bringing 18½¢. Dairy butter is a little firmer, jobbers paying the country merchants 22¢. Creamery is 1¢ higher, with quotations at 28¢ even. The market on live poultry, delivered, is 1¢ off, fowls, ducks and turkeys 14¢; old roosters 9¢. Grain prices are steady at the following quotations: Wheat, \$1.06; corn, 66¢; rye, 72¢; oats, 46¢; buckwheat, 55¢; white pea beans, \$1.85; red kidneys, \$2.50@2.75. Dressed hogs were bringing 11½¢ Tuesday morning with the market tendency downward. Fruit prospects are looking somewhat better and while the frost damage has been great, Michigan will still have a lot of fruit to sell. Reports from northern Michigan on fruit crop prospects are especially encouraging.

Chicago.

Wheat, No. 2 red, \$1.09½@1.10; July, 98½¢; September, 79½¢.

Corn—No. 2, 59½¢@60¢; July, 59½¢; September, 59½¢ per bu.

Oats—No. 3 white, 37@40½¢; July, 38½¢; September, 37½¢.

Butter.—The butter receipts are liberal but the market is far from congested for the surplus is being stored and prices are looking upward. Quotations are: Creameries, 22@27½¢; dairies, 23@26¢.

Eggs.—Market is steady at last week's values. Receipts liberal. Demand large. Prime firsts, 20¢; firsts, 19¢; at mark, cases included, 16@18¢ per doz.

Hay and Straw.—Market lower. Quotations are: Choice timothy, \$15.50@16.50; No. 1 timothy, 13.50@14.50; No. 2 do and No. 1 mixed, \$12@13; No. 3 do and No. 2 mixed, \$8@11; rye straw, \$9@9.50; oat straw, \$7@7.50; wheat straw, \$6@6.50.

Potatoes.—Prices are better than a week ago and the market is steady at the advance. New potatoes are coming in slow. Fancy and choice stocks are selling at 31@33¢ per bushel, while fair to good grades are quotable at 28@30¢ per bushel.

Beans.—Prices are improved. Choice hand-picked are quoted at \$2.32@2.35; fair to good, \$2.27@2.30; red kidneys, \$3@3.25 per bushel.

Wool.—The trade this past week has been steady and firm at the values quoted a week ago. For fine unwashed delaine, 23@25¢ is being paid.

New York.

Butter.—The butter market is higher. Receipts are large but the arrivals are met by heavy buying. Creamery specials are quoted at 29¢; process butter, 23@25¢ per lb.

Eggs.—Market is weaker. Demand is good with receipts large. Nearby eggs are quoted at 24@26¢; regular packed extra firsts, 21@21½¢ per doz.

Poultry.—Trade quiet and easy. Western fowls, 15@19¢; frozen chickens, 16@28¢; turkeys, 16@18¢ per lb.

Boston.

Wool.—There is a general improvement in the trade here. Manufacturers are after raw material. Values are being well maintained. Brokers are conceding, in some instances, to the relentless demands of producers and farmers are more hopeful of getting their share of the price finally paid by the consumer. The leading domestic quotations are: Ohio and Pennsylvania fleeces—No. 1 washed, 36@37¢; delaine washed, 35@36¢; XX, 33@34¢; ½-blood clothing, 31@32¢; ¾-blood clothing, 31@32¢; ¼ blood combing, 29¢; delaine unwashed, 26@27¢; fine unwashed, 23@24¢. Michigan, Wisconsin and New York fleeces—Fine unwashed, 22@23¢; delaine unwashed, 23@25¢; ¾-blood unwashed, 28@29¢. Kentucky, Indiana and Missouri—¾-blood, 30@31¢; ¼-blood, 28@29¢.

Elgin.

Butter.—Market is firm at 28¢ per lb., which is 1¢ above the quotation of a week ago. The sales for the week amounted to 687,400 lbs., compared with 592,400 for the week previous.

THE LIVE STOCK MARKETS.

Buffalo.

May 23, 1910.

(Special report by Dunning & Stevens, New York Central Stock Yards, East Buffalo, N. Y.)

Receipts of stock here today as follows: Cattle, 145 cars; hogs, 10,400; sheep and lambs, 13,400; calves, 2,300.

Had 145 cars of cattle on our market here today and 21,000 head reported in Chicago. While all the dry-fed butcher grades sold steady to strong with last week, the market was very dull and slow. The prime heavy-weight cattle, quality considered, were all of 10¢ per hundred weight lower than last week. The quality of the heavy dry-fed cattle was as good as anything seen here this year. There was one extra prime load of yearlings sold here at \$8.60. We wish our patrons to bear in mind that in buying cattle that have been to grass, they must buy them from 50¢ to \$1 per hundred weight lower than the dry-fed cattle of same grade.

We quote: Best 1,300 to 1,450-lb. steers \$8@8.30; good 1,200 to 1,350-lb. shipping steers, \$7.25@7.75; best 1,100 to 1,200-lb. shipping steers, \$6.50@7.25; medium butcher steers, 1,000 to 1,100 lbs., \$6@6.40; light butcher steers, \$5.25@5.75; best fat cows, \$6.50@6.75; fair to good cows, \$5@5.50; common to medium do., \$3.50@4; best fat heifers, \$7@7.50; good fat heifers, \$5.75@6.25; fair to good do., \$5.50@6; best feeding steers, \$5.50@6; medium to good do., \$4.25@4.50; stockers, all grades, \$3.75@4; best bulls, \$6@6.50; bologna bulls, \$5@5.75; thin light bulls, \$3.75@4.50; best milkers and springers, \$55@65; common to good do., \$25@45.

Milkers and springers sold a dollar or two per head lower.

Receipts of hogs on our market today, 65 cars. Market opened strong at Saturday's prices, and closed strong, everything selling. We quote prices as follows:

Mixed, medium and heavy, \$9.95@10; light yorkers and pigs, mixed, \$10.10@10.20; good weight yorkers, \$9.95@10; roughs, \$8.90@9; stags, \$8@9.25. Prospects look fair for the near future.

The lamb market opened active today, with most of the best lambs selling from \$8.85@8.90; few fancy at 9¢. Markets closed steady, all best handy weight lambs selling; few coarse and heavy lambs unsold. Look for little better prices balance of the week. Sheep were very dull and 90¢ per hundred weight lower than last week. Most of the best wethers selling \$5.50@5.75. Don't look for much improvement in the sheep trade.

We quote: Handy lambs, \$8.85@8.90; heavy lambs, \$8@8.25; wethers, \$5.50@5.75; ewes, \$5@5.25; yearlings, \$6.50@7; cull sheep, \$2.50@3.50; skip lambs, \$4.50@5.25; bucks, \$3@4.50; veals, choice to extra, \$8.50@8.75; fair to good do., \$7.50@8.25; cull to common, \$6@7; light thin calves, \$5@6.

Chicago.

May 23, 1910.

Cattle. Hogs. Sheep.
Received today 22,000 32,000 18,500
Same day last year..... 19,100 44,285 9,780
Received last week..... 45,727 122,680 59,170
Same week last year..... 46,302 121,785 55,304

A new week opens today with good live stock supplies, and cattle are mostly unchanged, with an active general demand for good lots at firm prices, but grassy cattle are slow and inclined to go lower. Hogs were expected to go lower when the large receipts were posted on the bulletin boards, but there was such an active demand from all classes of buyers that prices were 5¢ higher. One sale was made at \$9.77½, and numerous lots of prime hogs brought \$9.75. Sales were made all the way down to \$9.40 for common hogs, with stags at \$9@10, subject to \$0 lbs. dockage per head, while boars sold slowly at \$4@5. Pigs brought \$9.15@9.65, and hogs weighing 185 to 195 lbs. sold as high as \$9.75. Hogs are now being marketed freely, and last week's receipts were the largest in three months. They averaged in weight 241 lbs., compared with 237 lbs. a week earlier, 215 lbs. one and two years ago and 234 lbs. three years ago. Sheep and lambs were largely 25¢ lower today, following a break of 70¢@85¢ in sheep and 40¢@75¢ in lambs last week. Wethers are going at \$5@5.75; ewes at \$3@3.50; yearlings at \$5.75@6.75; lambs at \$4.50@5.60 and spring lambs at \$7@9.25.

Cattle showed more activity on the whole last week, with dullness and weakness at times, however, especially on Monday, when the receipts were disproportionately large, as usual. By the extremely unequal distribution of the receipts buyers are given an unfair advantage, which they are not slow to make the most of. Monday's decline was regained later in the week, except for thin, light-weight cattle, which became slow and still lower, while butcher stock, after activity and great firmness, became weak, the nearness of the season for marketing Texas grass cattle having a disturbing influence on all except choice cows and heifers. Beef steers sold chiefly at \$7@8.10 during the week, with the commoner light killers selling at \$5.65@6.75 and the choicer heavy shipping beefs at \$8@8.70. Good steers sold at \$7.60 and upward and medium lots at \$7 and over, and there was a larger showing of the choicer class of shipping cattle and a better demand from shippers. Cows and heifers were not offered in particularly large numbers and sold freely, as a rule, at \$4.30@7.30, while canners and cutters sold freely at \$2.50@4.25, and bulls at \$4@6.60. Poor old shelly cows were the only kind hard to sell, packers fighting shy of them. Calves were active and higher, selling at \$3.75@7.85, and there was a moderate demand from the east for milkers and springers at \$30@60 per head. There has been a falling off in the demand for stockers and feeders since corn planting was started, and lower average prices prevail, stockers selling at \$4.25@5.85 and feeders at \$5.85@6.60, with comparatively few trades near the highest quotation. A great many steers lacking good beef-making condition have within the last few weeks been turned out of feed lots into pastures for the purpose of running for

a few weeks on grass. Matured cattle should be marketed without delay, but where immature cattle are owned owners should pasture them.

Hogs came to market more freely last week, with 38,536 head arriving on Monday, and this unusually liberal supply resulted in a big break in prices, but there were recoveries later in the week under much smaller "runs." There has been a strong general demand, packers needing the hogs for their fresh meat trade, and eastern shippers were fair buyers of the choicer grades. Hogs have been selling as much as 75¢ higher than the "low day," April 19, but much lower than "high day," March 28, when the average price was \$11.03. The bottom has dropped out of the stag market, however, and upward of 1,200 head were carried over unsold the other night, speculators and commission firms refusing to accept the decline of around \$1 per 100 lbs. from recent stag prices. Pigs continued to come forward sparingly and sold fully as high as choice matured barrows, it being impossible to fill buying orders for choice pigs. Hogs were mostly fat and of unusually even good quality, and the spread in prices was very narrow, the great bulk of the hogs selling within a 10¢ range. All indications point to a good summer market for hogs.

