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FARM NOTES.

Cultivating the Potato Crop.

In riding through the country one cannot but be impressed with the different methods in cultivating the potato crop, especially during the latter part of the cultivating season. The old practice of hilling with a shovel plow is still continued on some farms, and the writer saw a field of early potatoes recently in which this implement had been used to hill them up during the dry, hot weather which prevailed in early July. That it is a serious mistake to use the shovel plow in the potato crop in dry weather cannot be questioned. To move all of the loose dirt about the hills and expose the hard surface at the bottom of the dust mulch to the sun and wind is to invite a further evaporation of moisture from a soil that is already too dry, and to check a normal nourishment of the plant by the rootlets which are thus pruned and exposed. Fortunately this practice is not as common as formerly, although there are many growers who hill up their late potatoes rather late in the season for the reason that the potato digger works better in a hilled row than where level culture has been given until the last. Many good growers make a compromise between these two methods and hill the rows slightly one way with wings or wide shovels on the small cultivator, thus protecting the tubers which might be exposed from the sun and making a better row for the digger where this implement is used in harvesting the crop. Probably this is as satisfactory a practice as can be followed under normal conditions, but when there is a serious lack of moisture at the time when cultivation is stopped in the potato field, the level culture which leaves a good dust mulch on the surface is undoubtedly better for the crop.

How deep and how many times potatoes should be cultivated for best results has been a mooted question among growers. This was recently made a subject of some carefully conducted experiments at one of the eastern stations where deep and shallow tillage and frequent and infrequent cultivation were tried out in comparison with check plots to determine if possible the best method of cultivating the crop. The result of these experiments indicated that the cultivation should be neither too deep nor too shallow, neither too frequent nor for too long neglected. In fact, the conclusion reached by one of the experimenters along this line was that such cultivation as would in an ordinary season keep the potato field clean and free from weeds was sufficient and would produce more profitable results in the crop than more or less stirring of the soil. That is, that the cultivation of the field after this object has been attained will not prove profitable, since the increased yield will not more than pay for the labor involved if, indeed, the yield can be increased at all by this extra cultivation. Such experiments have a relative value only as they show, in a general way, the more profitable course to pursue, but in the ac-

tual accomplishment of this work the grower must use his own good sense and judgment. If he has the weeds killed and a good dust mulch to prevent the evaporation of moisture from the soil, it will perhaps be a waste of time to cultivate the crop. But if there are weeds, or if a shower has fallen which will cause a crust to form on the surface, it will certainly pay to cultivate. In fact, it will

be different. The personal equation is no small factor in growing a good crop of potatoes as in other departments of farm management which make for success.

Spraying to Prevent Blight.

The question of whether it will pay to spray the growing potato crop for the prevention of late blight is one which will soon confront the grower. For several years the writer has sprayed his

rule that enough better yields were secured to more than pay the cost of the spraying, even when there was little evidence of blight on the unsprayed plots. Of course, this would probably not hold good in a season like the last when the price of the crop was so low, but the price of the previous crop was enough higher to make the account balance all right if there is as much benefit from spraying as these experiments have seemed to show. Nor can one be at all certain that the freedom from blight which has characterized recent seasons will be continued for the present year. The writer has not forgotten the loss from this cause which occurred before he commenced to spray as a prevention of this trouble, and will spray again this season to be on the safe side. No one can tell when potatoes will be high, and the time when this will occur is the time when there is general damage to the crop from this or other causes, hence the wisdom of taking every precaution to have the crop as good as possible should the season prove to be an unfavorable one.

Dodder in the Clover Fields.

A Kent county subscriber sends in a specimen of dodder entwined about a clover plant and asks for its identification and the best means of eradicating it. While this is the first report of dodder which we have received this year, there were several samples sent in last season of which cuts were published in The Farmer, and advice given as to its treatment. But for the benefit of those readers who did not note the articles published about it last year, we will briefly describe it. Dodder is a parasitic plant, the seeds of which are secured in clover or alfalfa seed. There are several species, but all have practically the same habits, and all will be easily recognized from the description. The plant has no leaves other than the fine tendrils which it produces in abundance and which branch out and spread from a common center, entwining and destroying the clover or alfalfa plants upon which they attach themselves. Soon after the seeds germinate, the plant severs all connection with the ground, its tendrils adhering to the stalks of the clover

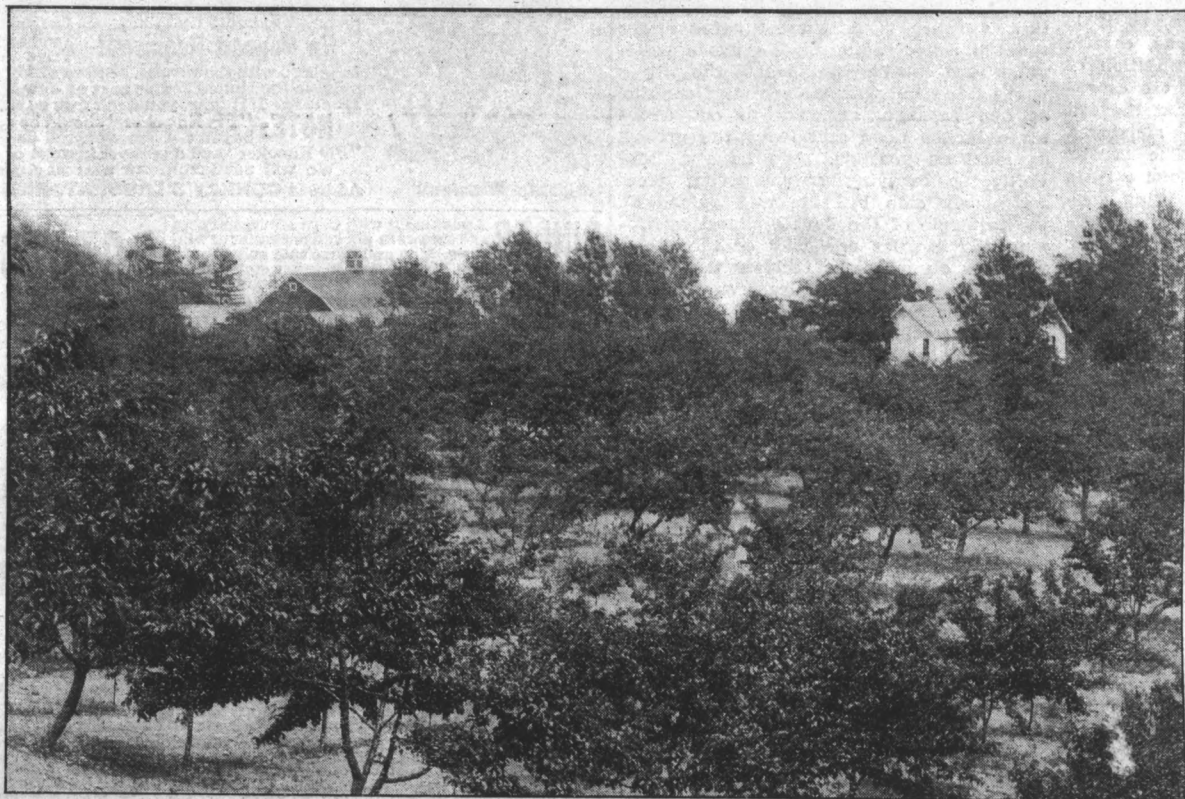
plants and feeding upon their juices until they are killed. But the dodder keeps on growing and reaching out for fresh plants so that the circle of its destruction is ever widening. But in the meantime it produces seed abundantly in its fight for self-preservation. The specimen above referred to is just in bloom, numerous white flowers appearing along the tendrils. The latter are of a yellow color in most species of this weed pest, which is becoming altogether too common in Michigan. The best way to keep this pest off the farm is to be careful in the selection of clover and alfalfa seed. But once it is found growing in the field, the best thing to do is to cut the infested clover down and burn it on the ground, using a little straw or other coarse litter to insure a good clean job of burning. Of course, clover seed should not be saved from a field that is known to be infested, as this



A Thrifty Orchard Growing on the Farm of David H. Miller, of Lake County.

pay to prevent the latter condition continually and as late in the season as the potatoes may be safely cultivated. Then one may be certain that he has done all in his power toward aiding nature in the development of the crop. No set rule can profitably be followed as to the number of times the potatoes are cultivated, or even as to the depth of the cultivation. Much depends upon soil and weather conditions and if the experiments above mentioned were repeated under different conditions the results would more than likely

crop with Bordeaux mixture with this end in view, during which time there has not been a season when the blight was sufficiently prevalent in the community to cause any very considerable loss in potatoes that were not sprayed. But it is not at all certain that the spraying was not profitable in the long run for all of this fact. Where careful experiments have been conducted at a number of experiment stations and check plots used to determine the profit in spraying, it has been found to be almost the universal



An 53-Acre Fruit Farm in Grand Traverse County, which Recently Sold for \$10,000, Owned by Wm. Heubel.

would only prolong and aggravate the trouble. The seed is somewhat smaller than clover or alfalfa seed and a careful screening in a meal sieve having 20 meshes to the inch will remove it. Where the colonies of dodder are very numerous the best plan is to plow the field, as it is worse than useless to try to eradicate it in any other way, and if it is allowed to mature seed to infest the soil, the latter will have to be devoted to cultivated crops for two or three years before it can be again safely seeded to clover. For this reason it is obvious that too great care cannot be taken to keep this pest from getting well established on our farms.

This pest has also invaded Indiana, and is regarded as so serious a menace that the Indiana station has issued a bulletin urging extreme care in the examination of seed to determine its freedom from the seeds of this pest and giving directions for its eradication where a few seeds cause infested spots. Regarding the eradication of this pest, the bulletin says:

Root up everything on the "spots" and burn without moving, or remove and burn if there is no danger of scattering seed. Get far enough out from the borders of the "spots" to make sure that all the dodder is destroyed. Small pieces of plants left continue to grow. Should a field have become generally infested, it is advisable to plow up the clover field before dodder seed is formed. Let the succeeding crop be a cultivated, non-leguminous one. Work out of the ground any dodder seed that may be there, by encouraging them to sprout, and killing the seedlings by cultivation. Should seed have matured before the crop can be plowed under, burn the crop over, then plow and follow with a cultivated crop. Instead of either plowing or burning, shallow cultivation, followed by a cultivated crop kept thoroughly clean, may be resorted to. Here the plan is to destroy the seedlings. Any use desired may be made of the stand of clover on the ground, providing it is cut for hay, pastured or plowed under before the seed is formed. Stubble in the infested field must be plowed under without delay.

"Fairy Rings" in the Lawn.

Will you kindly prescribe for the following trouble: I have a lawn that is being destroyed in appearance by small circles varying in size that are of a dark green than the rest of the lawn, and a kind of dead spot or mushroom growing therein. Kindly tell me what they are, and the cause, and how to get rid of same.

Hillsdale Co.

B. N. P.

These rings or circles in the lawn are formed by the growth of certain species of fungi. The name of fairy rings has survived from former days when superstition was a more common trait, as these rings were formerly supposed to be caused by fairies in their midnight dances. The species of fungi to which they are generally due is scientifically known as *Marasmius Oreades* and belongs to the mushroom family. Probably the best remedy for the trouble would be to make the conditions unfavorable for the growth of the fungi. The plant itself is a mold or threadlike fungus which forms just below the surface of the soil, the portion appearing above ground being more properly the fruit of the plant. In order to propagate this mold or spawn, as it is called, under artificial conditions, careful observation of the physical condition of the soil is necessary. One of the essential conditions to success is that the soil be not kept too wet, but simply moistened by sprinkling occasionally. The "crop" which is secured also depends not a little upon proper watering, there being several diseases to which the plants are subject which are brought on by improper watering. This fact suggests a remedy in keeping the "rings" thoroughly wet down, which will retard the growth of the spawn and perhaps induce black spot or some other of the natural enemies of the plant to get in their work. The prevalence of this fungi is doubtless due to the unusually dry and uniformly hot weather which has prevailed in recent weeks, and even if left alone the trouble will be likely to disappear as soon as the weather conditions change.

THE WATER SUPPLY.

Every once in a while in farming, and I suppose in every other kind of business, cantankerous things come up which annoy one terribly and also produce losses which cannot be avoided. We are just passing through—I hope we have passed through one. I have a well that is 123 feet deep. It has been in operation over 20 years and it never failed until this summer. All at once we could not get

water enough to supply the stock. The cows had to go to the creek to drink, something they have never had to do before, and they have fallen off terribly in their flow of milk. I don't lay this all to this fact, but part of it to the extremely hot weather.

There was a couple of old brass cylinders in this well, and I am of the opinion that they got stopped up so that the water could not come up. We had to take the whole pipe up to get out these cylinders, and we have just got it started now, and it seems to work all right again, but I am not sure yet. Where one keeps so much stock it is certainly a serious thing to be out of water, and if this well does not work now, I will put down a new one, and if I do, it will be a four-inch pipe instead of a two inch.

COLON C. LILLIE.

CARE OF THE CORN CROP AFTER HARVEST.

Whether we should give the corn crop further cultivation after the harvest season is a question upon which not all, but I think the majority, of farmers will agree, and will answer in the affirmative. If the corn has been cultivated every week or two up to this time it is in a condition where the continuation of this cultivation will not injure the crop but will help to hold the moisture by creating or keeping a dust mulch over the moist ground, which by breaking up capilarity prevents moisture from rising to the surface and hence prevents as rapid an evaporation as would be the case if the ground were left hard and crusty.

Of course it is possible to injure corn after the harvest season by cultivating it close to the hill and quite deep when the weather is very dry, especially if it has not been worked frequently before. The fact that this has been done is sometimes offered as an argument against late cultivation under the proper conditions. Circumstances alter cases, and we must use judgment in performing any operation on the farm else it may give a result directly adverse to what it is expected to and should.

Our corn is now large enough so we have abandoned the two horse cultivator, though we went through it once since harvest with this tool. I like to use the two horse riding cultivator as long as possible, as it does better work than an ordinary man will do with a one horse cultivator, and does it more rapidly; then, too, the help usually prefer to use it. If the field is such that one can turn around at the ends without getting on the corn the field may be cultivated with this tool until the stalks are quite high, providing they are not too brittle so they will not break when bent over slightly.