Sheep and lambs have undergone plenty of sensational declines in prices of late, and the general market has been placed on a very much lower level than that of only a few weeks ago, larger marketings and the almost total disappearance of the eastern shipping demand enabling local killers to pretty nearly dictate terms to sellers. As is the case with cattle and hogs, Monday is the great day of the week, and the big supplies of that day are followed by very much smaller offerings on other days. Prime fed lambs are slower about weakening than other grades of lambs, and buyers discriminate strongly in favor of light lambs, the demand being best for lots weighing around 75 lbs., and lambs weighing 80 lbs. and over are slow of sale, the same being true of yearlings. Sheep have declined the fastest and have sold at the lowest prices recorded in months. Even spring lambs have had a big break from their recent best time, with increasing supplies, although no large numbers arrived, the season being much later than a year ago.

Horses are not required in as large numbers as several weeks ago, when the spring trade in farm mares, small southern chunks and the cheaper kinds of horses was lively, and recent sales have been made of plain and medium grades of work horses at \$125@175 per head, or \$5@15 lower than at their best time. Even the general run of medium and ordinary drafters have suffered a similar reduction, but choice horses of all classes are as high as ever, with no large offerings. Drafters that grade well are purchased at \$175@275, with an occasional trade at a fancy figure, and poor to medium kinds quotable at \$115@170. Expressers and wagon horses are selling mostly at \$165@210, and feeders are salable at \$170@225, while drivers sell anywhere from \$150@300. The most serious drawback of the horse market is the tendency to ship in too many common and medium horses, enabling traders to depress prices materially.

LIVE STOCK NOTES.

The Chicago packers made a reduction of half a cent per pound a few days ago in the price of the choicer grades of dressed beef cuts, while the cheaper grades were not changed. This reduction brought No. 1 ribs at wholesale down to 14½¢ per lb., and No. 1 loins down to 18¢ per lb., as compared with 17½¢ and 22¢ in January. The packers state that since the public has awakened to the fact that beef plates, chunks and rounds are as nutritious as beef loins and ribs, even though their cost is much lower, the demand for the cheaper cuts has doubled. Consequently, they say, they were compelled to reduce the cost of ribs and loins in order to equalize the demand for the cheaper parts. Unfortunately, the retail markets are slow to follow up reductions in prices made by the packers, and hence the consumption of beef is greatly lessened.

Reports from the distilleries show that they are well supplied with cattle that are feeding on slops, and owners expect to obtain good prices during the next month or so.

Illinois country shippers of horses state that it has been difficult to buy draft horses from farmers recently, as they were busy making preparations for corn planting, or plowing, and refused to stop work to show or sell horses.

Lambing has kept Montana sheepmen busy recently, and with ideal weather it has not been necessary to give any special care to the lambs. Unless the weather changes materially, it is thought the per cent of increase this year will be close to 100.

It is reported that corn with fair feeding properties can be purchased in northern Iowa for 25¢ per bushel, and it would seem that farmers could not do better than to feed it to stock. Prime feeding cattle are dear, but good stockers can be had at reasonable prices, and pasture everywhere is unusually fine. Corn acreage this year throughout the country is reported to be considerably larger than a year ago, and unless farmers feed lots of cattle, hogs and sheep, there will be cheap corn by next fall, provided the crop turns out well. Good profits have been made this year by many farmers in fattening cattle, and old-timers are buying cattle to graze or to feed corn on grass.

William M. Jones, of Indiana, before the Indiana Cattle Feeders' Association, discussed cattle feeding work that has been conducted on his farm in co-operation with the Indiana Experiment Station, pointing out the desirability of feeding corn silage to beef cattle. He claimed that in winter feeding, other things being equal, the smaller the feed lot the better. Experiments also show that the addition of cottonseed meal to the ration increases the profit of feeding.

THIS IS THE LAST EDITION.

In the first edition the Detroit Live Stock markets are reports of last week; all other markets are right up to date. Thursday's Detroit Live Stock markets are given in the last edition. The first edition is mailed Thursday, the last edition Friday morning. The first edition is mailed to those who care more to get the paper early than they do for Thursday's Detroit Live Stock market report. You may have any edition desired. Subscribers may change from one edition to another by dropping us a card to that effect.

DETROIT LIVE STOCK MARKETS.

Thursday's Market.

May 26, 1910.

Receipts, 765. Market 20@25c lower than last week on cattle, competing with westerns averaging 900 to 1,000; other grades dull.

We quote: Extra dry-fed steers and heifers, \$7@7.25; steers and heifers, 1,000 to 1,200, \$6@6.25; steers and heifers, 800 to 1,000, \$5.50@6; grass steers and heifers that are fat, 800 to 1,000, \$5@5.50; grass steers and heifers that are fat, 500 to 700, \$4@4.75; choice fat cows, \$5@5.50; good fat cows, \$4.50@4.75; common cows, \$3.50@3.75; canners, \$2.50@3; choice heavy bulls, \$5@5.50; fair to good bolognas, bulls, \$4@4.75; stock bulls, \$3.50@4; choice feeding steers, 800 to 1,000, \$5@5.50; fair feeding steers, 800 to 1,000, \$4.50@5; choice stockers, 500 to 700, \$4.50@5; fair stockers, 500 to 700, \$4@4.50; stock heifers, \$3.50@4; milkers, large, young, medium age, \$4@5.50; common milkers, \$25@35.

Roe Com. Co. sold Newton Beef Co. 10 butchers av 945 at \$5.1 bull weighing 1,120 at \$5; to Schlischer 27 butchers av 750 at \$5.50, 4 do av 755 at \$4.50; to Mich. B. Co. 1 steer weighing 1,040 at \$6, 8 do av 997 at \$6.50, 6 do av 870 at \$5.15; to Sullivan P. Co. 10 butchers av 790 at \$5; to Sutton 2 stockers av 565 at \$4.50, 1 do weighing 460 at \$4.50, 7 do av 600 at \$4.50; to Fry 25 butchers av 702 at \$5, 2 steers av 695 at \$5.25; to Newton B. Co. 11 do av 1,143 at \$7.25; to Mich. B. Co. 10 do av 918 at \$6; to Sullivan P. Co. 7 cows av 1,021 at \$4.75.

Spicer & R. sold Newton B. Co. 10 steers av 780 at \$6, 1 do weighing 950 at \$5.50, 5 do av 844 at \$6, 2 oxen av 1,490 at \$6, 1 heifer weighing 870 at \$5; to Breitenback Bros. 5 do av 740 at \$5, 25 butchers av 738 at \$5.50; to Sullivan P. Co. 12 do av 553 at \$4.50, 4 bulls av 512 at \$4, 1 cow weighing 630 at \$3.50, 1 do weighing 1,150 at \$5.50, 1 heifer weighing 710 at \$6, 1 cow weighing 1,060 at \$5.50, 1 do weighing 780 at \$3, 3 do av 926 at \$4.25, 2 do av 800 at \$3.75, 2 bulls av 1,175 at \$5.35, 1 do weighing 1,170 at \$5, 1 do weighing 1,150 at \$5.35, 2 cows av 960 at \$4.25, 13 butchers av 765 at \$5.40; to Regan 6 do av 530 at \$4.75; to Bresnahan 2 do av 740 at \$4.25, 2 do av 660 at \$4.75; to Sullivan P. Co. 1 bull weighing 1,250 at \$5.35, 1 cow weighing 820 at \$3.75, 12 butchers av 736 at \$5, 1 bull weighing 680 at \$4.50, 5 steers av 820 at \$6; to Thompson 1 bull weighing 1,200 at \$5.35; to Lachalt 4 butchers av 875 at \$5.10.

Bishop, B. & H. sold Newton B. Co. 27 steers av 922 at \$6, 6 do av 708 at \$5.50, 2 heifers av 435 at \$3.50; to Marx 3 butchers av 826 at \$4.10, 8 do av 750 at \$5.10, 1 cow weighing 900 at \$2.75; to Sullivan P. Co. 7 steers av 864 at \$6.50, 1 bull weighing 830 at \$4.25; to Hammond, S. & Co. 2 cows av 1,050 at \$3.75, 3 heifers av 780 at \$5.75; to Wilson 6 stockers av 733 at \$5.25; to Bresnahan 10 heifers av 555 at \$4.50.

Haley & M. sold Sutton 3 stockers av 580 at \$3.50; to Mich. B. Co. 34 butchers av 733 at \$5.25, 28 do av 870 at \$6.20, 30 butchers av 798 at \$5.75, 1 heifer weighing 500 at \$4.25; to Kamman 5 butchers av 730 at \$5, 2 do av 750 at \$4.50; to Regan 4 do av 520 at \$4.60; to Lachalt 2 steers av 710 at \$5.25, 1 cow weighing 1,090 at \$4.75; to Cooke 22 steers av 960 at \$6.55.

Sharp sold Mich. B. Co. 9 steers av 776 at \$6.10, 4 cows av 1,112 at \$4.35.

Lowenstein sold same 26 steers av 960 at \$6.25, 18 do av 854 at \$6.25.

Stephens sold same 3 cows av 993 at \$5. Johnson sold Cohen & Co. 5 butchers av 1,014 at \$5.10, 1 cow weighing 1,000 at \$5.40.

Merritt sold Sullivan P. Co. 4 cows av 1,050 at \$4.50, 1 bull weighing 1,450 at \$6, 1 cow weighing 1,210 at \$5.50, 2 heifers av 875 at \$6.

Veal Calves.

Receipts, 1,127. Market strong at last weeks prices. Best, \$8@8.50; others, \$4@7; milch cows and springers steady.

Bishop, B. & H. sold Sullivan P. Co. 1 weighing 120 at \$6, 10 av 157 at \$8, 1 weighing 100 at \$6, 6 av 145 at \$8; to Newton B. Co. 10 av 140 at \$8; to Parker, W. & Co. 9 av 135 at \$8.25, 15 av 130 at \$3.25, 7 av 115 at \$7.50; to Brant 3 av 135 at \$8; to Hammond, S. & Co. 19 av 125 at \$8.25, 40 av 150 at \$8.25, 5 av 140 at \$8; to Sullivan P. Co. 15 av 130 at \$8.25; to Newton B. Co. 21 av 135 at \$8.25, 5 av 140 at \$8.20.