We prefer not to run too deep near the stalk after the harvest season, and try to gauge the shovels so those nearest the row will not cut as deeply as these in the center; in fact, I do not believe it is best to cut more than three or four inches deep at any place, and two or three inches next to the row is sufficient.

For the later cultivations that are given after the corn begins to form brace roots we do not cut nearer than six inches to the row, but go both ways, so that a space is left uncultivated about the hill a foot square. We use a cultivator that can be expanded to the proper width to cut all that is desired of the row at one passage, and try to cut about three inches deep and leave the ground as level as possible. We have a light cultivator carrying seven spring teeth set nearly side by side and guided on the principle of the double shovel by tipping the handles one way or the other, which is an excellent tool for this work.

We usually follow at least one field of corn with wheat, and by keeping the cultivator going in it after harvest we are not only giving the corn as good insurance as we can against drought, but are keeping down the weeds so the field presents a clean surface when the corn is cut. To accomplish this, is is usually necessary to go over it once with the hoe to get the few weeds which have not been covered up in the hills, but this is a short job if the field has had proper cultivation, and is rowed both ways. All that is necessary to prepare the seed bed for wheat after the corn is off is to go over it once or twice with the cutaway harrow, level down with an ordinary harrow and drill. Our corn ground wheat does not usually yield quite as much as wheat following other crops, but there is a saving of labor, the field is put to work at once and bears a cover crop over winter.

Calhoun Co.

S. B. H.

Why should a farmer be satisfied with a yield of twenty bushels of

wheat

to the acre when the soil under proper treatment can produce forty bushels? He should be satisfied with 20 bushels no more than he would be satisfied to invest his money at three per cent when he can realize six per cent interest.

This is a business proposition, a fundamental principle on which the business world stands. Success in every enterprise is measured by the earning capacity of the capital invested. If the farmer will fertilize his land and cultivate so as to bring up its productiveness, he not only will realize a greater profit on his investment, but his land will also carry a higher valuation than the farm of his neighbor which produces ordinary crops.

The average farmer knows all about cultivation of his land, but when it comes to fertilizers he is not sure about it. Very often he is led to believe that one brand of Fertilizer is just as good as another and will probably buy the lowest priced, while in reality it is the most expensive. That is where he makes a mistake. The best Fertilizer is not any too good for him to use.

In selecting Fertilizer the farmer cannot be any too careful. He should make sure that the goods he is going to buy are manufactured by a reliable firm, so that he may depend upon getting full guaranteed percentages of plant food in the Fertilizer he is paying for, and of the highest agricultural value, also in first-class mechanical condition. The reputation of the manufacturer is a very important matter.

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I have followed your advice in many matters and found it right. I wish to ask in regard to some cement work. I am contemplating building a basement barn on level ground. It is just fairly heavy clay land. Would like to know if you think it advisable to excavate or put wall down below the surface. I have been advised to just make a slight trench, taking off about 6 inches of surface earth, and fill with gravel tamped in, then starting concrete wall from surface. Do you think frost would crack? How thick should wall be for 40x70 ft. barn, leaving 8-ft. basement, and should a person put in a piece of tar paper or 1/4-in. board in different places in wall to prevent cracking caused by settling?

Alpena Co.

A. B. C.

My advice would be to go down deep enough and have the wall heavy enough to secure a good solid foundation. I would not think of only going down six inches for the foundation wall of a good-sized barn. The action of the frost will certainly heave the wall and cause the building to settle and get out of shape. My advice would be to go down a foot and a half anyway. Now I would have this trench a foot and a half wide. Fill it with stone and grout up to the surface of the ground and then begin your cement wall. Then I would build a cement wall a foot high and a foot wide, and the rest of the basement I would build of lumber. I don't believe in having a concrete basement wall, or cement block basement wall, because cement walls, or cement block wall basements are liable to be damp and they are much more gloomy than where the basement is built of lumber.

There is not much to be said about building forms for this wall. Simply take boards or plank and level them with a spirit level so that your wall is perfectly level when you get through; drive stakes securely so that the form will be true, then if you have the stone handy, put in a layer of stone and then a layer of grout made by mixing good gravel with cement in about the proportion of six or seven, or perhaps eight to one. Mix this thoroughly and pour it into this form, covering the stones well. Then put in another layer of stones and so on until you have the wall complete. If you haven't the stone you can make it entirely of grout, but it makes a better wall and is less expensive if you have stone to mix with the cement.

COLON C. LILLIE.

THE SULPHUR TREATMENT FOR SCAB IN POTATOES.

I see by the July 9th issue of the Michigan Farmer that Mr. Lillie has tried the sulphur treatment for scab on potatoes. We used sulphur on part of the seed we planted, with the result that nearly all of the seed rotted. Not one out of a hundred hills, on an average, came up. We applied it to freshly cut seed, (once in a while a whole potato was used), and dropped and covered as soon as applied. The seed that was treated with formaldehyde all grew. Please let us hear the result of Mr. Lillie's experiment.

Wayne Co.

C. A.

As stated a short time ago, I have the best stand of potatoes this year I think that we ever had, and the seed was treated with sulphur instead of formaldehyde for scab. Therefore I cannot understand why it is that C. A. has such disastrous results in treating his seed with sulphur, neither can I see how it is that sulphur would in any way cause the seed to decay. It must be that there was some other condition that he has overlooked. Of course, all of our seed, as I stated before, was small, old potatoes. We sprinkled sulphur all over them on the barn floor, then shoveled them over and sprinkled again and shoveled them over until every portion of the potato was covered with sulphur. I hardly see how anyone could more thoroughly cover the potatoes with sulphur than we did. Then they were planted, some of them the same day and some the next day, and every potato that had not started to rot before we treated it, grew. We have almost a perfect stand. I never had a nicer prospect and so I cannot believe that it was sulphur that caused C. A.'s seed to rot.

The interstate commerce commission recently dismissed the complaint of a Michigan company against railroads making eastern shipments in which the complainants stated that the railroads accepted wheat which came to Detroit by water for eastern shipment, at a less rate than was granted them on flour ground from wheat similarly received, and allowed milling in transit privileges to mills located on their lines which it claimed created unfair competition. The complaint was dismissed by the commission on the ground that it found nothing unreasonable in this practice from its point of view.

LIVE STOCK

SUPPLEMENTAL FEEDS FOR SHEEP.

Sheep, of all the animals kept on the farm, are most often subjected to adverse conditions and are compelled to exist on scanty feed too often for the good of the sheep, and for the profits that rightly belong to the flock owner. Because sheep can nip the short grass and subsist on almost anything that is herbage, from the coarse, sour grasses that grow on low grounds to the tough, dried leaves of the mullen, and 500 or more kinds of weeds, and relish the fresh leaves of the brush that grows in the waste places, they should not be made subjects of neglect, and little thought given to furnishing them a liberal supply of palatable cut feeds that will keep up a constant growth and maintain them in a reasonably good condition. Because they can subsist on a little for a considerable period of time it does not prove that it is the best and most profitable manner to treat them. If given range enough where coarse feeds are abundant, sheep will make good progress, but the difficulty arises from the fact that they are confined to a limited area, where the grass is sun-scorched, if there is any growth at all, and the supply is so small that their growth is checked and in many cases there is an absolute loss in weight, and sometimes of the sheep themselves.

In most pastures there are places where the grass would make a start if the sheep could be taken away for a short period of time. In such cases a change of pasture is beneficial to both the pasture fields and the sheep. The sheep themselves enjoy a change from the oft-trodden pasture that has more or less of the sheepy odor, to fresh, sweet grasses. The fresh grass is not only more palatable than the trodden grass, but on account of the keen relish and pleasurable influences of new surroundings the system gets more good from it.

Sometimes it is convenient to turn the flock on the fields where the hay has been taken off and let them get the fresh aftermath. As far as this practice is concerned, if the field is to be plowed the following spring for some other crop there can be no objection to it. Some hesitate about turning on to the meadow fields if there are places where the young, after-growth of clover is rank, on account of the danger from bloat. By letting them eat in the old pasture until the latter part of the day and then turning them on for an hour at a time at first there is little, if any, danger. It is not a good plan to let them fill at first on fresh clover, rape, or any green feed while the dew is on or immediately after a rain.

The men who fit their sheep for show at the fall fairs set a good example in regard to the summer feeding of sheep. The sheep designed for exhibition are kept improving from springtime until shipped for exhibition. If it is for profit and general satisfaction, why not keep the general flocks thriving, for the gains on the lambs and the flock, from the time the lambs arrive in the spring until they are ready for market?

With the dairymen it has become a general custom to provide some succulent feed to tide the cows over the periods of drouth. They make money by the practice. Why do sheepmen fail to see that their ewes are doing just what the cows do—eat to sustain themselves and give milk for the lambs. If the cows can be benefited by some succulent feed like oats and peas so can the sheep. If it is a good plan to plant an extra patch to corn for the cows to supply their needs at that critical time, it will pay to do the same by the ewes and lambs.

There are several advantages to be gained by supplying supplemental feeds for the sheep in the summer time. Usually the flock has to contend with the flies in the open field during the heat of the day. If the sheep are put in the shed and feed given in the racks, the windows can be thrown open to give sufficient ventilation, and they can eat what they want, lay down and chew the cud, and pass the day in comfort. When evening comes they can be turned loose for a stroll in the pasture fields. If it is considered advisable to feed some grain, the flock is at hand and it can be given very handily before the sheep are turned into the field.

The feed given in the racks may consist of dry clover hay or some of the green feeds that are available. Where green clover, green corn or rape is used it is a

is to be used to allow it to wilt before it good plan to cut it long enough before it is fed, and then there is no danger from bloat.

Where the flock is put in and fed each day the sheep are under the immediate charge of the owner, and all the necessities that are indicated for the good of the flock can be attended to promptly. By giving the sheep constant attention, and striving to do well by them, much better results will be obtained than can be if they are at all times compelled to shift for themselves and exist on scanty fare. Good care and constant improvement means better profits and greater satisfaction in the sheep business.

Wayne Co.

N. A. CLAPP.

PLAN FOR BASEMENT BARN.

Would it be asking you too much to have you give plan of your idea of a basement for barn 40x70 ft. for an 80-acre farm. The barn has double threshing floor with doors on side. Would prefer to have doors in basement on end. I thought of having doors for horse entrance on one side of end, alley in center, cattle on other side. Would say it is to be made of concrete as it is impossible to get other material. How high should a foundation be, or how low will do?

Alpena Co.

A. B. C.

Having had considerable experience in the use of basement barns, I can say without any hesitation whatever, that I would always have a driveway through the center of the basement wide enough so that you could pass through with a manure truck or manure spreader, for the purpose of removing the droppings from the animals. This carting out the manure from the barn is the hardest, slowest, worst job on the farm and what we want to do is to make it just as easy as we possibly can. Consequently, I would have a driveway in the center of your 40x70 foot stable passing through the stable lengthwise of sufficient width for this purpose. Perhaps one end of your barn is a bank so that you would have to excavate in order to get through with your driveway, but since you have two threshing floors, I apprehend that the bank is on one side of the barn and that the ends are probably both free from the bank. Hence it would not be difficult at all to arrange for this driveway. Then you can arrange your cow stalls on one side of the stable and your horse stalls on the other, or you can devote one end of the stable to cows, have cows on both sides of the driveway, and the other end for horses with horses on both sides of the driveway. Then if you choose you can have sliding doors between the cow stable and the horse stable. This would shut off the smell of the horse stable from the cow stable and vice versa, and it would be better in another way. Sometimes horses get their halters off and get loose and if they have access to the cow stable and the cows are securely fastened, they may do some damage. Having the sliding doors through between the stables would prevent this.

With a basement forty feet wide, you have ample room for a driveway, two rows of stalls, one on either side, and an ample feeding alley in front of each row. Then the barn being 70 feet long I should say that you had plenty of room for all the stock that you would want to keep on an 80 acre farm, and yet it is none too large. A barn or stable is never too large. You will need it all. Besides, stalls for the regular number of cows which you keep, you will want a box stall or two for a hospital stall, or a place to put the cows when they calve. Then you will want some box stalls to keep young calves in and a number of yearling heifers and other young stock. So, also, in the stable part of the barn—you will want at least one box stall to turn horses in when they are sick. By having the cows and horses stand facing the outside brings the feeding alley on the outside and brings the hay chute above on the outside of the barn. There it does not interfere with the hay mow. If you have the feeding alley in the center and have to put the hay chute in the center of the barn, it interferes many times with the mow room above. Besides this, all the animals are breathing the air as it comes in from the outside of the barn, and not breathing the air which has already been breathed over by the cow standing in front of them.

A basement stable ought to be eight feet high in the clear. This makes it high enough so that you can drive your horses through to remove the manure. If you have it higher than this, it costs more to keep it warm, because the higher the ceiling is the more heat it takes to warm up the room. Eight feet is a good practical height.

COLON C. LILLIE.

PLEASE MENTION THE MICHIGAN FARMER when you are writing to advertisers.

A COMMON-SENSE SUGGESTION.

When manufacturers of agricultural implements invite our readers to correspond with them relative to any problems that confront them—such as what style furrow opener will be found best adapted to the locality in which a grain drill is to be used—there should be no hesitancy on the part of the farmer in writing for that information. The American Seeding-Machine Co., Incorporated, Richmond, Indiana, manufacturers of that old, time-tried grain drill—the Empire—invite our readers to correspond with them relative to this matter, and wish it understood that it is no trouble for them to answer questions pertaining to the seeding conditions in any part of the grain-growing world. The Empire Grain Drill is manufactured in many styles and sizes—both plain grain and combined grain and fertilizer. This company makes every style furrow opener—single disk, double disk, hoe and shoe—and are prepared to furnish grain drills that are guaranteed to do the work as it should be done. Write to the manufacturers for a copy of their Empire catalogue. After having read this catalogue go to your local implement dealer and insist on seeing the Empire Drill.

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Shoe Boils, Capped Hock, Bursitis are hard to cure, yet

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will remove them and leave no blemish. Does not blister or remove the hair. Cures any puff or swelling. Horse can be worked, \$2.00 per bottle, delivered. Book 6 D free. ABSORBINE, JR., (mankind, \$1.00 bottle.) For Boils, Bruises, Old Sores, Swellings, Goitre, Varicose Veins, Varicosities, Allays Pain. W. F. YOUNG, P.D.F., 268 Temple St., Springfield, Mass.

SUMMERING THE YOUNG CATTLE.

The extremely dry weather which has shortened the pastures prematurely makes the summer maintenance of the young cattle an important problem on the farm where growing stockers are to be found. Probably there are fewer of these in Michigan at the present time than ever before, owing to the close marketing of all stock last winter, due to a scarcity of feed, particularly grain. But there are always a good many young cattle growing up on the farms of the state, and these are in need of some special attention at this time. Where low land pastures are available these will help out in tiding the young cattle over this period of short pasture, since this kind of pasture will at least maintain them in present condition, if nothing more, but where this is lacking the farmer with even a few head of young cattle will find it necessary to give them supplementary feed of some kind if they are to be kept in even their present condition. But it will not pay to simply keep the bodily functions going where they must be fed a supplementary ration to do this. It will pay better to feed liberally enough to keep them growing or to market them at once in their present condition. Too many farmers who can not properly be classed as cattle feeders feel that any feed given to the cattle while on pasture is a waste, and in order to avoid it they allow the cattle to run on insufficient pasture in a time like the present, with the result that it takes the balance of the season to overcome the loss in flesh and the stoppage of growth which results from this method of handling them. If, on the other hand, a sufficient ration has been fed to keep them growing during the season of short pasturage, they would have continued to gain when the fresh fall feed came on. Thus the entire gain, including that made on the fall pasture, would be the result of the supplementary feeding, which illustrates the profit in feeding the stockers well if they are to be kept at all. If this is not done they had far better be sold for what they will bring at the present time. But in a majority of cases it will pay to give the supplementary feed, since by so doing they may be put into marketable condition sooner than those which are allowed to stop growing or shrink on account of insufficient pasture, and thus be marketed at a time when better prices prevail. Gains cost less per pound in warm than in cold weather, and this is another argument for supplementary feeding in all cases where it is necessary to maintain a desirable growth and development of the young animals. It never pays to half feed any kind of stock. Every stock feeder knows and appreciates this fact, but many farmers who feed cattle only on a small scale and as a side issue do not appreciate this fact sufficiently well.

Oakland Co. A. R. FARMER.

SOME POINTS ON HOG RAISING.

It is a fact that there is more money in hog raising at the present time, than any other branch of live stock raising on the farm. Many of the greatest losses that occur to the swine grower usually occur at birth or just after. Many are overlaid by the sow and many die afterwards with the thumps and sore mouth. But most all of this can be prevented by giving them special care. They can be kept from danger of being overlaid by having a fender made of a scantling, rail, or pole securely fastened around the wall of the pen eight inches from the floor. By having this it prevents the sow from crushing the little fellows against the wall and saves the lives of many pigs.

One of the most essential parts in pig growing is exercise. Exercise is one thing that the young pig has got to have. When he is kept penned up all the food he eats is fattening and not growing him any, and fat forms around the heart and we say he has the thumps. This disease generally results in the death of the pig. This can be avoided by giving the pig his desired freedom when he is young. Many growers make the mistake of letting the sow and her brood sleep in a dusty bed. The pig breathes this dust and it causes a cough, and also sore mouth, which sometimes causes death. They should be allowed to sleep out in the open air. The sow should not be fed heavy milk-producing foods for a week or two after farrowing.

The pig is like the colt, if the mother is fed heavy milk-producing foods when they are young they are apt to take the scours and become overfat and die.

The sow should be fed thin slops with a little ground grain mixed in for a week after farrowing. But after the pigs are old enough to consume most all the milk

that the mother provides for them she should be fed enough grain in addition to having good pasture to keep her in good condition.

The pig that makes the most profitable gains is the one that is not allowed to squeal for feed and is pushed from start to finish. If the pig is ever allowed to become stunted it takes all the profit to ever get him started to growing and fattening again, and no good feeder will allow this to occur.

Illinois.

COY C. McCUAN.

CHANGES IN THE HORSE'S FOOD.

The importance of making all changes in the horse's ration gradual is not so generally appreciated by horse owners as it should be. Regarding this important matter a recent press bulletin of the Colorado experiment station says:

"There are few horsemen who have not from dire experience learned that sudden changes in a horse's diet result disastrously. A change from oats to corn, or from timothy to clover, or blue stem to alfalfa, or even from alfalfa to blue stem, often results in indigestion, with flatulence or impaction. Even a bran mash on Saturday night or Sunday morning frequently produces scouring, if the horse is worked next day.

"Several experiments quoted by Dr. Fred Smith, throw interesting light on this question. Five horses were given four pounds of oats, and four horses were given three pounds of oats, and all nine were destroyed about four hours later. Four of the number receiving four pounds had digested from two to three pounds of the grain, and three of those receiving four pounds had digested approximately one and three-quarter pounds. While the remaining one of the first five had digested only twelve ounces and the remaining one of the second lot had digested none whatever."

LIVE STOCK NOTES.

There appears to be a prevailing feeling that wool values have touched bottom, but thus far there can be discerned nothing in the general situation that points to any considerable rise in market quotations. Enormous amounts of the spring clip have been placed in mammoth warehouses in hope that owners will be able to drive better bargains with buyers at some later period, but the present outlook does not seem very auspicious, with a serious curtailment of production upon the part of the woolen and worsted mills and not more than one-half of the machinery in mills in operation. Trade is unusually late in getting a good start, but it is believed that a good beginning has been made recently, and there are indications that quite a number of buyers and sellers are on the point of compromising after sellers had held out for 20 cents and buyers for 16 cents. Last year a good deal of wool was sold in the west for 22 cents, but conditions then were a great deal more favorable than they are now. The three biggest wool clips in the United States, amounting to 10 per cent of Montana's total output, have been sold to a Boston firm, the price received not being made public, but it is reported to be 21½ cents per lb. The three clips aggregated 3,800,000 lbs. The opening wool sale at Belle Fourche, South Dakota, was made a short time ago at what is said to have been 18½ cents per pound, and a little later another sheepman sold his clip for 17½ cents. The market there is in much the same condition as elsewhere, with buyers and sellers a good deal apart in their views.

Live stock commission firms are advising prospective buyers of feeding cattle to purchase steers between now and the last of September in western markets for a 60 to 100 days' feed during the autumn. These cattle embrace desirable half-fat natives, westerns from the pastures of Oklahoma and Kansas, from the Sand Hills in Nebraska and from the ranges of Wyoming, Montana and the Dakotas. Purchasers are advised to buy steers weighing from 1,150 to 1,250 lbs., as the heavier they are the quicker they can be returned to market, and at the same time when finished they will sell from 30 to 40 cents per 100 lbs. higher than if they had weighed around 950 lbs. at the start of feeding. Commission firms always greatly prefer to be allowed as much time as possible in which to make the required purchase. By this means they are not hampered, but can be prepared to avail themselves of such occasions as large receipts and a lower market, frequently saving the country customer from 10 to 25 cents per 100 lbs. Along in October and November well-bred thin cattle, averaging from 700 to 900 lbs., can be bought to good advantage. Late in the season they are well shrunken out, and if carried along on fall pasture and stock fields, and furnished a little grain during January and February to keep them going ahead, they can be fed out for the market in June and July markets to good advantage. Or the cattle can be fed corn on grass for the August and September markets.

The southern "crop" of spring lambs average choice in quality this year, and most of them have been killing out very satisfactorily. The Chicago packers have bought enormous numbers of Tennessee and Kentucky lambs in Louisville and forwarded them to their Chicago plants, claiming that they were much cheaper on the books than such lambs as they could purchase on the Chicago open market at the same prices.

For Breakfast— Post Toasties

with cream or milk.

The smile that follows will last all day—

"The Memory Lingers"

Sold by Grocers.

Pkgs. 10c and 15c.

POSTUM CEREAL COMPANY, Ltd.,
Battle Creek, Mich.

REGISTERED PERCHERONS For Sale—1 mare 2-yr-old & 1 Stallion 1-yr-old, grays, Stubbledfield 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 83836, one of the best sons of PRINCE ITO 50006, and Grand Champion Bull at the Detroit and Grand Rapids Fairs of 1907, 1908 and 1909. Herd consists of Erics, Blackbirds, Prides, etc.

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

Angus Bulls—Polled Durhams, Hampshire, Cotswold, and South Down Rams on sale at Clover Blossom Farm, Port Austin, Mich.

GUERNSEYS—BULL CALVES. Herd tuberculin tested. ALLAN KELSEY, Lakeview, Mich.

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

CHOICELY BRED HOLSTEIN-FRIESIAN Bull Calves at sensible prices. Cole Bros. Ypsilanti Farms, Ypsilanti, Mich.

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

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.

15 Holstein Cows, 6 Holstein Yearling Heifers, 10 Holstein Bull Calves from A. R. O. dams. Pay your money and take your choice from my herd of 70. 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, Fenton, Mich.

FOR SALE—Jersey Bull Calves from 3 to 9 mos. old. Fine thrifty 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 early record s. T. F. MARSTON, Bay City, Mich.

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

DAIRY BRED SHORTHORNS. Can spare a few females. Good notes good as cash. Citizens Telephone. J. B. HUMMEL, Mason, Michigan.

SHORTHORN cattle of both sexes at reasonable prices. I breed for both milk and beef. Come or write. T. M. SOUTHWORTH, R. No. 13, Box 73, Allen, Mich.

SHEEP.

Parsons Poll Delaine Rams will add to the constitution and shearing qualities of your lambs. Grade X, \$15; XX, \$20; XXX, \$25. ROMEYN C. PARSONS, Grand Ledge, Mich.

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.

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 Homeyer and a ram sired by a Glibert 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.

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WON 159 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 fashionable type and strains. C. S. BARTLETT, Pontiac, Mich.

BERKSHIRES A few good young boars ready for service, sows bred for fall farrow at attractive prices for immediate sale. Ask for catalog. Roycroft Farm, Sidnaw, Mich.

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. Patullo, Deckerville, Mich.

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.

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).

CHESTER WHITES—Spring pigs and bred sows for fall farrowing. Also Guernsey Cattle. Catalog free. WILL W. FISHER, Watervliet, Michigan.

DUROC JERSEYS.

CAREY U. EDMONDS, Hastings, Michigan.

DUROC JERSEYS—75 choice male pigs, 80 choice fall pigs, 6 sows with pigs, 10 show prospects in fall sows. Write for particulars. J. C. BARNEY, Coldwater, Mich.

DUROC JERSEY HOGS of all ages for sale. Pigs in pairs not akin, ready to ship. Meadowbrook Seed Farms, Williamsport, O.

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

O. I. C. bred sows all sold. Have a few boars still on hand. GEORGE P. ANDREWS, Dansville, Mich.

O. I. C.—For sale a few choice pigs of March and April farrow in pairs not akin. Satisfaction guaranteed. A. Newman, Mariette, Mich. R. F. D. 1.

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

O. I. C. REGISTERED PIGS March and April litters. Pairs not akin. HENRY RIGTERINK, Hamilton, Mich.

O. I. C.—SPRING PIGS and a few BRED SOWS at reasonable prices. C. J. THOMPSON, Rockford, Mich.

O. I. C. Sow pigs all sold, but 9 extra fine boar pigs for sale. Satisfaction guaranteed. FRED NICKEL, Monroe, Mich., R. No. 1.

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

LARGE TYPE POLAND-CHINAS—Largest in Mich. Booking orders for pigs to be shipped at 4 to 5 mos. of age. Write for weights and measurements. W. E. Livingston, Parma, Mich.

P. C. BROOD SOW SALE AUGUST 3rd.

45 SOWS bred to Next in Line, Modifier and Orient—three of Michigan's greatest boars. Write for catalog and arrange to come.

WM. WAFFLE, Coldwater, Michigan.

POLAND-CHINAS—Fine lot spring pigs now ready to ship. WOOD & SONS, Saline, Mich.

P. C. PIGS Singly or in pairs not akin. Minorca eggs \$1.50 per 15. R. W. MILLS, Saline, Michigan.

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

Poland Chinas—Large stiled, early spring pigs, and older sows bred. Also Shorthorn calves. Prices right. Robert Neve, Pierson, Mich.

For Sale—500 Fine Grade Yorkshire

Weaned Pigs each \$5.00. BROWN'S PIG FARM, Grand Rapids, 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.

Always mention the Michigan Farmer when writing to advertisers.

THE DAIRY

CONDUCTED BY COLON C. LILLIE.

A GOOD INVESTMENT FOR DAIRY-MEN.

One of the greatest needs on the average dairy farm at present is a better class of herd bulls. The potent influence which the bull exerts on the quality of the herd should make him a matter of first importance with every dairyman. It is a common saying that "the bull is half the herd. Usually he is more than half the herd. Where a pure-bred bull is used with grade cows, the offspring will take largely after the bull because of his greater prepotency.

While a high-class bull costs perhaps two or three times as much as one of the common run, I do not know of anything in the dairy line that brings greater returns for money invested than that invested in a first-class bull.

A few figures here may help to bring out more forcibly the extra value of a bull that can add 100 pounds of butter-fat to the annual yield of his offspring. Let us estimate the relative returns from two bulls capable of producing cows yielding, say, 300 and 400 lbs. of butter-fat, respectively. It is fair to assume that each bull may produce 15 heifer calves and 15 bull calves each year. According to unpublished figures by myself, a cow yielding 400 lbs. of butter-fat a year will return \$16.70 greater net profit than one yielding 300 lbs. of butter-fat during the same

portant asset in a bull. Remember, however, that a bull, no matter how fine an individual he may be, if not backed by high butter-fat records, should be let alone.

The external qualities of a good bull are indicated by a masculine head and neck, bright, prominent eyes, far apart, a strong, sinewy jaw, broad muzzle, wide open nostrils, deep, broad chest, deep capacious barrel, soft, loose, oily hide, of medium thickness, clean bone, large rudimentary teats, squarely placed and far apart, and a general spareness of flesh, especially in the region of the shoulders, thighs and hips. Indeed, from the shoulders backward, the dairy bull should have the same general outline possessed by the dairy cow. He should have a strong, resolute appearance and an active style, showing that abundance of vigor so necessary in a good breeder.

Wisconsin.

JOHN MICHELS.