Spicer & R. sold Newton B. Co. 17 av 130 at \$8.15; to Mich. B. Co. 3 av 145 at \$8.25; to Kohn 12 av 160 at \$7.25; to Markowitz 10 av 125 at \$7.75; to Mich. B. Co. 31 av 130 at \$7.85; to Goose 31 av 135 at \$7.50; to Breitenback Bros. 12 av 125 at \$7; to Mich. B. Co. 12 av 130 at \$7.85; to Prag 2 av 135 at \$8.25, 7 av 130 at \$7.60; to McGuire 15 av 140 at \$8.25; to Mich. B. Co. 11 av 150 at \$8.25; to Wilson 2 av 220 at \$6.65, 10 av 123 at \$6.65.

Haley & M. sold Parker, W. & Co. 34 av 135 at \$8.10; to Sullivan P. Co. 24 av 130 at \$8; to Hammond, S. & Co. 15 av 135 at \$8.

Roe Com. Co. sold Thompson Bros. 11 av 160 at \$8.25; to Mich. B. Co. 56 av 135 at \$8.10; to Kohn 2 av 260 at \$4.25; to Goose 15 av 120 at \$7; to Thompson Bros. 1 weighing 140 at \$6, 18 av 135 at \$8.25; to Breitenback Bros. 23 av 130 at \$8.

Duella sold Burnstine 22 av 125 at \$8.

Jedele sold same 3 av 155 at \$8.50, 1 weighing 260 at \$7.

Lovewell sold same 11 av 150 at \$8.25.

Bennett & S. sold Sullivan P. Co. 3 av 155 at \$8.25.

Groff sold Schuman 16 av 130 at \$8.25.

Mertz sold Parker, W. & Co. 33 av 125 at \$8.15.

Wickman sold Brant 15 av 125 at \$7.80.

Same sold Newton B. Co. 27 av 140 at \$8.40.

Stephens sold same 10 av 133 at \$8.25.

Johnson sold Thompson Bros. 10 av 134 at \$7.75.

Sandell & T. sold Streete 8 av 130 at \$5, 20 av 145 at \$8.

Sheep and Lambs.

Receipts, 2,518. Market steady on good lambs. Grass sheep and lambs 50c lower and hard to sell at the decline.

Best lambs, \$8.50; fair to good lambs, \$7@7.50; light to common lambs, \$5@6; spring lambs, \$8@10; fair to good sheep, \$4.50@4.75; culs and common, \$2.50@3.

Bishop, B. & H. sold Sullivan P. Co. 25 lambs av 50 at \$6, 15 do av 75 at \$6.50, 77 do av 73 at \$8.50; to Parker, W. & Co. 46 lambs av 65 at \$6.50, 15 sheep av 90 at \$4.50; to Newton B. Co. 32 lambs av 68 at \$8.25; to Mich. B. Co. 124 do av 75 at \$8.50; to Hammond, S. & Co. 101 lambs av 73 at \$8.60, 125 do av 75 at \$8.50; to Lowrie 7 sheep av 150 at \$4.50; to Thompson Bros. 36 lambs av 70 at \$6.50; to Sullivan P. Co. 24 sheep av 65 at \$4.50; to Eschrich 11 spring lambs av 45 at \$8; to Newton B. Co. 25 lambs av 70 at \$8; 38 do av 65 at \$7.75; to Lewis 36 sheep av 110 at \$4.25; to Fitzpatrick Bros. 90 lambs av 67 at \$8; to Lowrie 16 sheep av 120 at \$4.50; to Fitzpatrick Bros. 16 lambs av 70 at \$8; to Mich. B. Co. 9 do av 72 at \$8, 11 do av 68 at \$7.60; to Parker, W. & Co. 132 do av 57 at \$7.50.

Stephens sold Thompson Bros. 15 sheep av \$5 at \$5.

Kendall sold same 29 do av 80 at \$5.

Merritt sold Harland 10 spring lambs av 55 at \$10.

Bennett & S. sold Sullivan P. Co. 20 lambs av 70 at \$8.25.

Roe Com. Co. sold Mich. B. Co. 24 sheep av 110 at \$4.75, 17 do av 90 at \$4.75, 22 do av 125 at \$4.75; to Barlage 16 spring lambs av 55 at \$10.

Spicer & R. sold Lowrie 19 sheep av \$5 at \$4.75.

Hogs.

Receipts, 3,756. Market 15@20c lower than last Thursday.

Range of prices: Light to good butchers, \$9.40@9.50; pigs, \$9.40@9.50; light yorkers, \$9.40@9.50; stags, one-third off.

Sundry shippers sold Hammond, S. & Co. 675 av 185 at \$9.50.

Spicer & R. sold Parker, W. & Co. 409 av 200 at \$9.50.

Roe Com. Co. sold same 138 av 210 at \$9.50.

Haley & M. sold same 227 av 195 at \$9.50.

Sundry shippers sold same 310 av 185 at \$9.50.

Bishop, B. & H. sold Swift & Co. 904 av 190 at \$9.50.

Same sold Sullivan P. Co. 1,320 av 195 at \$9.50.

Friday's Market.

May 20, 1910.

Cattle.

Receipts this week, 1,473, against 635 last week; market steady at Thursday's prices; run very light.

We quote: Best steers and heifers, \$7; steers and heifers, 1,000 to 1,200 lbs, \$6.25@6.75; steers and heifers, 800 to 1,000 lbs, \$6@6.25; grass steers and heifers that are fat, 500 to 700 lbs, \$4.75@5.50; choice fat cows, \$5@5.50; good fat cows, \$4.50@4.75; common cows, \$3.50@4; canners, \$2.50@3; choice heavy bulls, \$5.25@5.50; fair to good bolognas, \$4.50@5; stock bulls, \$4@4.50; choice feeding steers, 800 to 1,000 lbs, \$5.25@5.75; fair feeding steers, 800 to 1,000 lbs, \$4.50@5; choice stockers, 500 to 700 lbs, \$4.75@5.25; fair stockers, 500 to 700 lbs, \$4.50; stock heifers, \$4.25@4.50; milkers, large, young, medium age, \$4@5.50; common milkers, \$25@35.

Sheep and Lambs.

Receipts this week, 2,696, against 2,963 last week; market dull at Thursday's prices; quality not so good; best lambs, \$8.50; fair to good lambs, \$8@8.25; light to common lambs, \$5@6; spring lambs, \$9@11; fair to good sheep, \$5; culs and common, \$3.50@4.50.

Hogs.

Receipts this week, 6,154, against 7,093 last week; market steady at Thursday's prices. Range of prices: Light to good butchers, \$9.70; pigs, \$9.70; light yorkers, \$9.70; stage one-third off.

CROP AND MARKET NOTES.

(Continued from page 567).

present. Live stock selling high; spring pigs, \$5 each; wheat, \$1; corn, 57c; oats, 40c; rye, 70c; clover seed, \$4.50; butter, 20c lb; eggs, 20c doz; potatoes, 25c bu; hogs, 9c; veal calves, 7c; sheep, 4@5c.

Mecosta Co.—In this county there does not appear to be general damage to fruit from the continued cold nights. While some localities have been almost scourged, others have escaped, with comparatively slight loss. Apples in the fruit belt seemingly have not suffered as much as at first reported. In the peach belt reports are conflicting. Well founded statements have it that perhaps not more than half the buds have been killed off, and the trees will be better for the freezing. Clover has been cut in many places. Inquiries nearer home give assurances that the loss is not total and far from it. According to locality has fruit suffered or escaped. Strawberries were cut down in many places. Bush fruits suffered more or less. Tree fruits—cherries, pears and apples here were materially injured, and yet inspection here and there shows buds, in large quantities, unharmed. Up to the last frost, peaches had escaped material damage. Those most familiar with fruits declare that while the frosts were heavy, the prevailing cold winds and lack of sunshine gave the swelling buds time to recover from the blight. In this part of Michigan the fruit crop up to now has not suffered to an extent that would class the crop as absolutely gone.

VETERINARY.

(Continued from page 563).

do not come in heat. B. V. A., Adrian, Mich.—Giving drugs to stimulate the generative organs of a cow into activity is not by any means always satisfactory; however, you had better try giving 25 grs. powdered cantharides at a dose to each cow in feed twice or three times daily. It is considered good practice to open the neck of womb, if it is closed, and by doing so produce some excitement to the genital tract which induces heat. A forced service also has much the same effect.

Brood Sow Has a Cough.—I have a registered sow, (with a litter of pigs), that is troubled with a bad cough. She eats well and seems to be in good health, runs in pasture, is fed plenty of grain and milk. She is also supplied with wood ashes, charcoal, salt and sulphur in a separate box where she can help herself. R. C. B., Eau Claire, Mich.—Give her a teaspoonful powdered licorice at a dose in feed two or three times a day.

Bronchoecle.—I have a six-year-old Jersey cow that has a loose bunch on each side of the throat which appears to cause the cow some difficulty in breathing; otherwise she seems to be in good health and gives a moderate amount of milk. W. S. L., Inkster, Mich.—Apply one part red iodine mercury and eight parts lard to bunches every two or three days and give 2 drs. iodine potassium at a dose in feed or water three times a day until the enlarged gland reduces.

Actinimycosis.—(Lump Jaw).—I have a cow that has a large bunch on the upper jaw which breaks and discharges occasionally. Our Vet. looked at her and he says it is a case of lump jaw. She has been wrong for the past 12 months and I would like to know what to do for her. A. O., Grant, Mich.—A cow suffering from suppurative lump jaw is an undesirable animal for you to keep, especially if she is allowed to associate with your other cattle, for this is an infectious ailment; therefore if she is a cow of little value she might as well be destroyed, but if you think much of her apply tincture iodine to wound once or twice a day for a few days, then apply one part tincture iodine and four parts water. Also give her 2 drs. iodine potassium at a dose in feed or water twice a day.

Chronic Cough.—Have a valuable seven-year-old horse that has a dry hacking cough which came on him some two weeks ago and I thought perhaps he was going to have heaves. This horse shows no other symptoms of sickness. I have been a reader of the Michigan Farmer since 1873. T. B., Pontiac, Mich.—I am inclined to believe that your horse suffers from laryngitis. Apply equal parts turpentine, aqua ammonia, spirits of camphor and sweet oil to throat once a day for a few days, then every other day or as often as you believe it is required and give ½ dr. powdered opium, 1 dr. powdered lobelia and 1 oz. licorice at a dose in damp feed three times a day.

Cows do not Come in Heat.—Will you please inform me as to what to feed my cows to bring them in heat? C. C. C., Jasper, Mich.—Give your cow 20 grains powdered cathartides and ½ oz. powdered capicum at a dose in feed twice a day.

Acidity of Stomach.—I would like to know what to give my cows to prevent them eating wood and rotten rubbish. I fully believe they would eat my barn if I would let them. Their food consists of ensilage twice a day and all the good mixed clover they will eat; they are also fed barley, rye and oat chop. I am well pleased with the Michigan Farmer. A. S., Minden City, Mich.—Give each cow 1 oz. bicarbonate soda, ½ oz. gentian, ½ oz. ginger and 2 ozs. powdered wood charcoal at a dose in feed twice a day.

Stocking.—My eight-year-old horse stocks badly when allowed to stand in the barn, but after a drive the swelling goes down. I am afraid if this trouble is not looked after he will have big legs. R. W. D., Honor, Mich.—Bandage legs in cotton for two or three hours after he is driven. Give a teaspoonful powdered sulphate iron, a dessertspoonful of powdered nitrate potash and a tablespoonful ground gentian at a dose in feed two or three times a day.

Blocked Teats.—Indigestion.—I have a cow four years old that seemed to be all right when she calved but now her two back teats are apparently plugged with the filling close to udder. Have been able to milk her through a straw, but she is not getting well. I would like to have you tell me what to do for her. I have a colt that has not been thriving. I imagine he has some worms. G. G., Marine City, Mich.—Apply iodine ointment to upper parts of teats once a day and give 1 dr. iodine potassium at a dose three times a day. You should milk her through a milking tube and as you do not own one you had better measure the teat and order one from The Lawrence Publishing Company. A 3 ½ inch tube costs 35c, delivered; a 3 inch, 30c.

Caked Bag.—I have a Holstein heifer and a good one, that was dehorned some time ago and one of the wounds did not heal for some time; however, this trouble seemed to get all right and she came fresh a few days ago. Her bag is very hard and inflamed. She has been milked, but considerable blood has come from the udder. What milk comes from her has a bad odor. The udder has softened some, but she is in bad shape. I have tried several remedies, but they fail to have much effect. I have always kept a large herd of cows, but never had a case of this kind. J. R. S., Owosso, Mich.—Your cow's udder has become infected through her food supply or germs may have gained entrance through the teat. Foment udder with hot water two or three times a day and apply one part fluid extract pokeweed and two parts vaseline to inflamed udder once a day for two or three days. Give her 1 oz. hypo-sulphite soda at a dose two or three times a day.

Lymphangitis.—I have a horse that had a bad attack of lymphangitis some time ago which he seemed to get over, but

when allowed to stand in the barn his legs stock. He is not in a thrifty condition for his old coat sheds off very slowly. I also have another horse that remains thin in spite of good care and good feeding. This horse has good life and does not appear sick. G. H., Fairgrove, Mich.—Your horse should be exercised daily, the leg bandaged in cotton after a drive and the bandage left on for two or three hours. Also give a tablespoonful of the following compound powder at a dose in feed two or three times a day: Powdered sulphate iron, gentian, ginger and rosin, equal parts by weight. Your other horse's teeth should be looked after, for I am inclined to believe if they are put in proper condition for him to masticate food well, he will soon show improvement. A well horse should never be drugged; therefore, I do not believe that he needs any medicine.

Stringy Milk.—I have two cows that have been giving stringy milk for the past ten days. Both of them appeared to be all right when turned out to grass. W. C. K., Grand Rapids, Mich.—Cows that give stringy milk should never be allowed to drink water from stagnant pools or filthy ponds because such water contains many small germs that are apt to cause this ailment. Change the cow's water supply and give them a teaspoonful of bisulphide of soda at a dose in feed twice daily; also give two tablespoonfuls of cooking soda in feed once a day. In some cases it is necessary to inject the udder with an antiseptic solution, but to do this you will require a suitable instrument.

Cows Give Bloody Milk.—Our cows are inclined to give bloody milk; we have fed them some oil meal, also given them salt and ashes twice a day. They have also had a few doses of poke root. They have been troubled more or less with looseness of the bowels. This was brought on by eating frozen grass. Mrs. O. G., Dublin, Mich.—A cow that injures her udder is very apt to give bloody milk from one or more quarters; therefore I suggest that you make an effort to ascertain the cause of their trouble. Cows that step over logs, fences, over door sills and out of ditches or lie down on any hard, uneven substance may bruise their bag. Dissolve ¼ lb. sugar of lead in a gallon of water and add one pint tincture arnica and apply to udder twice a day.

Young Colt Walks on Fetlocks.—Weakness.—One of my mares had a colt a few days ago which seems to be all right, but walks with one fore fetlock on the ground and seems unable to bend the joint back into place. However, I am able to do so by hand. E. G., New Boston, Mich.—By applying a cheese cloth bandage over a piece of perforated felt to support the weak ligaments of joint it will help the colt to straighten up; however, the most important part is to feed the mare well so that she may give a good milk supply; this will strengthen the colt, but avoid the use of liniment, especially those that irritate.

Leucorrhoea.—I have a young bull that has a discharge from sheath; besides, there is considerable inflammation and swelling of the scrotum, mucus seems to drip from him and I am unable to tell what caused it. D. T. K., Bellaire, Mich.—It is possible that your bull has been mated with a diseased cow, one that may have suffered from infectious abortion, or did not clean properly. Dissolve 3 drs. sulphate of zinc and 1 oz. sugar of lead in a gallon of water and apply to sheath twice a day. Give him two ounces bicarbonate soda at a dose in feed three times a day. After using the above lotion for one week dissolve 3 drs. permanganate potash in a gallon of water and use this solution twice a day for a week or ten days, then use the first mentioned.

Catarrhal Influenza.—I wish you would tell me what ails my cow, and prescribe for her. She was taken suddenly sick, showing a high fever which was soon followed by a discharge from the nose and eyes. Her fever has left her, but her eyes have sort of turned blue and I am inclined to believe she can see but little out of them. Are my other cows in any danger? W. P. K., Potterville, Mich.—Your cow suffered from an attack of catarrhal influenza. If she still has fever give her 20 drops of tincture aconite at a dose five or six times a day; also give her a tablespoonful of powdered saltpeter at a dose three times a day. Apply boracic acid to eyes once a day and calomel once a day. She should be given good care and fed whatever kind of food she craves.

BOOK NOTICE.

The process of making ornamental concrete without molds has long been held as a secret. It is now given to the public for the first time in a practical treatise, entitled, "Ornamental Concrete without Molds," by A. A. Houghton. This is the only work issued which explains a simple, practical method whereby the concrete worker is enabled, by employing wood and metal templates of different designs, to mold or model in concrete any cornice, archivolt, column, pedestal, base, cap, urn or pier in a monolithic form—right upon the job. These may be modeled in units or blocks and then built up to suit the specifications demanded. Full directions are given for making the templates, at a very slight cost of time and labor. In fact everything that a concrete worker needs to know to perfect the many styles of ornamental concrete work without the purchase of expensive molds, is fully explained and illustrated, including the proper methods of preparing, handling and re-inforcing concrete in molding ornamental work. Complete details are given of a simple machine, that anyone can easily build, to mold ornamental concrete easily than it is possible with the usual old style molds in use for this work today. Ornamental hitching posts, plant urns, garden chairs and benches, etc., are among the articles which this book tells how to make. Published by the Norman W. Henley Publishing Co., New York. 128 pages, 12-mo. In cloth binding, \$2.00 if ordered through the Michigan Farmer.

WOMAN AND HER NEEDS

When Did You Write to Your Mother?

Young Men Are Too Remiss in This Important Duty.

SOMEWHERE in Michigan a young man will read these words who has not written to his mother in six months. Perhaps there will be others who have not written home in a year, in two years, in ten years.

Why? Can you give me, or yourself, a legitimate reason for not writing to your mother every week? If you had a sweetheart you would write to her twice a week, perhaps every day. And yet no sweetheart could ever love you as your mother does. No young woman, no matter how she loves you, could ever feel the solicitude for your welfare, the anguish in your sorrow, the joy in your success that your mother feels. No one, no matter who she is, could ever wait so anxiously for news of you as does your mother.

It is a source of wonder to me how young men, men of any age, can become so absolutely indifferent to their own mother. Girls never do, or at least the cases are so rare as to excite comment, while with boys we are actually surprised when they keep their mother in mind. The mother love is the same for all her children; often it seems greater for the son than for the daughter, yet a young man will leave home with a light heart, his whole soul wrapped up in his own future, and never give a passing thought to the lonely mother he has left behind. The letters, notes I might better say,

iniquity where temptations of every sort lurked for him. And he was as far beyond her reach as though he had gone to the farthest corner of Australia, for money was not hers to command and no matter how much she might want to go to him, there was no way for her to go.

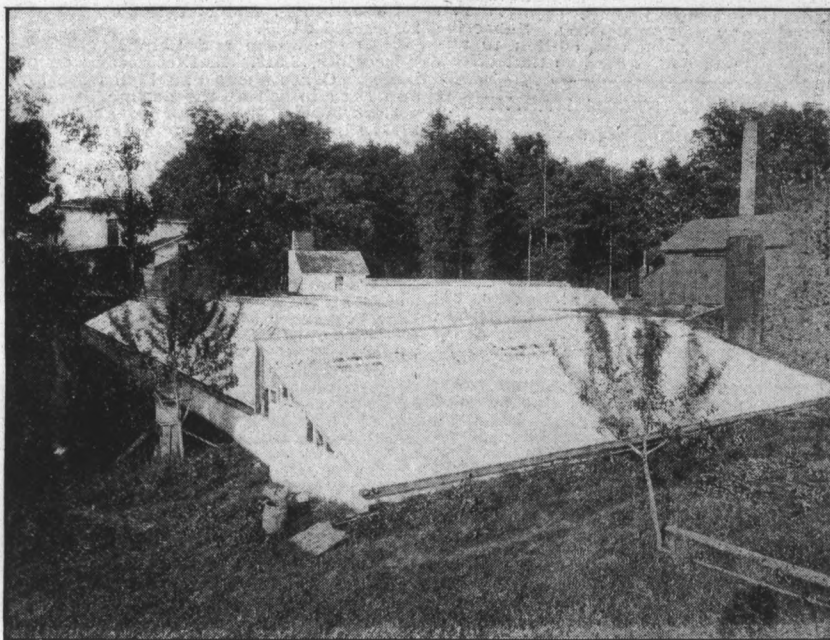
At first letters came once a month. Not long, newsy, loving letters such as a daughter would write, but at least letters. Then the intervals lengthened and the letters shortened, until there came a period of 18 months without a line. The mother was frantic, what mother would not be? Her son might be dead for all she knew, for letter after letter from her to the far west remained unanswered. Finally came a letter from the farmer's wife for whom the boy worked. She was a mother herself, and taking an interest in the lad she finally learned of the mother at home and the length of time which had elapsed since the boy wrote. Later came a letter from the son. He had had poor luck and would not write until he had good news to tell.