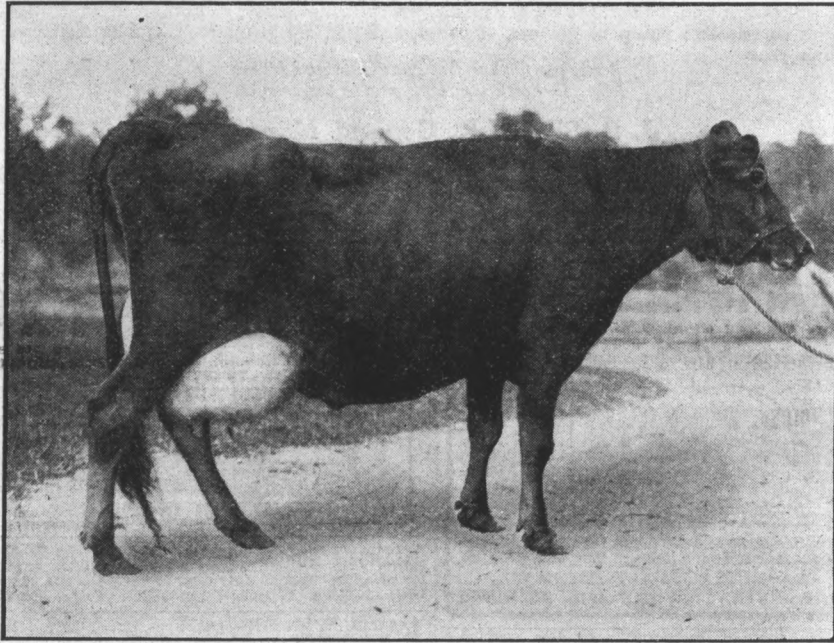
THE BUTTER-FAT IN CREAM VARIES WITH BUTTER-FAT IN MILK.

A little dispute has arisen here between two patrons of the creamery in regard to the following question, and they wish me to write you to settle the matter for them. One party claims that if he had a cow that would test, say, four per cent, and another that tested six, and if the milk was run through the same separator in the same way, the cream would test alike, and that he would have approximately one-third more pounds in the one case than he would in the other. The other party claims that the cream test varies according to the test of the milk. Which one of these parties is right?

Barry Co.

H. E. H.

A cream separator is set to take out a certain per cent of the volume of the



A Cow that Would be Attractive in Any Business Herd.

time. During a normal period of usefulness, say eight years, the heifer calf from the 400 lb. bull will yield 16.70×8 , or \$133.60 more net profit than the one from the 300-lb. bull. The increased profit from the 15 heifers would be 133.60×15 , or \$2,004. Now, since the average period of usefulness of the bull is about six years, we have to multiply \$2,004 by 6, which gives us the astonishing amount of \$12,024, representing the increased value of the female descendants of a 400-lb. bull over those of a 300-lb. bull. To get the total value, we have to consider, of course, also the increased value of the male calves. But enough has been said to illustrate the increased money value represented by the offspring of a superior bull during his lifetime.

It is shortsighted policy to buy common bulls just because they are cheap. Yet there are many who are willing to lose \$12,000 or more to save \$50 on the purchase price of a young bull.

In selecting bulls nothing but pure-bred individuals should be considered. What is of paramount importance is the butter-fat record of the ancestors of the bull, especially that of his parents. The records of his mother and his sire's mother are of first importance. The records of distant ancestors, while of value, are relatively unimportant. Do not be deceived by a long pedigree showing nothing but long and strange names. What is wanted in the pedigree of a bull, (and of a cow, for that matter, too), is actual authentic butter-fat records.

Be sure that the bull is in good health. Do not buy a bull that has not been proven free from tuberculosis by the tuberculin test.

Good individuality is also a very im-

milk. Consequently if we run through 100 pounds of milk which contains 4 per cent of butter-fat, or four pounds of butter-fat, and we take out one-tenth of that, or ten pounds, then we will have ten pounds of cream containing four pounds of butter-fat, or 40 per cent cream, and consequently if we run through 100 pounds of milk containing 6 per cent butter-fat we will take out ten pounds of cream containing six pounds of butter-fat, or we will have 60 per cent cream.

There seems to be a great many people who do not understand the principle of the cream separator, or the philosophy of testing milk, and it is this mystery which causes so much dissatisfaction at the average creamery in testing milk or cream. People think that their cow ought to give milk that tests the same every time, and they also think that their cream which they sell ought to contain the same per cent of butter fat, every single day. But it does not, it varies very much. We are testing some of our cows to put them into the register of merit. It is surprising to notice how much they vary from one milking to another in the per cent of butter-fat. One cow, for instance, will give only three and one-half per cent of butter-fat at one milking and the next milking she will give over six per cent of butter-fat. Consequently, the cream at the creamery varies and no one who understands it thoroughly expects that his cream is going to test exactly alike every time, even though the samples are taken uniformly and the testing is done right. As a matter of fact, the testing is much more apt to be accurate than if the per cent of butter-fat in the cream is uniform.

WHAT TO DO WITH A PERSISTENT MILKER.

I wish to ask through your dairy department what you would advise me to do with a cow that is a very persistent milker. She is due to freshen August 9 and is now giving from 12 to 15 lbs. a day. The last time she freshened she had milk fever and I would rather she did not make much bag now. After she got over the milk fever she gave 50 lbs. a day. That was 16 months ago. I got her dry that time, the only time she was dry since her first calf. This will be her fourth calf.

Newaygo Co.

S. S.

There are two ways of handling a persistent milker. One is to feed her well and milk her right along and thank your stars that you have a cow that will respond to feed and put that feed in the milk pail. But I am aware that a cow that milks continuously the year round will not be as apt to drop a good strong calf as one that has a rest. It is nature's way to have a rest, so I believe that all things considered, you had better dry the cow up. You say the cow is due to freshen early in August. I have known of instances where we supposed a cow was coming in on a certain date, but she failed to do so. We dried her up in time so that she would have plenty of time to make bag before she came in and we found we had made a mistake. Consequently, you want to be sure of this before you dry off your cow or you may lose thereby.

Now the other way is to dry up the cow. The only way to dry a cow up is to stop milking her, and to take away the larger portion of her feed. Some cows you have to starve a little bit, or put them down on to a merely maintenance ration in order to dry them up, but you can do this if you are persistent. To begin with, be irregular about your milking. Milk late at night and early in the morning, then early at night and late in the morning, then milk only once a day. Then milk every third milking, then milk every other day. My word for it, it won't be but a short time before your cow won't give much milk. If you can not do any other way take her grain all away from her and a portion of her other feed and put her on merely a maintenance ration. You can dry her up in this way.

With regard to milk fever, I would not be afraid of that disease now. After you have thoroughly dried up the cow so that she don't give any more milk, then I would begin to feed her grain again. The time to develop a cow for the season's work is when the cow is dry and does not give any milk. Milk fever can be prevented, I am sure, by not milking the cow clean when she first comes fresh. This is nature's way. I am convinced that milk fever is brought on by milking the udder out clean the first or second day after calving. If the calf is a big hungry fellow, don't let him draw off all the milk. Milk just a little the first day. Then gradually milk a little more each milking until the end of the third day you can milk her clean. Since we have made this the practice, we have not had a case of milk fever, while before that we were losing some of our best cows, sometimes one or two a year. If you get a case of milk fever, use the air treatment. Inflate the udder as soon as possible with air and there is not much danger of its proving fatal.

NATIONAL DAIRY SHOW CHANGES PLACE OF MEETING.

Announcement was made in these columns some time ago that the next meeting of the National Dairy Show would be held in Milwaukee; but since that time the board of directors has met and revised their decision because of being unable to make arrangements for the proper entertainment of the patrons of the show and for other reasons. They will hold their fifth annual meeting in the Coliseum, Chicago, October 20-29, 1910. It is safe to say that a large number of the prominent men interested in the dairy show have considered Chicago the logical place for the gathering of the dairymen of the country. The reason for the going elsewhere was made almost necessary on account of the lack of interest among the business men of that city. Their support is essential to make the show a success. But now the business interests of Chicago have awakened to the great possibilities of the organization. They stand ready and anxious to do all in their power to make the meet what it should be. It can well be said that at no other time have conditions appeared so auspicious as they do for the coming gathering in October. There is needed, however, the hearty co-operation of every dairyman.

Could They Be More Foolish?

The best proof that common cream separators are out-of-date is the fact that they contain 40 to 60 disks or other contraptions. They need such contraptions simply because they lack skimming force. Since they lack skimming force, they are neither modern nor properly built. In view of these facts, could any maker or agent of common cream separators be more foolish or incorrect than to claim that disks or other contraptions make, or are needed in, a modern machine?

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POULTRY AND BEES

IN ANSWER TO INQUIRIES.

Preserving Eggs for Home Use.

Will some one kindly give a recipe for putting down eggs for home use?
OAKLAND CO. SUBSCRIBER.

Prepare the vessels required to hold the number of eggs which you desire to put down. Crocks or good-sized earthen jars are preferable but good kegs or barrels that have been thoroughly cleaned and scalded will answer. Having placed these in a cool dark part of the cellar, where they may be reached handily, prepare a solution of waterglass, otherwise known as sodium silicate. You should be able to get the waterglass at your local drug store. Buy according to the quantity of solution you intend making. The waterglass should constitute about one part in ten of the solution; that is, in making 10 gals. of the solution use 1 gal. waterglass and 9 gals. water. The water should be boiled and allowed to cool before being used. Pour some of this solution into the vessels which have been prepared and place therein the eggs that are selected for keeping. At this season extreme care must be taken in selecting eggs. Only those that are positively known to be less than two days old should be placed in the preserving fluid and it will be better and safer to store them daily, placing in the vessels the same day they are laid. Reject all cracked and dirty eggs. Make sure that all are well covered by the solution. When a vessel has been filled put on a reasonably tight cover of some kind to retard evaporation of the solution. Good eggs put down in this way keep well for periods of six months to a year.

Producing Capons.

Is the making of capons really a profitable undertaking for the average poultryman, and is the extra price received for them as great as is sometimes reported?
MONROE CO. READER.

Probably the strongest evidence that can be offered in response to this query is contained in the fact that the practice of caponizing cockerels is yearly extending. It would be too much to predict that within a few years a good proportion of all the fowl owners of the country will be converting their surplus cockerels into capons because the proportion of owners who raise poultry in a small way only is very great, and as a rule such poultrymen think the operation entails too much skill and risk to undertake it where only a few fowls are concerned. On the other hand, the owners of big poultry plants quite generally recognize the fact that the males of the flock can be more profitably marketed as capons than as cockerels or mature cocks, and it is safe to say a majority of big poultry growers now practice caponizing. There is no good reason why the average poultry raiser cannot do so, and with profit, even though the number of surplus males in the flock is not large. While the operation, which has been fully described and illustrated in these columns within the past two years, is a comparatively simple one, it requires practice and some degree of skill to so master it that it can be performed quickly and successfully. Manifestly it is better to begin on a few fowls rather than a large number.

As to prices, we can not do better than give the quotations ruling in one of the big poultry markets during the past winter. During the early months of the year the demand for capons is keen for the reason that at this season there is little poultry offered which possesses the tender, palatable qualities of the popular spring chicken. These qualities, however, are found in the well-grown capon, and he is therefore much preferred to the general run of poultry reaching the market at that time. In weight he will somewhat surpass a cock of the same age that has been equally well fed, but this difference is not so great as has frequently been claimed. His chief superiority lies in the quality of the carcass and is wholly accountable for the difference in price. During the early part of the present year fancy 8 to 10-lb. dressed capons sold in the New York market for 28@30c per lb. Lighter weights but dressing not under 7 lbs. brought 25@26c. At the same time fancy corn-fed chickens sold at 17c per lb. and cocks at 13½c.

Cracknels or Lard Renderings.

A Wayne Co. reader asks regarding the food value of cracknels or lard renderings as a substitute for meat scrap in the feeding of chickens. Data as to the food constituents of this product are not available, so far as we know. If any of the readers of these columns have had experience in the use of cracknels as a part of the poultry ration they will confer a favor by reporting results.

GETTING RID OF LAYING WORKERS.

The question, "What shall I do with a colony having laying workers," is one often asked by bee owners. The questioner is sometimes told to break up the colony by distributing its combs among other colonies; sometimes he is told to introduce a fertile queen, and again he is told to carry the colony a distance from its old stand and shake all the bees off the combs, in the hope and expectation that the laying worker or workers will get lost in the operation.

There are two easy and sure ways of disposing of laying worker colonies and still get all the service out of the bees that they are capable of rendering, besides keeping the number of colonies up to what it was before. The first way is to place the hive having the laying workers over a strong colony with a fertile queen, placing a newspaper with a small hole in it between the two hives. The bees will unite peaceably and, when considerable worker brood appears in the upper hive, the hives can be placed on separate stands. The bees will rear a queen from the brood in the hive which has no queen, or you can introduce a fertile queen about three or four days from the time of their removal.

The other plan contemplates the taking of a couple of frames of hatching brood from some of the strong hives and placing them in another hive over a strong colony, with a frame having wire cloth nailed to both sides of it between the two hives. Then release a fertile queen and her escorts on these combs; in a few days you will have a nucleus strong enough to take care of the queen. Then set this hive with the nucleus down by the side of the hive containing laying workers. Every two or three days transfer a frame with its bees from the laying-worker hive to the hive containing the nucleus. By the time that all but two of the frames have been placed in the new hive, the queen will be doing business there, and all will be harmony within. I will add, in this connection, that a laying-worker colony, if strong, can at the proper season of the year be utilized for the building up of two or three new colonies just as well as for the building of one. Keeping brood warm is about all these laying-worker bees are good for, anyhow. By taking a couple of frames of hatching brood and treating as I have mentioned, you have an absolutely safe way of introducing any queen, no matter what may be her value.