Of all the inane reasons for not writing home, it always seemed to me that this caps the climax. One does not need to write about the bad luck. You can ignore it altogether, and if the folks at home ask too many leading questions it is easy to forget to answer them when you write back. You can always let them know you are alive, and if they know

measure of success which had been hoped for. Yet, all undismayed, she determined to try again. This time she made a trip to the Agricultural College only a few miles away and laid her plans before Prof. Thomas Gunson, in charge of the greenhouses there. This gentleman, after listening to her ambitions, explained that

plants which have been brought in from their out-door beds where they have been growing and making a strong root growth since spring. New plants are set each year.

The construction of the greenhouses at Maplewood Farm, as the place is called, although everybody in Lansing speaks of



A General View of the Violet Houses.

violets were rather hard to grow and pointed out several difficulties she would probably have to contend with if she took up the business in a commercial way. Finding her determination unaltered he rendered her every assistance possible, giving her the benefit of his wide experience as a florist, and helping her to get started right.

For the first year things looked pretty dubious at times, especially when out of 1,000 plants purchased as a beginning, nearly one-third were lost by disease, coupled with a poorly prepared spraying mixture applied to check it.

The first greenhouse, 14x40 feet, was built that fall, mostly from second-hand material, at a cost of about \$140. The surviving plants of the thousand purchased the spring before were transplanted into the building and a second season of waiting commenced. This time the blossoms did not fail. In September picking began, and hope began to enlarge. The plants blossomed, and at the proper time. Success had arrived although as yet not on a very extensive scale. A winter of experiences followed, to use Miss Chittenden's own words, for all was new, and numberless things connected with picking, packing and shipping had to be learned, a market having been found for the product a few hours distant by express. Although the returns were not large it was found at the close of the season that expenses had been made, including cost of the greenhouse, and a trifle over.

After the first year it was not so hard and the outlook brightened considerably. Best of all, her father, seeing her determination and becoming himself interested, gave his hearty co-operation to her labors. Almost every year since that time has seen another house erected, until today these number nearly a dozen all filled to capacity each autumn with blossoming

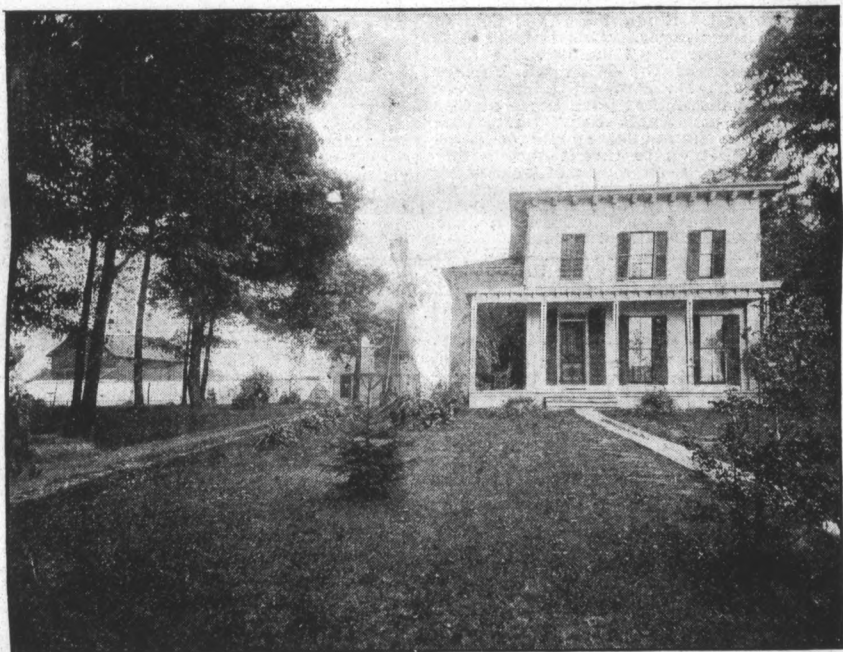
it simply as the Violet Farm, is up-to-date in every respect. The walks inside are excavated to a depth of three feet and the top benches are level with the ground outside. The center beds are six feet in width, those at the sides three feet. Hot water is employed for heating, and the pipes are laid over the benches. At night the temperature during the blooming period is kept not far above the freezing point, as violets thrive best under such conditions.

By care and cultivation the plants are kept healthy, and consequently thrifty. Spraying is employed to keep diseases, such as the violet spot, at bay, and other methods are used for insect pests which might give trouble. The plants are in full bloom by the last of November and continue to blossom until April.

In preparing them for market every effort is made to present an attractive appearance, as that goes far in selling anything. In bunches of 25 or of 50 blooms, each surrounded by the glossy green of the leaves, they are securely packed for shipment to Chicago and other centers of distribution. For the retail trade they are made especially attractive with the aid of violet-colored boxes, ribbon, paper and cord.

When the season closes in April the plants which have blossomed all winter are thrown out and cuttings are set in the open ground to grow and make ready to take their places on the benches a few months later. In order to utilize the space in the greenhouses during the spring and early summer, cucumbers are grown. These, started in pots, are ready to be transplanted as soon as the violets are removed, being trained next the glass. They are ready for picking in May, and prove a source of profit until the outdoor product comes on the market.

Miss Chittenden does not state the exact sum realized year by year from her busi-



Front View of Miss Chittenden's Home, with Violet Houses Showing at Left.

ness which he occasionally sends home, never contain anything vital about himself, nothing the mother wants to know; there is never an anxious thought expressed for her welfare, or a desire to see her soon, nothing but perfunctory comments on health and the weather and the affix, "Your aff. son." He is too busy even to write the word affectionate.

Twenty years ago a boy "went west" to seek his fortune. Even so short a time ago, "going west" was a great undertaking and the Dakotas, where this boy went, were on the confines of civilization, to the mind of the good folks of Michigan. To the mind of this lad's mother he had gone into a realm filled with vice and

that, their imagination can fill in the blanks and picture you well and happy. Every mother is entitled to this much from her son, to know that he is still on earth and that he still thinks of her, and the son who will let his mother go for months without knowledge of him is an ingrate of the deepest dye.

So, young man who reads this, if you did not write to your mother yesterday, write to her today. It will be the best expenditure of time and postage you can make. Make it the rule of your life to write to her at least every month. You ought to write every week, but I realize it is expecting a great deal of masculinity to ask that degree of devotion.

DEBORAH.

MICHIGAN COUNTRY WOMEN AS MONEY MAKERS.

BY ELLA E. ROCKWOOD.

Growing Violets for Commercial Purposes Brings One Woman a Fine Income. No. 5.

Growing violets under glass is the unique occupation of one Michigan woman, Miss Ida L. Chittenden, and the business which started in a very small way 15 years ago has grown until now the sales run up into the thousands of dollars annually. When her father bought a house and ten acres of land just outside the city limits of Lansing, a friend suggested to Miss Chittenden that the place furnished a splendid location for growing violets to sell. The thought was dropped

in fruitful soil and proved to be the beginning out of which has developed a wonderfully successful business.

But when the daughter sought to interest her father in the scheme he failed to see for the proposed venture the favorable outlook which she entertained. She determined to try it in a small way by herself to see what could be done.

Knowing nothing of the care and cultivation required, and possessing no particular love of flowers she started in. She studied and read what literature she could find on the subject, then in the autumn bought 100 plants and set them in shallow boxes in an unused room of their home. Not a single bloom rewarded her efforts until spring, when violets were not wanted.

Needless to say this was scarcely the



Where the Violets are Growing.

ness, but she does say that it exceeds by considerable the amount she could earn by teaching or office work, even though she were to receive more than any of her friends are paid in following these occupations. It is known that the Violet Farm pays good dividends. It is work, and hard work at that, with a full share of responsibility attached to it, yet there is an immense satisfaction in operating an undertaking successfully; in the triumph over discouragements, and seeing a flourishing trade grow out of so small and somewhat discouraging a beginning. Maplewood Violet Farm is one of the show places of Lansing and sure to prove a delight to one who pays it a visit.

SHORT CUTS TO HOUSEKEEPING.

Before inserting your new lamp wick into burner, press it with a hot iron and it will not catch nor run crooked.—T. F. C.

If the dresser drawers in an unused room smell musty and stick in summer, place a bowl of quicklime on floor under the dresser, to absorb the dampness.—T. F. C.

A quick way of mending is to carefully pin patch in place on the wrong side then stitch it on the machine. If the holes are small and do not require having the edges turned in as in knit underwear, put it under the machine, with one hand, raise the presser foot a trifle and with the other move work back and forth, sewing all the while, thus darning it down. If edges need to be turned under, pin them in place, then stitch around the hole. Sometimes there is a straight hole cut or torn in a garment. Pin a piece of paper under then darn it down on the machine as I just described, when the paper can be torn off.—Mrs. R. H. S.

SHALL WE DRINK TEA AND COFFEE?—No. 16.

BY MRS. ALTA L. LITTELL.

In touching the subject of tea, coffee and cocoa, I am well aware that I am treading on volcanic ground. The discussion over the harmful effects of the first two mentioned has been going on for years, and still we have gone on drinking our favorite beverages, and are likely to do so to the end. There is no doubt that coffee is injurious to some, tea to others, and both to yet many more. It is also settled beyond a doubt that neither drink should be given to growing children as both seriously effect the nervous system. After hearing many arguments pro and con, and reading in many books the effects of each drink I have come to the conclusion that those writers who suffer ill effects from either drink condemn that one and laud the other. Observation of the ways of making both drinks has led me further to believe that the trouble in most cases is that the tea and coffee is improperly made. Before entering into the right way of making these drinks, I am going to give extracts from different authorities and let each reader settle for herself what she shall do with the drinks.

The composition of tea, coffee and cocoa is similar. Tea contains the aromatic essence which gives it its flavor; a nerve stimulant called thein, and tannin which is an astringent, or in other words, has a binding effect. Coffee contains an aromatic essence; a nerve stimulant called caffeine, which is similar to thein; fats and other extractives, and a little tannin. Cocoa contains a nerve stimulant similar to that of tea and coffee which is called theobromine but which is less stimulating than the tea and coffee.

Now as to the physiological effects.

W. M. Williams, in "The Chemistry of Cookery," declares, "The refreshment felt after the cup that cheers" is certainly not due to nutrition, not to the rebuilding of any worn-out or exhausted organic tissue, but is simply and purely that of a stimulating drug, acting directly and abnormally on the nervous system."

In "Domestic Economy," by F. T. Paul, we read: "It" (tea) "stimulates the nervous system—refreshing us when we are fatigued and rousing both mind and body to increased exertion. The extractives are neither useful nor harmful except tannin, and that, unfortunately, is the latter. Tannin is a powerful astringent and has a tendency to cause indigestion, especially as regards meat. Tea is equally suitable for both hot and cold weather. Taken in moderation, it is refreshing and wholesome; but when freely indulged in it causes indigestion and exhaustion of the nervous system. Coffee contains a small proportion of fat, which, together with the extractives, renders it a more heating beverage than tea. Comparing the two, we should say that tea is purely a beverage; it is devoid of nourishing and

heating qualities (except the heat of the water), and possesses an invigorating and refreshing action on body and mind. It is especially suited to the after part of the day when work is well advanced, and the time for sleep not too near to be effected. Coffee is richer, more heating and sustaining, and free from astringency. It is a suitable beverage for early morning, for cold weather and especially for long journeys."

Cutter says: "Tea seems to enable people to do work on a smaller diet than would otherwise be required. It has the power of putting away sleep, and it enables a person to draw on the stored-up resources of the body for an increased exertion. The hot infusion is potent against heat and cold and is useful under great fatigue in hot countries. The excessive use of strong tea leads to nervousness, neuralgia and indigestion. Coffee removes the sense of fatigue during exercise. It is very serviceable against cold. It has been found well adapted to keep up the men in a campaign under a tropic sun, in that it affords an invigorating nervous stimulant and increases the action of the skin. Coffee does not give rise to the nervous symptoms which follow the excessive use of tea."

Fannie Merritt Farmer, in her Boston Cooking-School Cook Book, says: "It is certain that less food is required where much tea is taken, for by its use there is less wear of the tissues, consequently less need of repair. When taken in excess, it so acts on the nervous system as to produce sleeplessness or insomnia, and finally makes a complete wreck of the victim. Taken in moderation it acts as a mild stimulant and ingests a considerable amount of water into the system; it heats the body in winter and cools it in summer. Children should never be allowed to drink tea, and it had better be avoided by the young, while it may be indulged in by the aged as it proves a valuable stimulant as the functional activities of the stomach become weakened. Coffee is more stimulating than tea—taken in moderation it quickens the action of the heart, acts directly upon the nervous system and assists gastric digestion. Fatigue of body and mind are much lessened by moderate use of coffee; severe exposure to cold can better be endured by the coffee drinker. In times of war, coffee has proved more valuable than alcoholic stimulants to keep up the enduring power of soldiers. Coffee must be taken in moderation; its excessive use means palpitation of the heart, tremor, insomnia and nervous prostration."

In "Practical Cooking and Serving," Janet McKenzie Hill has little to say on the subject, but that little is to the point. "Tea is for those who have passed the boundary line of youth; stimulants are not needed by the young, and are positively harmful to them. Rightfully prepared and used, both tea and coffee, on account of the sense of comfort and the mildly exhilarating influence which they impart, may be considered beneficial to the race. Improperly made and drunk to excess, they are one of the chief sources of many of the minor and chronic ills of mankind."

So the whole question of harm or good resolves itself into whether the beverage is properly made and drunk in moderation. If you find either injurious, of course common sense will tell you to leave it alone.

Cocoa, while it contains a nerve stimulant similar to that of tea and coffee, contains, also, a large amount of nutriment. It contains a large proportion of fat, and as it is always made with milk, it forms a valuable food. Children under three years of age are better without it, however. The right way of making these beverages will be taken up later.

HOME QUERIES EXCHANGE.

Dear Editor:—Please publish receipt for dandelion wine.—A. R. Saline.

Marion Harland gives the following recipe for dandelion wine: Steep dandelion flowers in boiling water for ten minutes and strain off the liquid, pressing hard through a cheese cloth bag. Sweeten to taste and add brandy in the proportion of a pint to every four gallons of liquid. Put into uncorked bottles and keep in a cool place, covering the mouths of the bottles with mosquito netting to exclude insects and dust. When fermentation ceases, draw off, strain and bottle.

A letter has come for Mrs. V. Covert, who asked for advice regarding her baby. If she will kindly send her address the letter will be forwarded.—Ed.

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That sums up the whole story
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HOME AND YOUTH

MEMORIAL DAY.

BY LALIA MITCHELL.

Memorial Day! 'Tis ours
To gather flowers,
For hidden grass-grown graves,
Where staunchly waves
The red and white and blue, beneath
whose folds,
In days gone by,
The sleepers fought and bled and victory
won,
Or dared to die.

Memorial Day, we bring
Fair flowers of spring,
A tribute strewn to prove
Our grateful love.
Sweet be their sleep, 'neath towering
birch and pine
That bending spread
A canopy of fair unfading green
O'er heroes dead.

BEAT THE DRUMS SOFTLY.

BY IRMA B. MATTHEWS.

Beat the drums softly, no noise or blare
Of trumpets today must we have in the
air.
Though gladly, yet sadly, we march down
the street,
Sound the roll of the drum but softly the
beat.

Beat the drums softly, the hero won't
hear;
Through the long dreamless sleep 'twill
not fall on his ear.
Our hearts are a tremble and eyes fill
with tears,
But beat the drums softly, the hero won't
hear.

Beat the drums softly, the warfare is o'er,
The soldier will march to the battle no
more.
Sound taps, lights are out, 'tis the sol-
diers' last sleep;
While we guard them with love let the
drums softly beat.

Beat the drums softly, this is their day,
With its flags and its flowers, this fair
day of May.
We bring laurels and garlands for each
lowly sod bed;
Beat the drums softly for our brave sol-
dier dead.

THE UNVEILING.

BY EDGAR WHITE.

Colonel George St. Clair was mad. He
had been insulted, slapped in the face,
and walked on—figuratively, you under-
stand. The man didn't live who dared
to attempt it actually. Or if he did he
wouldn't live long afterwards. For the
Colonel wasn't a lamb. Even his sweet-
faced wife, who had more control over
him than anybody else in the world, some-
times found it difficult to make him real-
ize the war was over. His sore point was
that event. Down in his heart he was
certain if the south had had a little time
to rest up it could have bayoneted the
Yankees out of the country.

The cause of the Colonel's rage this
time was news just received concerning
an enterprise of Major Jim Starbuckle's.
The Major had lined up among "the op-
pressors of the south," and it had cost
him an arm. He was the superintendent
of Mt. Olivet cemetery, where many sol-
diers of both armies awaited the final
revelle.

The Colonel and the Major were warm
personal friends until they would get to
discussing the war. Then they would fall
out over who won the victory at Gettys-
burg. When the Major would remind the
soldier of the south that he or his com-
rades had stopped Pickett's charge, the
Colonel would say:

"Stopped nothing! Who lost the most
men, eh? Why didn't you follow us if
you liked? I'm waiting your reply, sir!"

The particular reason for the Colonel's
ire this morning was the news that Major
Starbuckle had, at his own expense, con-
tracted for and erected a military monu-
ment in the center of the cemetery, not
far from the place where lay the southern
dead. The design of the monument, the
Colonel was informed, was a Union sol-
dier, holding aloft the stars and stripes
in one hand, his other grasping an un-
sheathed sword, the boot planted upon
his prostrate foe. The inscription was,
the informant said, "The Union Forever!"

"It's a blamed outrage," said the Col-
onel, "and by gad! I won't stand for it—
we'll move our dead! I had thought bet-
ter of Major Starbuckle than that, al-
though he's a relentless Yankee. I don't
object to the monument if he'd put it
over where his people are, but to plant it
by our boys is an insult! They prate
about the war being over, and folding up
the bloody shirt and all that hypocritical
gush, but whenever it comes to a show-
down they're as poisonous as ever!"

He was talking to some battered vet-

erans of the gray, and while they were
not as demonstrative, they thought a good
deal like he did about the matter. Some-
one suggested that a counter-irritant be
put up, a southern soldier triumphing
over a Yankee, but the Colonel said he
had in mind a better scheme than that.
When the crowd assembled at the unveil-
ing he would force his way on the plat-
form and let loose "the old Rebel yell
that used to frighten the Yankees out of
their boots," he said, "and if any gentle-
man present has objections to offer I'll
show him my guns, sir!"

When Major Starbuckle and Colonel St.
Clair would meet on the streets of Has-
brook, the Colonel would straighten up,
bow stiffly and pass on. Major Star-
buckle never sought an explanation. If
the Colonel had any grievance it was his
duty to make it known. Major Star-
buckle was not the kind of a man to apol-
ogize unless certain he was in the wrong.

As the day appointed for the un-
veiling drew near there was a great deal
of discussion as to how those who had
sympathized or fought for the Lost Cause
would take it. It was felt certain that
Colonel St. Clair, at least, would make a
scene, and he would be backed by a
strong company of old "rebels," for they
were more numerous in Hasbrook than
the Union soldiers.

The program as prepared by Major
Starbuckle was simple. Thus it was:
March to the cemetery.
Band music.
Song by ladies' choir.
Unveiling.
Speaking.

"I suppose he's imported some Massa-
chusetts bluebelly to orate," said the Col-
onel, "but we'll say our little piece before
he gets much headway."

By order of the mayor, all business in
Hasbrook was suspended on the day of
the unveiling. If his honor anticipated
any trouble at the cemetery he was
strangely remiss in providing for it. Not
a policeman was in sight as the great
crowd formed around the circular grass
plot, in the center of which stood the
veiled monument. To the north, in line,
were the men of the G. A. R., their col-
ors at half mast. Edged in at the front
of the crowd was Colonel George St. Clair,
his white hair, mustaches and imperial,
and tall, erect form making him a con-
spicuous figure. Around his waist swung
a couple of Colt's revolvers and a belt of
cartridges. These, however, were hidden
by his long, dark outer coat. The Colonel
wore a regulation cavalry hat, soft gray,
with the initials, C. S. A., in the front.
The war was still on.

Major Starbuckle was a smaller and
less imposing man. He used a cane and
walked with a slight limp. Generally he
was mild and courteous, but there were
times when the dark eyes flashed and the
storm clouds gathered; few men cared to
provoke him. He was one of the small
handful of intrepid fighters who had
charged into Fort Wagner that terrible
evening of July 18, 1863, leaving behind
two thousand men, dead on the field of
honor.

It isn't safe to try to intimidate that
sort of a man.

The Major sat back on the platform, a
small shriveled figure beside some local
celebrities of generous physique. There
were the congressman of the district, the
mayor of Hasbrook, several members of
the board of aldermen, quite a number
of ladies, pretty in their white dresses,
and some stranger who might have been
the "blue-bellied Yankee" who was to
orate. He was a gaunt, grizzled "brother,"
with an uncommonly bushy head of hair,
and heavily fringed eyes. Colonel St.
Clair measured him as the antagonist he
would have to meet. As he eyed the
gaunt stranger, the Colonel involuntarily
fondled the handles of his revolvers, with-
in easy reach. Behind him were his men
in gray, sworn to follow, even as they did
in darker days.