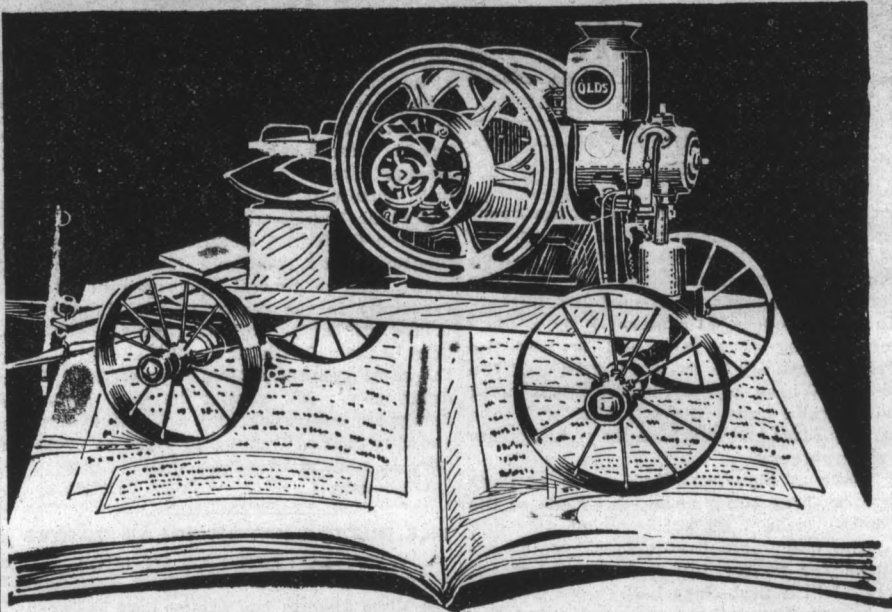
These laying workers, if discovered at the right season, instead of being a nuisance, may be turned to good account as an aid in the improvement of our stock. All bee-keepers know that the bees of a queenless colony are quite liable to be irritable when handled, and are greatly inclined to follow the operator about the apiary and annoy him. If the bee-keeper desires a peaceable apiary let him avoid queenless colonies. This, of course, must be done by supplying all queenless colonies with queens as soon as they are discovered to be queenless.

Now about introducing queens. There are several ways in which this can be done successfully. Introducing queens with tobacco smoke has been a great success with some. Just at dusk I load up the smoker. When it is going good I put in about a pipeful of tobacco, give three or four puffs at the entrance, take off the cover of the hive and drive down the bees with smoke. Then I allow the queen to run down between the combs, following with a few more puffs of smoke. Of course a good smoker is an indispensable article to every bee-keeper. Bees can be smoked too much, particularly when queens are to be introduced or when searching for them. Just how much to give depends upon the disposition of the insects.

New Jersey. F. C. HERMAN.

For the first time I am having some experience with poultry on a city lot. I find that much depends upon keeping the fowls contented and busy. If a certain routine is observed, for instance, if at night I scatter the food in the yard for their morning meal, so that when they are out at peep of day they can go out and scratch for their breakfast, it tells on the egg yield. Also if they do not have the green sods which they enjoy so much, the number of eggs is reduced accordingly. We all know that if a cow is disturbed, anxious or angry the milk is reduced, and so I believe that in the laying of eggs, which is a maternal function, other things being equal, the hen that is contented will lay more eggs than the one disturbed by hurrying children who hunt the eggs in a boisterous way.

PRISCILLA PLUM.



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HORTICULTURE

GOOD TOMATO PROSPECTS.

Sometimes one fails to get the crop of tomatoes that his vines promise, but it seldom happens that a good crop results when one sees the vines languid, sickly and lacking vigor. Getting good vines requires attention from the time the seeds are planted. The illustration shows a promising plant. It is strong, vigorous, stocky, and has what the gardener calls "character." It looks as if it would bear a bumper crop, and, no doubt, it will. The cut shows that the soil has been well worked. This is one of the requirements of the tomato crop. Good cultivation is quite necessary to get the vines right. The plants appear to respond more than any other garden plant to the activity of the hoe. Being a vigorous grower, mois-



A Promising Tomato Plant.

ture is constantly needed in good amounts to convey plant food to the parts of the plant. Working the soil retains moisture. Besides, the stirring admits air which sets friendly micro-organisms to work preparing food for the use of the rootlets that are reaching everywhere to get sustenance for the stem, leaves, flowers and fruits. There may be plenty of food in the soil for the plant but if it is not in a condition so the plant can use it the crop will not profit. Cultivation will help to get the food ready to serve to the plant. Not less than once each week the ground should receive a visit from the hoe, or the cultivator.

LAYERING STRAWBERRIES.

The spring set strawberries are now about ready to layer into whatever kind of rows are desired. They are not as far along as usual as they had a late start in the spring and the present dry weather is causing them to make fewer runners. However, there will soon be four runners to each plant averaging two nodes each, at which stage they are ready to layer. It is better to begin early than to let them go too late, as it is difficult to work to advantage after the runners get tangled and the plants are partly rooted. It is better to begin before the plants are fully ready, for by the time the work is done they may be too far advanced. If there are not enough runners or they are not long enough when starting to layer the work can be finished at a second operation, or if there are not many vacancies they can be filled by layering with the hoe while hoeing.

The kind of row should, of course, be decided upon before beginning to layer, or even before setting the plants in the spring, as the spacing of the rows will depend much upon how wide the rows are to be made. Thirty inches will do very well for single hedge rows or hills, while a double hedge ought to have 36 and a wide matted row 42 to 48 inches.

I am inclined quite favorably toward a trial of the hill system and intend to try it as soon as we have a suitable place. In this case I would place the hills from 24 to 30 inches each way and use a horse to cultivate both ways, keeping the runners cut unless it be to allow a few new plants to start close to the mother plant.

For our conditions, with the plants set in young orchards, we have found the double hedge row about the most suitable, and will layer our rows into this style. Two runners are trained each way from each plant, so as to leave two rows of four plants each between each two of the old plants, both the rows and plants being about nine inches apart, though,

of course, this distance must vary somewhat on account of length of nodes of the runner. The runners are chosen, laid where wanted, and a trowel of soil laid on the runner wire just behind the node, or new plant. When enough plants are set the end of the runner and any surplus runners are chopped off with the side of the trowel, which is kept sharp for this purpose. A little layering, for instance, the cleaning up of the layering where the runners were not long enough the first time can be done with the hoe, but where all the runners are laid down the work can be done to best advantage by getting down on one's knees or in a sitting posture. We usually have a pair of overalls for this purpose with pads sewed on the knees, which makes it easier to kneel. If the rows are weedy or crusty it is best to go over them first with the hoe and break the crust and get out the weeds. The operation is also performed more easily when the ground is somewhat moist, as it works better and holds the runners down better.

In two or three weeks after the layering is done the plants will have rooted sufficiently to hoe about them and cut surplus runners. The plants being evenly spaced and established makes the succeeding care of the bed easier, as one can hoe about the plants easily. The bed can be kept a second year and is easy to clean out as the plants are already spaced and one can hoe about them in renewing the bed.

Calhoun Co.

S. B. HARTMAN.

COAL ASHES AS MULCHING.

From the viewpoint of the scientist, coal ashes are considered as having very little fertilizing properties. This may be, and doubtless is correct when standing alone. But one thing is certain, when properly handled their action upon the soil is beneficial beyond any matter of doubt or question.

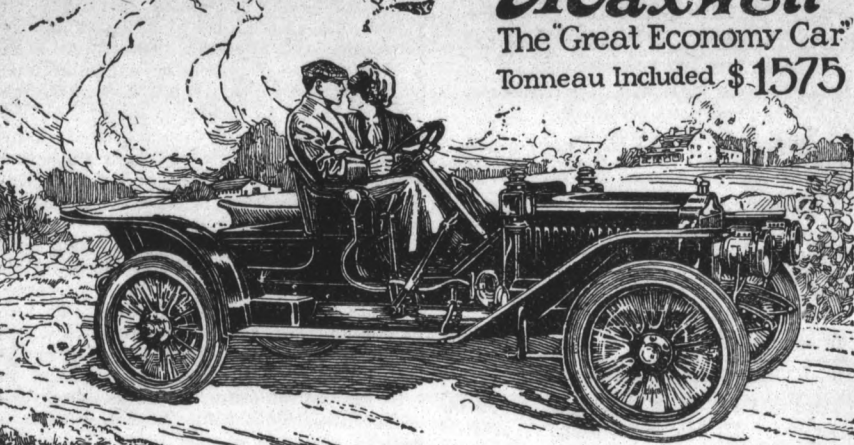
Six years ago the writer came face to face with a difficult question as to the culture of grape vines. The rows for the most part had been set along a steep hillside and previous injudicious culture had left the ground in such shape that further work with horse and plow or cultivator made matters worse. Along the rows the ground lay in high ridges completely matted with a tough June grass sod, and between, they were simply barren, dead furrows. The leveling of the rows and tearing out the sod by hand was an expensive job so we decided that the best way was to let the coal ashes do the work of subduing the grass. We piled them in plentifully along the rows and especially close around the vines and let them fight the grass, which they did do to a finish. After getting in their work of killing the grass and loosening up the soil, the matter of leveling off the ground back to the plow line was comparatively easy. Then, too, the beneficial effects upon the grapes were easily noticeable the first year.

Two years ago I started in along the same lines with cherry trees. They were large trees of fine varieties, but completely matted and soil-bound with grass, and set in such position that plowing or cultivating was out of the question. The ground was a perfect stone quarry and then some more, and handwork was not to be thought of so the ashes were pressed into service. They were piled around the trees by the bushel and thus left to fight their own battle. Well, they did the work and the cherries this year were the finest I have ever handled. Well, I am using them in various and sundry ways and fine especially that used liberally upon the hard spots, (which, by the way, are far too numerous for comfort), they mellow and fine the soil and render it double productive. I am not running athwart the scientists and claiming that they actually team with fertility of themselves, but I do claim that they act very forcibly upon the soil—perhaps by the way of breaking it up and unlocking the plant food already there and thus are valuable as though they themselves contained the elements of plant life. Another way I have found them of much value is in their liberal use in the poultry house and especially under the roosts. I throw them in by the bushel, both winter and summer. The hens like to pick them over and wallow in them and for dust bath they seem to me to be equally as good as road dust. They hold the valuable constituents of the droppings and when carted out and applied to the growing crops they have not only held the full value of the manure, but also perform their office work, mellowing up the soil and making it more friable and easy of tilth.

Wayne Co.

J. E. MORSE.

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I have been told that this advertisement is too long—that folks won't read it, but if you are thinking about getting an automobile, you will read with interest every word—it may save you hundreds of dollars of unnecessary expense.

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The sales of Maxwell 5-Passenger, 30 H. P. Touring Cars and Maxwell 12 H. P. Runabouts have been enormous, yet a number of farmers write me that they want a car with detachable Tonneau. As a result of these many requests, I have built a car especially to fill your needs—(shown above with tonneau detached). It is a big, handsome, 30 H. P., 2-Passenger Roadster that can be changed in three minutes into a smart, stylish 4-Passenger Touring Car. With Tonneau off, there is ample carrying space on the rear platform. When the wife or family want an outing, on the Tonneau goes in a jiffy. If you could have a car built specially for you, wouldn't it be just such a one?

A Stylish Car

The picture of the car speaks for it. Here is an automobile that the wealthiest man is proud to own. Note the long Wheel-base (110 inches) and big wheels and tires (34 x 4 inches). Men who have formerly owned only the highest priced cars, costing \$3,000 or \$4,000, find in this MAXWELL at \$1,575 the same power, reliability and style at less than half the cost of up-keep. You must see this car to appreciate it—you must ride in it to realize its strength, power, ease of control and extreme simplicity.

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President

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The Lawrence Pub. Co., Detroit, Mich.

DETROIT, JULY 30, 1910.

25 CENTS TO NEW SUBSCRIBERS.

We will send the Michigan Farmer to new subscribers to November 1, 1910, including one of our farmers' pocket account books of 72 pages, all properly ruled under headings, such as daily egg record, hired help, individual account, cash paid out, cash received, etc., also instructions how to keep accounts, also other general information, and 1910 calendar. The Michigan Farmer to Nov. 1, 1910, and account book sent postage paid for only 25c, or the Michigan Farmer to November 1, 1911, and a two-bladed razor steel, brass-lined knife, worth 75 cents, postage paid, for only \$1.00. Order through agents or send direct to this office.

CURRENT COMMENT.

This question has been agitated and talked about until there is a very general appreciation among country people of the fact that there is a country school problem, and that it is a problem which is pressing for solution. The great number of small district schools in the state, with a high per capita cost of maintenance for a short term of school and a consequent inefficiency of the work done because of the small number of pupils, the brevity of the school year and the too general inexperience and inefficiency of the teachers employed in the small schools, are too eloquent evidences of this fact to make affirmatory comment upon the question necessary. The only adequate remedy for this condition which has yet been proposed is the consolidation of these small districts into larger units, so that a better school can be maintained. This plan has found many advocates among the thinking people of the country, and many champions among the educators, but has not become sufficiently popular with the mass of our rural residents so that much progress has been made in this direction in Michigan. There has, however, been sufficient general interest in the proposition, so that the school laws have been amended in a manner to make it possible for the people of any community to take such action as they may desire in this direction by removing the limitations regarding the size of the school districts and thus making it possible to bring about this process of consolidation gradually by con-

solidating two small districts where this seemed desirable, but leaving the way open for more extended consolidation where this seemed to be a desirable experiment. As a result there have been a considerable number of consolidations by which one or two small districts have been attached to larger or more populous districts adjacent to them, where a better school was maintained, and there are many more communities where such action would undoubtedly be beneficial to children and schools alike.

But the people of Michigan have been slow to adopt consolidation on a larger scale, notwithstanding the examples which have been afforded along this line in other states, and with regard to which reports have been quite generally published in this and other papers and in reports and bulletins of educational departments. This reluctance has been a natural one, due in part to the sentiment for the "little red schoolhouse" and its sturdy product of pioneer days, and partly to the ability of these small districts to support a school for a half dozen or less pupils through the greatly increased distribution of primary school money which has resulted in recent years from the increase in taxation on the class of property which contributes to this fund in our state. Another reason for reluctance to establish consolidated schools is the transportation problem and the prejudice which exists regarding it.

All of these reasons have appeared to be good by those who have adhered to them, yet there are many who believe in the larger and better school and The Farmer has received a number of requests in recent months for information regarding the progress of this movement and the degree of satisfaction which it has given where consolidation has been tried. For this reason we secured the article describing and illustrating the only consolidated school in Michigan which may properly be so designated, which was published in the magazine section of the issue of July 16. This comprehensive article describing the work which is being done in the Comstock consolidated school and the results which are being attained at practically no increase in per capita cost should be read and carefully studied by every rural resident and school patron. Perhaps the arrangement which has been found to be adapted to the conditions in that place may not be so well adapted to the conditions which obtain in other localities, but the plan may be easily varied to meet almost any local conditions and would certainly prove an improvement over the conditions which obtain in many sections of the state. The district school with from one to a dozen pupils should be abandoned for something better, and the school with even twice that number could be profitably "consolidated" in many cases.