The band played the national anthem,
and the sweet-faced young ladies of the
glee club sang their song. Then Major
Starbuckle arose and grasped the arm of
the grizzled stranger, leading him to the
front.

"Comrades, Ladies and Gentlemen,"
said Major Starbuckle, "I have the pleas-
ure of introducing to you the artist who
designed and executed the beautiful monu-
ment we are about to unveil. He and
I have long been in consultation concern-
ing the matter. Finally he presented to
me a design which I thought appropriate,
and I had him make it as my gift to the
cemetery association. Friends, this is
John Carter, the well-known artist of
Boston. He is not a speaker, only a
worker."

Mr. Carter bowed in acknowledgement
of the applause and resumed his seat.

"I knew he come from Massachusetts,"
growled Colonel St. Clair, as he drew one
of his revolvers half way out of its scab-
bard, and took a step toward the plat-
form.

Major Starbuckle touched a cord and
the drapery fell from the monument. The
crowd surged toward it, exclaiming its
surprise at the beautiful figures. There
were two soldiers, one of the blue and one
of the gray, warmly clasping hands, look-
ing squarely into each other's eyes. At
their feet were a sabre and musket, dis-
carded. In the background was an angel,
wings outstretched, a smile upon her lips
and a friendly hand laid on the shoulder
of each soldier. The inscription on the
base was the simple word, "Brothers."

While the people were buzzing with
suppressed excitement over the wondrous
beauty of the figures, and the symbol, the
young ladies of the glee club arose and
softly sung:

"Under the sod and dew,
Waiting the judgment day;
Love and tears for the Blue,
Tears and love for the Gray."

In the solemn hush that followed the
song, Major Starbuckle got up and limped
slowly to the front of the platform.

"Comrades, and friends," he said, "I
can see by your moist eyes and your
eager interest the appreciation you have
for the beautiful work Mr. Carter has
done for us. Here lies your dead and
mine; the friends we loved, the soldiers
we revered. This is a soldier's monu-
ment, a tribute to something greater than
his prowess, a tribute to his nobility of
soul, to his forgiveness and reconciliation.
I can see by your kindly faces that the
idea appeals to you, and now as a se-
quence to our meeting this evening I am
going to ask to address you a man who
was once my enemy, but who I feel as-
sured is now one of my warmest friends,
Colonel George St. Clair, late of the army
of Bob Lee."

REAL VALOR.

BY RENICE RADCLIFFE.

"Cross your t's and dot your i's, John-
nie," said the teacher sternly as she
gave him composition paper back to him.
"Yes, ma'am," answered Johnnie,
meekly, as he took his seat.

He placed the paper upon his desk and
turned his attention again to two boys
who sat in the middle row, just across
from him. He had been watching them
at intervals ever since he had come in
after the noon recess, and his composi-
tion had suffered in consequence.

The boys had a cigar box upon the seat
between them, and although their books
lay open upon their desk before them,
they bestowed nearly all of their time
upon the care of the box. They cut tiny
holes in each end and would lift the lid
and peep inside in the most curiosity-
provoking manner to Johnnie.

He wrote upon a piece of paper in large
letters: "What You Got," and held it in
a position that they could see it.

The answer came by the same means.
A single word—"Mouse."

Johnnie hunched up his shoulders, and
his "Oh!" could be heard all over the
room.

"Johnnie," said the teacher, "attend to
your work."

"Yes, ma'am."

He bent over his paper, and as his i's
and t's were nearly of the same size, he
crossed most of the i's and promptly dot-
ted his t's, and fell to watching the boys
again.

"Johnnie," said the teacher with deter-
mination, "at whom are you looking?"

"At Ned and Charlie," was the answer.

"What have they to attract your atten-
tion to the entire neglect of your work?"

"A—cigar box."

"Boys," said the teacher, addressing the
two boys in the middle row, "have you
a cigar box upon the seat?"

"Yes, ma'am," was the frightened an-
swer, holding the box up in sight.

"Does the box belong to either of you?"

"No, ma'am."

"Whose box is it?" she asked.

"It's mine," piped a shrill voice from a
back seat, and a little boy stood up. "I
lent it to Ned and Charlie at noon."

"Go and get the box," was the next
command, "and place it upon my desk."

The cigar box was yielded with many
misgivings, and the sturdy little fellow
marched up and placed the box and con-
tents upon Miss May's desk.

"Children," began the teacher, "I trust
that you will behave nicely this after-
noon, and not disgrace yourselves. As I
told you before, the School Board is to
meet here, and Judge Brown is to make

Fresh at Night

If One Uses the Right Kind of Food.

If by proper selection of food one can
feel strong and fresh at the end of a
day's work, it is worth while to know the
kind of food that will produce this result.
A school teacher out in Kans. says
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"I commenced the use of Grape-Nuts
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have to give up my work altogether. I
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appetite, was nervous and sleepless, and
experienced, almost constantly, a feeling
of exhaustion.

"I tried various remedies without good
results; then I determined to give par-
ticular attention to my food, and have
learned something of the properties of
Grape-Nuts for rebuilding the brain and
nerves.

"I commenced using Grape-Nuts and
have since made a constant and rapid
improvement in health, in spite of the
fact that all this time I have been en-
gaged in the most strenuous and exacting
work.

"I have gained twelve pounds in weight
and have a good appetite, my nerves are
steady and I sleep sound. I have such
strength and reserve force that I feel
almost as strong and fresh at the close
of a day's work as at the beginning.

"Before using Grape-Nuts I was trou-
bled much with weak eyes but as my vi-
tality increased the eyes became stronger.
"I never heard of food as nutritious
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Read the little book, "The Road to
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an address, as well as some of the others, and I hope that all will give them proper attention. The judge is going to present a prize to the one who conducts himself or herself in the best manner according to his own judgment."

Everyone seemed to settle down quietly as if to compete for that prize, and Miss May was beginning to feel that all would be well, but upon glancing at Charlie she found him making questioning signs across to Ned and Charlie.

"Johnnie!" she called sharply, "come and sit upon the platform."

"Yes, ma'am," he answered, as he obeyed her.

A seat upon the floor of the platform was not exactly a seat of honor, but Johnnie had sat there before and was perfectly at his ease.

There was a knock at the door and Miss May went forward, a little nervously, to admit her guests.

Judge Brown, followed by three other prominent men of the neighborhood, filed in. They seemed to fill the narrow aisle as they walked in a dignified procession to the platform and seated themselves in the four chairs that had been previously borrowed for the occasion.

Miss May occupied her own chair in front of her desk and kept her watchful eye upon such pupils as were apt to bring discredit to her discipline. She glanced at Johnnie, who sat almost at her feet, and decided it was safer to let him remain.

The judge rose to make the first talk. He was a large man, and confident of his fine appearance as he towered head and shoulders above the other three men. He smiled in his condescending way at his might and power of knowledge among that little band. His presence inspired silence and his commanding tones thundered throughout the space of the little schoolroom in masterful force.

He chose lofty words in his discourse, and everyone seemed to listen with rapt attention save the little boy who had moved to one side to allow him room to stand quite at the edge of the platform. Johnnie never took his eyes off the cigar box upon the teacher's desk, well knowing what it contained. He was busy speculating just what would happen if that mouse should escape.

The judge warned to his subject, knowing that he was making quite a fine speech. He would step to the edge of the platform and then back again, as he gesticulated. He would rest his hand upon the teacher's desk, and, as many orators are in the habit of moving articles about, such as a book or a glass, the judge pushed the cigar box back and forth as he spoke, in quite an unmindful fashion. After awhile he paused to watch the impression of a certain strong argument he had made, and in a careless way he set the cigar box upon end.

Johnnie, who had been watching every move he made, gave a start as the lid of the box opened a trifle. The judge leaned his arm upon the place where the box had rested, and Johnnie almost jumped to his feet as he saw a tiny head push out of the opening. The next moment the inch of space between the box and the speaker's coat sleeve had been covered and the little prisoner had transferred himself from his former quarters to the rather uncertain refuge of the judge's sleeve.

The speaker finished with a grand flourish and, with a beaming smile, turned to resume his seat, which was a little in the rear of the chair which Miss May occupied.

He lowered his hand as if to adjust his chair and a tiny object fell from his sleeve upon the teacher's skirt that spread out upon the floor beside her chair.

A mouse—a little half-grown mouse.

The great man stopped short with a look of consternation upon his features.

Miss May, unconscious of its presence, was engaged in explaining some matters to one of the members of the school board.

The judge was quite certain that she would hold to her feminine tradition and scream if she saw it. It had fallen from his own sleeve, which he would be obliged to admit if the matter was found out, yet for the life of him he could not account for its presence; still, he was quite sure that he should be blamed in some way. There would be confusion and a scene, and the meeting would be brought to a most undignified close.

Johnnie met his questioning look, and there was a mute appeal to the boy to come to the rescue. It was just one swift glance that flashed between the two pairs of eyes, but it was understood.

The boy moved along the platform; a

chubby hand shot out from a frayed coat sleeve, the fingers closed over the little rodent, and the next moment the disturber was shoved through a hole in the pocket of Johnnie's coat, inside the lining, where he was snug and safe for the present.

The judge noticed that Johnnie wrapped a bit of paper around his finger where the ungrateful little animal had set his teeth. The great man took his seat with a thoughtful look upon his countenance. Somehow the fact never appeared with such force to his mind before.

The little boy at his feet, with his shabby coat, buttonless and out at the elbows, had dared to do a thing that he, in all his greatness, would not have attempted.

The program was being carried on. The other three gentlemen each made an address in his own way—not like the judge's speech by any means—just useful ideas and theories, clothed in simple language and understood by the smallest child present.

There was no hitch or interruption, and Miss May was delighted to hear her methods commended.

At the close, the prize was to be awarded. As the judge came forward, and Johnnie moved aside, he stooped and whispered a question to the boy, and the answer came: "Johnnie Smithers."

The judge held the prize up for all to see—an elegant volume of poems bound in green and gold, a most desirable possession for many who looked with longing eyes upon it. The judge was smiling, but somehow the pompous, superior air was gone, and his words rang out with a more kindly meaning than before.