One of the most interesting developments of the national census, so far as it bears upon the future of our agriculture and the continued prosperity of the country, will be the statistics regarding the ownership and tenancy of farm lands. It has been truly said that the ownership of land by the men who till it is the very first condition of our national health and character. It is generally conceded that the highest type of American manhood, and the hope of the continued advancement of civilization and governmental honor, is rural manhood, and rural manhood in its highest sense implies the ownership of land. If the open country is to continue to maintain the standard of American manhood and citizenship by giving from its brightest and best sons a large annual quota to the business and professional world, the independent, home-owning spirit must be maintained, and any increase of land tenancy is to be viewed with apprehension.

Thanks to the application of science to the art of farming, together with modern inventions and institutions which have ameliorated the isolation of the farm and a more general appreciation of the stability and independence of farming as a business, we are now experiencing a real "back to the farm" movement the country over, and whatever the present census may show in this direction for the past decade, there is every reason to hope that the future may see an increasing percentage of home-owning farmers as compared with the present. To a greater extent than is appreciated by the average farmer, the business of farming is now ranked as second to none by the better class of urban residents. The farmer is no longer referred to as a "mossback" or "hayseed," but is rather envied by those who follow the tiresome routine of our modern business or professional life. These facts, together with

the impetus which modern education along agricultural lines is giving to agriculture, will most certainly be felt in an increasing number of home-owning farmers in future years.

The question of whether to take up their residence in some nearby town is one which is often discussed by home-owning farmers who have accumulated a competence which will enable them to so live if they desire, and one that is often settled without sufficient thought and deliberation. Where there are young people to take their places it may prove a satisfactory arrangement, but a general exodus of this kind is not desirable for either the community which they leave or the one to which they remove, and in a majority of cases does not prove satisfactory to those who make the change. Land tenantry is undesirable from many standpoints. The land is not as well cared for, the improvements are not generally well kept up and the community is not maintained at its highest standard. On the other hand, the farmers who retire to town life do not generally aid in the upbuilding of the commercial or industrial life of the communities to which they go and gradually lose their interest in the further development of the community which they leave. Thus land tenantry other than that by energetic young men who are looking forward to becoming home-owning farmers themselves is, as an institution, detrimental to the community at large. Thus no young man who has been bred in the country, and no man in his prime who is the owner of land should leave the farm for urban haunts or occupations without first carefully considering this problem in all its phases, to the end that American agriculture, which is so great a factor in the high plane of American citizenship, may be maintained and further improved, and the future good of the country as well as the future happiness of the individual be thus conserved.

For the new country, of which there is still a large area in Michigan, the settlement of the land by home-owning farmers is important. The purchase of land in large blocks by speculators whose only interest in the community in which it is located lies in the profit which they may be able to make from it, is never helpful in the development of the country, and is thus detrimental rather than beneficial. But the work which is being done all through northern Michigan to get actual settlers who will become home-owning farmers, and thus interested in the future of the country in other ways besides their mere financial betterment, will prove of lasting benefit to our commonwealth and to its agricultural industry.

HAPPENINGS OF THE WEEK.

Foreign.

The steamer Tatsural went down off the coast of Korea on the 24th and 206 persons were drowned. About 20 persons were rescued. Warships were dispatched to the scene.

The financial situation at Shanghai, China, is serious. The failure of three native banks resulted in the suspension of business by nine others. There have been held meetings of representatives of the moneyed interests together with business men to arrange matters, but no information is at hand regarding what was done.

While children were watching fishermen from a pier at Sebastian, Spain, a large wave swept them into the sea. The electors of Argentina declared Saenz-Pena president of that country at their meeting July 21, and Dr. Victorine de la Plaza, vice-president. The elections were held in Jur.

Toyo Kisen Kaisha, the corporation owning the biggest line of steamers between Yokohama and San Francisco, are reported to have severed relations with the Southern Pacific railroad, and are now believed to be forming an alliance with the Gould lines.

The Peruvian cabinet has resigned. The crisis over the boundary line between Peru and Ecuador is claimed to be the occasion for the crisis. For some months there has been much bitterness of feeling over the issue. War at one time seemed imminent but the intervention of the United States, Argentina and Brazil interrupted belligerent preparations. Proposals for settlement are now before both houses for consideration.

National.

Detroit has been selected as one of the fifty places to have an experimental postal savings bank, provided for by the postal savings bill of the last congress.

The dry weather has made conditions favorable for fires and they are raging in many sections of northern Michigan and Wisconsin whence dry grass, leaves and timber makes it difficult to fight. Rains are needed badly.

Three deaths resulted from a fire in the Ledyard flats in Grand Rapids last Thursday.

A new type of aeroplane has been invented by Congressman Ames of Massachusetts, and at the informal trials made at Annapolis the machine promised to become a competitor of other types now in the field.

Eleven men were killed when the breech block blew out of a 12-inch gun during target practice at Fort Monroe, Virginia, July 21. A premature ignition

of a charge of powder is believed to have been the cause of the accident.

Much indignation has been aroused over the cumbersome methods used in making allowances to the Indians about Traverse City. Some of the aged Indians as well as mothers with babies are compelled to wait in the city streets for days until the agents can dole out their small allowance of \$21.

The bath tub trust is now receiving the attention of the department of justice, which brought suit against a concern in Baltimore for combining with others to restrain trade, thus disobeying the injunctions of the Sherman anti-trust law.

The strike on the Grand Trunk lines continues. While there has not been the violence that usually attends railroad strikes, some displeasure has been experienced, but mostly by the crews taking the places of strikers. Little freight has gone over the lines since the strike was called. Passenger service is moving regularly.

Several men were injured, a mile of railroad track washed away, truck gardens destroyed and much damage done to property in general by a cloud burst at Raton, N. M.

To save the wheat crop at Georgetown, Ky., farmers went to the county jail and paid the fines of prisoners in order to secure their help in the harvest field.

On Monday search was made off the coast of Rhode Island for a yacht of the Rhode Island Yacht Club which was reported in distress, but no clue could be found of the craft and it is believed to have gone down with its crew.

Tennessee republicans have formally opened headquarters for the first time in 25 years and are hopeful because of the split in the ranks of the democrats to have a successful fall campaign.

The Ohio republican state convention convenes at Columbus on Wednesday of this week to nominate a ticket, opposed to the democratic ticket headed by Gov. Judson Harmon, who seeks, for a second time, the highest honors the state can offer.

The heat was intense in New York city on Monday. While the thermometer did not register within three degrees of the high point for the day before, there were 15 deaths compared with two on Sunday.

Complaint has been made to American financial institutions of the fraudulent issue of bills of lading for cotton, and at a recent meeting in London the bankers of that side of the Atlantic agreed to refuse making payments upon such paper unless guaranteed by a banking institution. A committee of American bankers will confer with the European bankers to remedy the present unsatisfactory methods.

Fire destroyed the Portland exposition building, a club house, a stable of 150 valuable horses and more than a dozen smaller structures, entailing a loss of more than \$300,000 at Portland, Ore.

It is stated by the police of Chicago that a sufficient motive has been found to support the belief that Ira G. Rawn, president of the Monon railroad, committed suicide. There had been uncertainty as to whether the tragic end was the result of his intention to take his life or an accident.

The Grand Trunk shops at Port Huron have reopened. They were closed a week ago when the strike was called.

CROP AND MARKET NOTES.

Washtenaw Co., July 25.—The unprecedented dry spell has at last been broken by some delightful showers which are freshening up the sun-burned pastures. Very many in this dairy district have been feeding both hay and silage to bridge over this very dry time. The potato crop especially was needing rain, although early potatoes are beyond help, and as the grain crops are removed the new spring seeding in the stubble would soon have suffered, but happily these troubles were averted. Hog prices are working lower as are also cattle and chickens and very likely it will be a long time before they come again. The apple crop is very short indeed, dry weather causing them to drop badly, but all in all the farmer has every reason to feel encouraged with the situation.

Livingston Co., July 23.—The drouth continues, relieved only by light local showers. Crops of all kinds need rain badly. Pastures are dried up and stock not doing well. Unless rain comes soon new seeding will be ruined. Weather has been fine for securing the hay and for harvesting, which will be completed in a few days. Oats will be only a fair crop, but wheat and rye will be well up to the average. No fruit of any kind to speak of.

Shiawassee Co., July 25.—A greatly needed rain has at last come. For the past four weeks rain has fallen on each side of us, but not sufficient to help plant life to any marked extent. Wheat is about harvested and many farmers threshed in the field. The crop is not up to last year, being greatly hurt from the excessive dry weather. Oats are being cut and promise a fair crop. Barley is also a fair crop. New seedings are looking very hard. The potato outlook is very poor and unless plenty of rain falls during the coming four weeks the crop will be cut short. Corn is very spotted on account of the dry weather. Most farmers have been keeping up good cultivation of crops, thus tiding them over the dry spell. The hay crop was well up to last year and most farmers have their barns well filled. Beans are very spotted on account of the drouth. A few farmers are shipping in a few cars of lambs to put on pasture and early feed. No cattle on pasture at present. Sugar beets are pretty hard up and at best can not yield more than a fair crop. Farmers who grew tomatoes last season are out of the business this year. Hogs are scarce and high.

Calhoun Co., July 20.—Wheat crop is cut and mostly hauled. The crop is light as a whole but better than expected last spring. Quality generally good. Price \$1.00 per bu. Oats are suffering on light ground. The straw is short, and crop is

ripening rapidly. Some fields on clay or low ground are very good. Corn is growing well, though it is beginning to show the effects of the drouth, as we have not had a heavy rain for about six weeks. Early potatoes are a light crop; late ones are being injured by beetles and drouth, though not seriously by the latter as yet. Apples are dropping considerably. The quality promises to be good, but the crop light. All other fruits will have light crops. Raspberries are badly injured by the drouth, and blackberries will be a failure unless we get rain within a short time. Pastures are short except on bottom lands. New seeding is suffering badly and there are likely to be many failures. Weather is now cool and clear with northwest wind and no prospect for rain.

Oakland Co., July 25.—The extremely dry weather which has prevailed for many weeks has dried up the pastures, shortened the oat crop and burned up much of the new seeding, especially in oats. The corn crop has not suffered greatly, except on hard clay spots and very light ground, but the very hot weather which prevailed during the potato planting season had the effect of destroying the vitality of much of the seed and the stand is poor in many fields. Relief has come to some localities through local showers, which have fallen during the last week, but there has been no general rain and the showers have not been copious except in a few scattered localities to provide more than temporary relief. Supplementary feeding of stock has been found necessary by many farmers on account of failure of pastures. Harvest well along, but little or no grain threshed at this date and no data available as to yields. The fruit crop will be small, although some good prospects for peaches are reported and there will be some apples, but the later small fruits are practically a failure, including huckleberries, of which a good many are grown in this county in normal seasons.

Gratiot Co., July 22.—Although portions of the county have had an abundance of rain, west central portions had the first good rain last night since early June. Things began to look like a drouth, but today everything has drunk its fill. Wheat is practically all cut and much is drawn. Nearly all oats will be cut next week. Both crops are above the average in appearance. Threshing machines are out but no reports have come in as to yield. Corn has made rapid growth and much is in tassel.

Genesee Co., July 23.—Continued hot dry weather, ruinous to potatoes, corn and beans. Showers in some localities but not sufficient to do much good. No soaking rain for weeks. Hay finished, with quality excellent; clover yield better than the average but timothy is light. Oats injured by dry weather in filling. Wheat out of danger before this could occur; a satisfactory crop as a general rule. Harvest hands scarce. In some sections women of the family are helping out because of this fact. Wages offered \$2.50 to \$3 per day with board and washing, and even this attractive figure fails to secure men to work in the field.

Northern Michigan.—A trip through northern Michigan and a portion of the upper peninsula shows a general injury to crops owing to the extremely dry weather which has prevailed for weeks. One farmer who keeps a record of the weather reported only one-third of an inch of rainfall since June 5. Peas grown in consequence of the dry weather. Potatoes are generally a better stand than in the lower counties, but oats will be a short crop. Hay was good in some sections, but the crop as a whole is not up to the average. Considerable damage has resulted from the depredations of grasshoppers, which are numerous in the agricultural sections of the upper peninsula.

Marion Co., Ill., July 23.—Weather conditions for the last four weeks have been very favorable for growing crops. Corn has a dark green color, earliest planting tasseling. If we have plenty of rain through August will have a bumper corn crop. Oats are the best for years. Wheat in stack. No threshing in county yet. Hay about half cut and rather light. Pastures short but green. Potatoes good crop. No apples or peaches. Quite a lot of tomatoes put out; have not begun to ripen as yet. Hog crop short. Some young pigs. No stock being marketed now. Eggs, 15c; old hens, 11c; young chicks, 15c; butter, 20c.

Bureau Co., Ill., July 23.—The weather, dry in places, in other parts seasonable rains, and in a few places copious showers have fallen. Pastures have suffered for rain in most places. Hay has been better than expected. New meadows were heavy. Wheat is an average crop. Oats fair crop, an average of 40 bu. Corn has come forward and is in splendid condition in most places. The weather has been favorable for corn. For potatoes the present prospects are not favorable, not enough for home demand. Apples, peaches, pears and small fruits a failure. Corn, 57 to 59c; oats, 35c; wheat, unsettled; butter, 22c; eggs, 15c; new potatoes, 75 to 80c; cattle, 4 to 8c; hogs, 7 to 8c.

Lucas Co., Ohio.—The continued drouth is affecting all berries, fruit and growing crops. Berries are scarce and high; raspberries, 12 to 15c per qt.; blackberries, 12 to 15c; huckleberries, 16c; cherries, 12½c; early apples, \$1 per bu. Wheat is nearly all harvested and will be about an average crop. Oats are turning and on account of the dry weather will be a little short, but there was a larger acreage sown than usual, so there will be the usual amount of oats. The hay crop is secured and was a short crop, but of an excellent quality. The alsike clover seed is filled well and of a good quality; a few fields have been hulled, turning out a good yield per acre. The corn crop will be short; some fields are tasseling out and are only about waist high, so the crop will be short, even if we should get rain soon. Hogs, \$9.30 to \$9.40; sheep, \$3 to \$4.50; lambs, \$6 to \$7.50; veal, \$8 to \$9.50; butter, 22 to 25c; eggs, 17c; good outlook for apples and peaches.

FARMERS' CLUBS

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.

THE FARMERS' CLUB AND COMMUNITY AGRICULTURE.

The work which may be done for the betterment of the agriculture of any community through the medium of the farmers' club is not so generally appreciated by club leaders as it should be. The young people can be profitably interested in crop production in a competitive way, as has been demonstrated in many communities. Of course, it is now too late for the practical application of this idea this year, but it is not too early to plan this work for next year. The benefit of special feature work of this kind in the club is two fold. First it will interest the young people in the club, which is certainly a desirable end to work for, and second, it will lead to a study and application of better methods, as the whole family will be interested in any proposition in which the farm boy or girl is interested in a competitive way.

Another way in which the agriculture of the community may be benefited through the medium of the farmers' club is by the appointment of a viewing committee whose duty consists of looking over the farm and equipment of the member who is entertaining the club and reporting to the club on their observations. This committee should also gather any facts, which may be obtainable regarding the cultural methods and methods of breeding and feeding used, as well as the results attained upon the farm, and should be equally free to commend and criticize. Such a report will lead to profitable discussion, and this in turn will result in much good to the entire membership. This plan has been followed by some clubs in the state, but has not attained the popularity which it should for the largest good to club members. Perhaps this may have resulted from the reluctance of the committee to analyze the situation as they found it in making a report, or from a like and natural reluctance on the part of the members to discuss their fellow members' methods of farming, but we believe that any embarrassment on this score would be obviated if every member sought to gain the greatest possible benefit from such work. There would, of course, remain a diversity of opinion on many if not all of the points discussed, but anything which calls such matters to our attention and causes us to think about and study them will prove beneficial.

Another department of special feature work which should not be neglected is the club fair. Fortunately this has been a more popular feature in the clubs of the state than those previously mentioned and, so far as the writer is advised, no club that has once introduced the club fair into their program for the year has ever abandoned it. The fair is uniformly reported as interesting and profitable in every case where one is held, which fact should be sufficient reason for a trial of its merits by every club in the state. Take up this matter at the next meeting and make plans for a club fair this year. It will undoubtedly prove profitable in its beneficial effects on the agriculture of the club community as well as in the prosperity of the club itself.

CLUB DISCUSSIONS.

Hold No August Meeting.—The Salem Farmers' Club held its July meeting at the pleasant home of Rev. and Mrs. M. Knowles. The day was one of the warmest and the male members of the club were not so well represented as might be wished, as a large number were industriously following the advice contained in the old adage, "Make hay while the sun shines." Nevertheless a very pleasant company gathered and greatly enjoyed the day. After the usual good dinner the company adjourned to the church, where the exercises were conducted, Vice-President H. C. Packard taking the chair. The program opened with music, "The Star-Spangled Banner," in which all united, also repeating the 23rd psalm. Several good musical and literary numbers were given, notable among the latter being a reading by Mrs. Louisa Packard, "How Frank Remembered," showing how one street conductor helped other all through the Sabbath day by whistling a gospel tune as he attended to his duties. Reminding us all that we can remember the Sabbath day wherever we are. Music by choir, "Banners Waving High." Another reading by Mrs. McAndrew, entitled "Dick Oliver's

Roll of Honor," showed the generous heart often hid under a rough exterior. Report of recording secretary was given and an executive committee for the next three months was appointed. The club holds no meeting in August but will meet with Mr. and Mrs. Harvey Packard Sept. 7th.

Michigan Compares Favorably with West.—Marion Farmers' Club met June 30th at the pleasant home of Mr. and Mrs. Charles King, of West Marion, and was well attended despite the oppressive heat that made the ample shade in front of the house most welcome. After the opening preliminaries and the selection of Miss Gertrude Clark secretary pro tem, President Bucknell cordially welcomed home the young people who had been absent during the school year as teachers and pupils, and responsive to this welcome were made by Miss Gertrude Clark, of Roseburg, Oregon; Miss Gladys Gorton, of Alma, and Messrs. Clark, Clements and King, of the M. A. C. and Howell high school, expressive of their pleasure at being home again for the summer at least. Mrs. W. A. Clark then gave an interesting account of the different flowers she saw while on her western trip last winter and spring, and Mr. Clark gave his impressions of the farming sections that he saw on the same trip, and concluded that for all around farming Michigan would average up with any place he saw.

The Boy and the Farm.—One of the most interesting half-day meetings in the history of the Washington Center Farmers' Club was the June meeting held at "East View," the pretty farm home of Mr. and Mrs. J. Kochensperger. A most interesting paper by Mrs. Cammet was entitled, "What is worth while," and a question of more than ordinary interest was "Interesting the boys in farm life." How to inspire our boys with the fact that whatever the conditions have been the farm today is their opportunity, was discussed at length. Back to the soil is not mere sentiment but means more today than ever before. The business of the up-to-date agriculturist is to make something grow where nothing grew before. Two blades of grass is not enough to grow where one grew before. It takes energy, education, business ability, thinkers and workers to conduct a farm. If you want to be happy, prosperous, living a broad life, serving your day and generation, the field is your opportunity. Recitations, music, and the question box finished the program, and the hostess served ice cream and cake.—Cor. Sec.

GRANGE

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

LOOKING FORWARD.

The thought comes to me that August, with its picnics and rallies, is an ideal time in which to plan out our work for the coming autumn, for with the kindling of the autumn fires comes always a revival of mental energy.

The Granges of Michigan have done well during the year. Under the inspiration of our able state lecturer, lecture work has advanced, but we ought to do better. The Grange should be a greater power everywhere. It should do more in a business way, far more. We might save ten dollars where we now save one in the patronage of trade contracts, if we but lived up to our privilege in this line.

The Grange should be a greater power in the molding of public opinion. It is the only organization through which public thought can so easily find expression, and yet we are slow to use it. With questions of taxation, other problems in state government non-partisan in character, great moral problems like the temperance question, the school, the farm and the rural neighborhood, with their increasing claims upon us, what service might not the Grange render, if we would but use it!

Community development along all useful lines depends upon co-operation. "No man liveth to himself," said Paul, and the truth he uttered has multiplied with the centuries that have come and gone since his time. The successful Grange must live largely by its own efforts. Far be it from us to discount the work of the deputy or to undervalue wise and careful supervision, but the Grange cannot live always upon the deputy's work any more than the laborer can satisfy his appetite with quinine. The deputy can stimulate to new purposes and better resolutions. He can direct the efforts of the Grange along useful and helpful lines, but the Grange itself or, rather, the individual members of the Grange, must do the work.

These are great days for the voters of Michigan. For years the Grange has contended for the election of U. S. senators by popular vote, and next September the electors of our state are to nominate their candidate for U. S. senator. More thought, more work and more courage are required in the electorate of our state today than ever in the past.

How shall we conserve our water power? How shall we distribute the primary school fund? How shall we settle great questions of taxation so that burdens will be equitably distributed? How shall we economize so as to bring the demands of the state within reasonable limits and at the same time maintain the magnificent public institutions that are today our pride, and where can we answer these questions better than in the Grange? It is our forum, where by investigation and discussion differences may be settled and public opinion molded. It is a large part of "the great school out of school" where the humblest tiller of the soil, with his family, may mingle with their neighbors and by so mingling at regular intervals come at last with them to the realization of a common ideal which shall result in better farms, better homes, a better community and a better state.

W. F. TAYLOR.

BRINGING JACKSON COUNTY FARMERS INTO THE GRANGE.

Almost weekly during the past few months there have appeared in these columns reports of Grange meetings in Jackson Co., each one of which told of the formation of a new organization and the addition of a new name to the Michigan Grange roster. This unusual activity in one of the weakest Grange counties, though one of the strongest agriculturally, has been due to some very effective work on the part of State Deputy John F. Wilde. It will be remembered that Bro. Wilde spent the greater part of last year in the upper peninsula, where his remarkable success in organization work shifted the Grange center of the state far to the northward. In a recent account of his work in the deputy field the National Grange Official Organ says:

Deputy Wilde is thirty-four years old and engaged in the dairy business, having a herd of registered Jersey cattle. His home is in Ottawa Co., Mich., the hall of his home Grange, Ottawa, No. 30, being located at Herrington. Previous to going out to do deputy work as a regular business, he had worked at it at odd times, and organized among the rest Coopersville Grange with 154 members, which is the largest ever organized in Michigan. However, from experience as an organizer, Bro. Wilde does not advise the organization of large Granges, as it exhausts the available material and the Grange usually experiences a reaction and starts off losing members instead of growing.

A year ago last November Deputy Wilde went into the field as a regular



State Deputy John F. Wilde.

organizer and by the time of the National Grange meeting last November, he had, in less than a year, organized 60 subordinates and seven Pomonas. The most of these were in the upper peninsula of the state, and in counties where there were previously no Granges, but as a result of his work, there are now Granges in every county in the state. Since then he has been employed in the older counties and while his progress has necessarily been less rapid and sensational, it has been none the less certain. As a final test and at his own urgent request, he was placed in Jackson County where three old Granges led a rather precarious existence. Beginning April 1, in twelve weeks he organized twelve new Granges in the county besides one in a neighboring county and promises to make Jackson a close rival of Lenawee County with her thirty-four Granges.

COMING EVENTS.

Grange Rallies and Picnics.

Lenawee Co. Pomona, with Fruit Ridge Grange, Thursday, Aug. 4.
Pokagon Grange, Cass Co., at Wiest's Landing, Indian Lake, Thursday, Aug. 4.
Northern Lenawee Co. Grange and Farmers' Clubs, at Sand Lake, Putnam's Landing, Saturday, Aug. 13.
Kent Co. Pomona, at Silver Lake, Cannon township, Kent Co., Wednesday, Aug. 17.

MARKETS

DETROIT WHOLESALE MARKETS.

July 27, 1910.

Grains and Seeds.

Wheat.—Outside of the heavy selling of the new crop by farmers, the market appears to be a bullish one for the foreign situation shows a shortage, as far as we can get information, and the home crop is below normal, but the buyers are taking advantage of the heavy receipts and are putting prices lower for the present. The spring wheat suffered greatly from the drouth that spread over practically all of the territory where that variety is grown. Rains now would do little good, perhaps be a damage, for it would interfere with harvesting operations, as the crop will soon come to maturity. Flour is in good demand and that market is firm. There will probably be heavy sales from western and southwestern points for some days to come, it being predicted that Chicago will get a million bushels daily for a short time. A year ago the price for No. 2 red wheat was \$1.07. Quotations for the week are:

	No. 2	No. 1	Sept.	Dec.
Thursday	1.09	1.09	1.09	1.11
Friday	1.08½	1.08½	1.08	1.10
Saturday	1.07½	1.07½	1.07½	1.09½
Monday	1.07½	1.07½	1.07½	1.10
Tuesday	1.06	1.06	1.06½	1.08½
Wednesday	1.05½	1.05½	1.06	1.08

Corn.—Corn has advanced. The market has been strong for the past two weeks. The outlook for the crop is fair—some sections are getting plenty of rain, while others are still suffering for moisture. The dealing is quiet. One year ago the price for No. 3 corn was 74c per bu. The quotations for the past week are:

	No. 2	No. 2	Sept.	Dec.
	Mixed	Yellow		
Thursday	65½	67½	67½	68½
Friday	66½	68½	68½	69½
Saturday	66½	68½	68½	69½
Monday	66	68	68	69
Tuesday	66	68	68	69
Wednesday	67½	69½	69½	70½

Oats.—Good advances were made in oat quotations the past week. The crop is suffering in the northern states, where it had promised to give an excellent yield earlier. The dry weather continued too long for the proper maturing of the crop. On this date in 1909 standard oats were quoted at 50½c per bu. Quotations for the week are as follows:

	Standard	Sept.
Thursday	48½	49½
Friday	48½	49½
Saturday	48½	49½
Monday	46½	47½
Tuesday	46	47
Wednesday	46	47

Beans.—The bean situation is strengthening. The same conditions are affecting this crop that are giving the oat deal strength. In Michigan, however, the damage from drouth is not nearly so bad as in Wisconsin, where a good many beans are now being raised. In many sections of this state the drouth was broken in time to keep the legumes growing nicely, and in those sections a bumper crop will likely be the consequence. The quotations for the past week are only nominal, as follows:

	Cash	Oct.
Thursday	2.32	2.10
Friday	2.32	2.10
Saturday	2.32	2.10
Monday	2.32	2.10
Tuesday	2.32	2.10
Wednesday	2.32	2.10

Clover Seed.—The outlook for clover seed is not at all promising and the buyers are taking the matter to heart and putting the price up rapidly, in the past two weeks a dollar has been added to the price for cash and October. The figures for the past week are:

	Prime Spot	Oct.
Thursday	7.25	7.25
Friday	7.50	7.50
Saturday	7.50	7.50
Monday	7.75	7.75
Tuesday	8.00	8.00
Wednesday	7.90	7.90

Rye.—The market is firm. The nominal quotation is 76c per bu., which is 2c below the price of a week ago.

Visible Supply of Grain.

	This week.	Last week.
Wheat	10,982,000	10,834,000
Corn	3,909,000	4,740,000
Oats	3,016,000	3,549,000
Rye	296,000	318,000
Barley	850,000	1,017,000

Flour, Feed, Provisions, Etc.

Flour.—The flour trade is strong at the ruling values of a week ago. Quotations are:

Clear	\$4.60
Straight	4.80
Patent Michigan	5.10
Ordinary Patent	4.90

Hay and Straw.—All grades of hay are higher. Straw continues steady. Quotations on baled hay in car lots f. o. b. Detroit, are: No. 1 timothy, \$18@18.50; No. 2 timothy, \$17@17.50; clover, mixed, \$16@16.50; rye straw, \$7@7.50; wheat and oat straw, \$6.50@7 per ton.

Feed.—All grades steady with last week. Carlot prices on track: Bran, \$23 per ton; coarse middlings, \$24; fine middlings, \$27; cracked corn, \$27; coarse corn meal, \$27; corn and oat chop, \$24 per ton.

Potatoes.—A good trade prevails, but the supply is not so abundant. Prices advanced. They are quoted at \$2@2.10 per bbl.