"In awarding this volume," he began, "I am not prompted by any outward display of merit. I am not influenced by anyone's advice concerning the most worthy one to receive it. In my observation of human natures I have gained an insight to human hearts through little acts as well as the more conspicuous ones, and thus with the greatest pleasure, I present this volume of poems—" he paused, and his eye roved over the eager, expectant faces before him, and then back to the little boy at his feet, "to Johnnie Smithers."

There was a moment of silence; Miss May looked disappointed; the school committee smiled feebly and the older girls frowned.

Someone in the middle row began clapping. It was Ned and Charlie. Others took it up, for Johnnie was rather a favorite after all, despite his mischievous ways. The little school rang with applause for a time, but none clapped quite so loud as the man who had bestowed the gift.

INDIAN LEGEND OF THE GIFT OF CORN.

BY HOPE DARING.

The success or failure of their corn crop meant much to some Indian tribes. Their mode of cultivation was primitive, but the fertility of the virgin soil usually gave them a fair crop. The Ojibways looked upon corn as a gift of the Great Spirit and used to tell, around their camp fires, the following legend concerning its coming to their tribe.

It was the great Manabozo who, when a youth, had, in accordance with the custom of his tribe, retired to the forest, there to spend a time in fasting and prayer. This solitary vigil was to prepare the young Indian to take his place as a warrior, one having a voice in the direction of his tribe's affairs.

For three days Manabozo had fasted. On the fourth, weak and faint, he lay upon a bed of leaves within the rude lodge he had constructed. Hearing a noise he opened his eyes, and in the doorway stood a young warrior. The stranger was arrayed in garments of green and yellow. In his golden hair he wore a long green plume. In a soft, sweet voice he said:

"Manabozo, your prayers are heard by the Great Spirit. He has sent me—Mondamin—to instruct you how you can win for yourself and your tribe the things for which you have asked. You are to rise and wrestle with me."

The protracted fasting of Manabozo had made him weak, but he was at once upon his feet, ready to obey the command given him. The two youths sought the open air. It was sunset, and they wrestled until darkness fell, neither one winning a victory over the other. Mondamin withdrew, promising to return on the morrow, that the trial of strength might be continued.

This was twice repeated. The third

time the two wrestled, the seventh day of Manabozo's fast, he was able to overcome the other. Mondamin lay on the sward, dead.

The dead youth had given instructions for his own burial, should he be overpowered. Manabozo obeyed the directions given him. He stripped Mondamin's garments from him, laid the body in the earth, which he made loose and light above the dead youth.

Then Manabozo went to his home, for the seventh day had completed his fast. He did not forget the grave of the one who had claimed he came from the Great Spirit. Often the young Indian went hither, uprooting the weeds and driving away any intruding animal.

One day he found a green sprout issuing from the grave. As Whittier said: "All through the long, bright days of June

Its leaves grew green and fair,
And waved in hot midsummer's noon
Its soft and yellow hair."

It was not until the grain had grown tall that Manabozo told his friends.

"And still later, when the Autumn
Changed the long green leaves to yellow,
And the soft and juicy kernels
Grew like wampum hard and yellow,
Then the ripened ears he gathered,
Stripped the withered husks from off them,
And made known unto the people
This new gift of the Great Spirit."

GOD PITY THE RICH.

BY P. J. F.

God pity the rich, the poor can beg—
A truer thing was never said.
Only the poor man knows the stress of
cold,
Of hunger and of pain, we're told;
What's that compared to the rich man's
need,
To the mental pain of gain and greed?

The rich man, true, is college bred,
And the poor man envies the life he has
led,
Yet the acquired taste for good rib roast,
For porterhouse steak and quail on toast,
Blue points and mushrooms and lobster
red.

Will hardly stand him in very good stead
In the race for a bank account or a home
of his own.

Which the poor man acquires by buying
soupbone,
Round steak, and weenies, and potatoes
galore,
And purchasing drygoods at the Ten-cent
Store.

His wife wears gingham at a shilling a
yard,
While Madame La Riche must invest in
foulard.

The college friends of the rich man, too,
Come dropping in—not only a few—
But scads upon scads stop to say, Hello!
The rich man must smile—he can't tell
'em to go.

The poor man's friends don't come but-
tling in,
No time to visit have the poor man's kin.
They force him not to commit the sin
Of charging things for lack of tin.
Him haunts not the ghost of what folks
will say

If he doesn't take them out, at least once
a day,
To the Lyric, or the Wonderland,
Or to the Coliseum to hear the band.

The rich man needs must entertain,
Cordiality assume and pleasure feign
Toward those who bore him—yea, repell!
For social position his peace will he sell.
And charity must never be overlooked,
Or else for Oblivion he'll surely be booked.
These things aforementioned the rich
must endure;
The high cost of living never bothers the
poor.

And I, therefore, repeat as paramount in
life,
Is the truth of the saying in this world
of strife—
I say it in earnest—I'm not a wag—
God pity the rich, the poor can beg!

THE LIGHTING OF THE LAMPS.

BY CORA A. MATSON DOLSON.

Two thousand lamps, Roy said, were lit
To light the great hall where he went;
A lot of money, too, was it
To decorate that hall they spent.

We didn't go, but Bess and I
Went to a grander hall that night;
Above our yard we saw the sky
With all its million lamps alight.

We watched the darkness light these
lamps—
The first great white one in the west,
The little ones, like roving tramps,
The milky way, and all the rest.

And not a single dime it cost;
And Bess and I we laughed and sang,
While far-off where the wood boughs
tossed,
The echoes of our music rang.

And when we heard our mamma call,
"Tis bed-time now," we thought of
this:

No one in God's wide world at all
The great lamp-lighting needs to miss.

THE UNFORESEEN.

BY EUGENE C. DOLSON.

The doubts and cares that weigh hearts
down today,
May be the heralds of a future gain;
As tremulous flowers, bent low by wind
and rain,

Rise fairer still when storm-clouds melt
away.

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YE OLDEN TIMES.

BY CHAS. E. JENNEY.

Along the grass-rimmed village street—
The first short dandelion gleams,
And now the elms, young Spring to greet,
Are feathering their long triremes.
The earth with subtle incense steams
That Memory awakes to meet;
And through the fairy land of dreams
Our Fancy goes with tripping feet.

The shadows flickering on the street
At hide-and-seek with stray sunbeams,
In old familiar forms repeat
The games that boyhood most esteems.
The breathless listener almost seems
To hear again the laughter sweet
Of maiden voices as it streams,
Where slow they wend from Learning's seat.

With jolly shout comes down the street
A school-boy group that surely deems
The shinny-block Life's prize complete,
So eager in its chase it streams.
Again, I see the slow ox-teams
Come lumbering with their loads of wheat;

Beneath the lilac's gay racemes
The village gossip grows replete.

Nor doth the heart less warmly beat
When Frost employs its harsh extremes.
And Winter with its snow and sleet
The village landscape softly creams.

With happy shouts and merry screams,
Snow-plough and shovel break the street—
Blood-warming toll the way redeems,
And sleigh-bells jingle its defeat.

ENVOI.

Ye Olden Times! How like to dreams
Thy scenes pass in procession fleet;
Each friendly face a vision seems
As we pass down the village street.

OLE BULL AND THE INVENTOR.

A story is told of Ole Bull, the wizard of the violin, and Stephenson, the inventor of the locomotive. Ole Bull admired the inventor greatly but Stephenson's dislike for music was pronounced.

A call of some nature took Stephenson to the home of Ole Bull. After finishing his business the cold, taciturn man arose to go. Ole Bull pressed him to stay and hear a famous old violin that had recently come into his possession, but the inventor declined, declaring he had no time for such nonsense.

Ole Bull, however, began to explain the marvelous construction of the violin, the perfect exactness required in each minutest part. The inventor became interested in the subject. Finally Ole Bull explained how the sound waves were produced and the relation of the different parts to their production. Then—still explaining—he drew his magic bow across the strings in a burst of exquisite music.

Stephenson lingered, spellbound, Ole Bull played on. When the music finally died away, Stephenson burst into tears and sobbed, "There has been something in my life that was lacking and at last I've found out what it is."

How many seemingly happy men and women are there, out on the farms, whose souls are unconsciously yearning for the touch of responsive music. For some it is simple, long forgotten melody, for another the inspiring music of the bands and to others, perhaps, the rollicking airs and merry tunes would act as a tonic.

Fortunately there is no need for this yearning to go unsatisfied for the wonderful phonograph brings the world's best music, sung by the most famous singers and played by the most celebrated bands and instrumentalists, right into the farmer's home.

The modern phonograph is truly a wonderful instrument for it actually reproduces the warm, living voice of the singer as truthfully as the human throat. The light, breezy airs and delicious wit of the world's famous merry-makers come from its horn as bright and sparkling as they flow from the lips of the singer, tripping before the footlights.

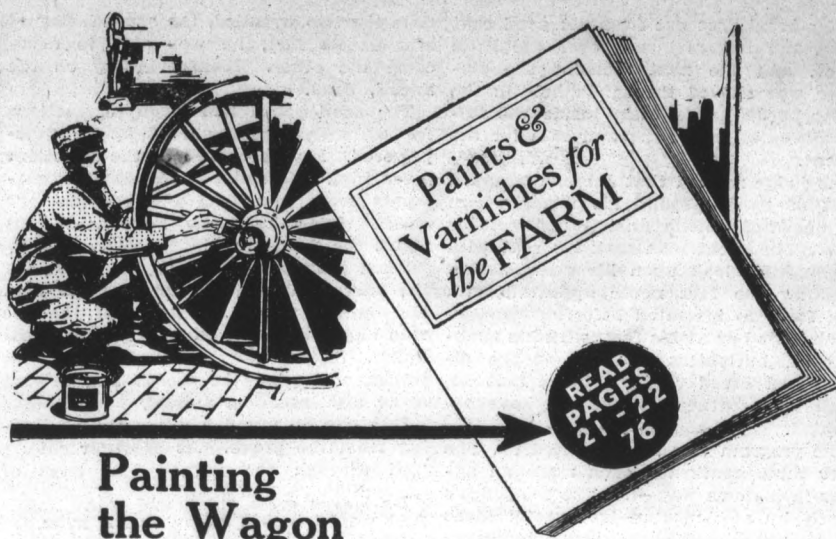
The music of the world famous bands comes as responsive from the phonograph as when from under the baton of Pryor and Sousa it floats over a vast theatre. And listening to the sacred hymns and arias on this marvelous machine is just like sitting in the church and hearing the swelling notes of the overhead organ and concealed choir. The organist and the singers are not seen but the rich sublime music is real.

There are many bright and intelligent men and women who don't realize what a perfect musical instrument the modern phonograph is. But if they would only listen just once to a good one, they would, like Stephenson, discover a source of new-found and lasting delight.

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