Provisions.—Mess pork, \$25; family pork, \$25@26; medium clear, \$24@26; smoked hams, 17½c; dry salted briskets, 15c; shoulders, 14½c; picnic hams, 13½c; bacon, 20@21c; lard in tierces, 12½c; kettle rendered, 12½c per lb.

Hides.—Steady. No. 1 cured, 9c; No. 1 green, 7½c; No. 2 cured bulls, 8c; No. 2 green bulls, 6½c; No. 1 cured veal kip,

10c; No. 1 green veal kip, 8c; No. 1 cured calf, 14c; No. 2 kip and calf, 12½c; No. 1 horsehides, \$3.50; No. 2 horsehides, \$2.50; sheepskins, as to amount of wool, 20@60c.

Dairy and Poultry Products.

Butter.—While the demand for good butter is strong and the manufacturing is decreasing slightly, yet the price for the week is off one cent from last week, due to the accumulation of supplies and perhaps a slackening in buying by storage men. Quotations are as follows: Extra creamery, 27c; firsts do, 26c; dairy, 22c; packing stock, 21c per lb.

Eggs.—Considering the large supply of eggs the market is keeping up well and the price remains where it was a week ago, at 17½c per doz.

Poultry.—Broilers are a little lower, but other kinds of poultry are strong at last week's prices. The market is generally dull. Quotations are: Broilers, 18c; hens, 14@15c; old roosters and stags, 12c; ducks, 16c; geese, 11@13c; turkeys, 16@16½c per lb.

Cheese.—Michigan, late made, 15c; Michigan, fall made, 17½@18c; York state, 18@18½c; limburger, old, 17@18c; Swiss, domestic block, 23@24c; cream brick, 16@16½c.

Calves.—Steady. Choice to fancy, 11@11½c; ordinary, 10½c.

Fruits and Vegetables.

Apples.—Good apples are very scarce. They are selling at \$4.50@5.50 per hamper.

Cabbage.—Steady. Selling at \$1.25@1.75 per crate for new.

Raspberries.—Supply of berries is very short and season is nearly over. Reds are quoted at \$4@4.25 per bu. Blacks, \$1.75@2 per 16-qt. case.

Blackberries.—Market lower; supply is fair. Selling at \$2.75@4 per bu.

Huckleberries.—Selling at \$4.25 per 24-qt. case.

Gooseberries.—Steady. Quoted at \$2@2.50 per bu.

Cherries.—Very scarce. Now selling at \$3.50@4 per bu. for sour. Sweet, \$4 bu.

Vegetables.—Beets, 25c per doz.; carrots, 25c per doz.; cucumbers, 50@65c per doz.; eggplant, \$1.25@1.50 per doz.; green onions, 10@12c per doz.; head lettuce, 75@90c per bu; mint, 25c per doz.; parsley, 20@25c per doz.; radishes, 15c per doz; spinach, 65c per bu; turnips, 40c per doz; watercress, 20@25c per doz; wax beans, \$1.25 bu; pieplant, 20c per dozen.

OTHER MARKETS.

Grand Rapids.

Fruit averaged the following prices on the city market Tuesday morning: Huckleberries \$2.25, red raspberries \$1.90 @2, black raspberries \$1.65, blackberries \$1.30@1.65, green apples, \$1@1.10. First home-grown peaches appeared, selling at 10c per quart. New home-grown potatoes have finally arrived and sold Tuesday at 80c per bushel. They are very small and prices are likely to continue high on the early crop. Garden stuff ranged as follows Tuesday morning: Silver-skin onions, 25c doz.; celery, 18@20c per bunch; butter beans, \$2 per bu.; green corn, 25c doz.; summer squash, 6c lb.; cabbage, 70c per doz. Dressed hogs continue firm at 12½c. Live fowls are bringing 13c. The poultry business is growing in importance, a poultry man at Hamilton, near Grand Rapids, having recently purchased a 30,000-egg incubator, at cost of about \$3,000. This is probably the largest incubator ever sold in the state. The owner is going into the business of hatching and selling one-day-old chicks. Creamery butter is 1c lower, being quoted at 27c. Dairy is steady at 22c. Eggs are unchanged at 17@17½c. Wheat is lower, the mills paying \$1.01 for No. 2 red and 99c for No. 1 white.

Chicago.

Wheat—No. 2 red, \$1.09½@1.10½; September, \$1.04½; December, \$1.07½. Corn—No. 2 mixed, 65½@65¾; September, 65½c; December, 64½c. Oats—No. 3 white, 40½@42½; September, 39½c; December, 40½c.

Butter.—Trade shows improvement following a decline of 1c on Monday. Quotations are: Creameries, 23@27c; dairies, 23@26c.

Eggs.—Market firm at last week's prices with good stock selling well. Prime firsts 17c; firsts, 15c; at mark, cases included, 10@14c per doz.

Hay and Straw.—Market steady with the extreme values of the past few weeks still ruling. Prices given below are for old hay. New hay beginning to come in and quoted \$3@4 per ton lower than old. Quotations are: Choice timothy, \$21@21.50; No. 1 timothy, \$19.50@20.50; No. 2 do and No. 1 mixed, \$18@19; No. 3 do and No. 2 mixed, \$14.50@17.50; rye straw, \$9@10; oat straw, \$7@8; wheat straw, \$6.50@7.

Potatoes.—Market has recovered from last week's glut; prices are 10c higher under an active demand. Choice to fancy new, 73@75c per bu; fair to good, 68@70c.

Beans.—Reports of damage by dry weather have brought a sharp advance in prices. Choice hand-picked are quoted at \$2.45@2.48; fair to good, \$2.35@2.38; red kidneys, \$3.75@4.50 per bu.

Wool.—Trade slow; prices show no change. Fine delaine, unwashed, 20@22c; fine medium, 22@24c; medium, 23@25c.

New York.

Butter.—Prices fractionally lower. Creamery specials quoted at 28½@28¾c; process butter, 22@25½c per lb.

Eggs.—Market firm. Nearby eggs are quoted at 25@28c; fresh gathered extras, 20@21½c; firsts, 18@19c per dozen.

Poultry.—Market quiet and rather easy. Live quoted as follows: Western fowls, 19c; western broilers, 20@21c; turkeys, 10@14c per lb.

Boston.

Wool.—While the activity here is not up to normal for this season of the year, the business has been increasing the past week and a fairly good amount of wool has exchanged hands. Manufacturers appear to be a little backward about taking hold of the buying business. Following are the leading quotations for domestic

grades: Ohio and Pennsylvania fleeces—Delaine washed, 34c; XX, 30c; ½-blood combing, 27@28c; ¾-blood combing, 27@28c; ¼-blood combing, 26@27c; delaine unwashed, 25@26c. Michigan, Wisconsin and New York fleeces—Fine unwashed, 19@20c; delaine unwashed, 23@24c; ½-blood unwashed, 26@27c; ¾-blood unwashed, 26@27c; ¼-blood, 25@26c. Kentucky, Indiana and Missouri—¾-blood, 26@27c; ¼-blood, 24@26c.

Elgin.

Butter.—Market is firm at 27c per lb., which is 1 cent below last week's quotation. The sales for the week amounted to 967,700 lbs., compared with 1,029,600 lbs. for the week previous.

THE LIVE STOCK MARKETS.

Buffalo.

July 25th, 1910.

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

Receipts of stock here today as follows: Cattle, 175 cars; sheep and lambs, 15 D. D. cars; hogs, 55 D. D. cars, and calves, 1,500 head.

Cattle market was dull and from 15c to 25c lower on all kinds of fat stock, and feeders and stockers were about steady. Heavy run in Chicago; market lower and about 30 cars of common cows and butchers' stock on our market. We quote:

Best 1,300 to 1,500-lb steers, \$7.50@7.75; good prime 1,200 to 1,300-lb steers, \$7@7.25; best 1,100 to 1,200 shippers, \$6.50@7; medium butchers' steers, 1,000 to 1,100-lb, \$5.50@6; light butchers' steers, \$5@5.25; best fat cows, \$5@5.25; fair to good cows, \$4@4.50; common to medium do, \$3@3.50; trimmers, \$2.50@3; best fat heifers, \$5.50@6; good fat heifers, \$4.75@5.25; fair to good do, \$4.25@4.50; stock heifers, \$3.25@3.50; best feeding steers, \$4.50@4.75; medium to good do, \$4@4.25; stockers, all grades, \$3.50@3.75; best bulls, \$4.75@5; Bologna bulls, \$4@4.50; light thin bulls, \$3.50@4; best milkers and springers \$5@6; common to good do, \$2.50@3.5. The good cows were steady and the common kind, \$4@5 lower.

Hog market opened about steady at Saturday's close. Closing steady with a good clearance; everything selling that was yarded in time and very few holding over. We quote: Mediums and heavy, 200 to 220-lb average, \$9.10@9.20; 250-lb and upwards, \$9@9.10; Yorkers, \$9.25@9.60, as to weights; pigs and lights, mixed, \$9.80@10; roughs, \$7.60@7.75; stags, \$6@6.50. Prospect fair for next few days.

The lamb market opened active and half higher than last Monday, and strong with last week's close. Most of the lambs selling at \$7.50, few at \$7.75. Yearling lambs, \$5.75@6; all selling. Look for steady market and prices balance of week. Sheep were steady and we look for about present prices balance of week. We quote:

Spring lambs, \$7.50@7.75; yearlings, \$5.75@6; wethers, \$5@5.25; ewes, \$4@4.25; cull sheep, \$2.50@3.50; bucks, \$2.50@3; veals, choice to extra, \$9.75@10; fair to good do, \$8.50@9; heavy calves, \$5@6.

Chicago.

July 25, 1910.

Received today 26,000 35,000 26,000
Same day last year.. 16,982 27,318 24,096
Received last week.. 66,066 87,664 113,164
Same week last year.. 53,041 89,150 81,275

Last week's greatly increased cattle runs knocked prices down on an average 15@25c, with a greater drop in butcher stock, and the arrivals today were so much too large that buyers held back and to a great extent refused to make any bids. When bids were made they were apt to be 15@25c lower, and telegrams were sent out to the country calling the market 25c lower, the best being called about 10c off. The run of western rangers was the largest for any day this season, amounting to about 2,500 head, and these were off too. Hogs became active and stronger after killers had put prices down on an average 15c, with sales at \$7.85@8.95 as an extreme range, pigs again selling the highest, while medium weight butcher hogs came next. The hogs received were much better in quality than usual, and this helped their sale. The average weight for two weeks has been 245 lbs., compared with 227 lbs. a year ago, 223 lbs. two years ago and 236 lbs. three years ago. The decline today followed last week's advance of 10@15c. Lambs advanced last week largely \$1@1.25 per 100 lbs. and sheep 25@50c, feeder sheep moving up least. Today's mutton flocks active and firm and feeder lambs of best grade 15c higher at \$6@6.50, while mutton lambs sold at \$5@7.50. Wethers went at \$3.75@4.40, ewes at \$2@4.25, bucks at \$2.50@3.25, and yearlings at \$4.50@5.50. Feeders paid \$3.25@4.10 for range wethers, while breeding ewes went at \$3.75@5. Surprise was manifested when it was learned that packers had received today about 6,500 lambs direct from Louisville.

Cattle pursued a downward course much of the time last week and averaged lower so far as the great bulk of the offerings were concerned, as a result of larger supplies, including a good showing of cattle from the ranges of Montana, Wyoming and South Dakota. These rangers found buyers at \$4.75@6.10, many of them being marketed prematurely on account of the burned-up pastures caused by the drouth. There were a good many Texas cattle that sold at \$6.20@6.50, with only fair supplies of distillery-fed cattle, the season for these drawing to a close. More than usual were fed this season, and last week saw sales of "stillers" at \$7.50@8.25. Sales of farm-fed steers were mainly at \$6@8, the commoner grassy steers going at \$4.80@5.80, and the better class of heavy shipping steers at \$8@8.55. Pretty good lots of steers sold between \$7 and 8, while a medium class sold between \$6 and 7. The receipts are running all the time more and more to cattle on the grassy order, with a steadily decreasing proportion of long-fed cattle, and this tends to make a wider spread in prices, the choicest lots being the last to weaken. Cows and heifers, like steers, sell well for the best and decidedly lower for the others, buyers

paying \$3.85@7.30, while canners and cutters are down to \$2@3.80. Bulls sold at \$2.75@5.80, and calves found buyers at \$3@9, the demand running mostly on good light weight vealers, as usual. The stocker trade was on a liberal scale at \$3@5.15, not many going near the top figures. Feeders were in very poor request as a rule at \$4.40@6, and not many sold up to \$5.15, country buyers looking on ruling prices as too high, in view of the fact that already the northwestern ranges are sending in very fair supplies of cattle of the feeder class. Milk and springers were in limited request at \$25@60 per head, and there is not much prospect of early betterment in the demand. Hogs had such a big decline in prices during the preceding week that many owners decided to wait for a change for the better, and accordingly supplies last week were on a much lowered scale. This tended to check the downward movement much of the week, especially in the choicer lots, and prime light hogs and the pigs that were of the heavier class sold very well, going around \$9@9.10, while at the other extreme of the market rough, heavy packing were selling below \$8. The general surroundings of the market, aside from smaller offerings, were not much changed, and fluctuations in prices were within much smaller limits than of late. Deterioration in quality was witnessed, and more rough, big, heavy sows were thrown on the market, their owners having fed them corn long enough to make them weigh up well. Judging from what can be learned about supply and demand and the decreasing consumption of hog products, there does not appear to be much chance for either hogs or provisions selling on a much higher level in the near future, and perhaps the most that hog growers can accomplish is to prevent further breaks in prices by marketing their holdings conservatively.

Sheep and lambs, after their highly sensational slumps in prices in recent weeks, rallied last week after a Monday break, and sold at decidedly higher figures, so far at least as desirable offerings were concerned. A liberal Monday supply was followed by much smaller receipts, and the market was strengthened a good deal by much smaller consignments of Kentucky spring lambs from Louisville direct to Chicago packers. For several weeks these southern lambs have been a serious obstacle to the interests of sellers in the Chicago market, but now the season is approaching its close, and their quality is much poorer. The great bulk of the receipts of sheep, yearlings and lambs hail at the present time from the Idaho, Montana, Wyoming, South Dakota and other ranges, some coming from Washington, and a liberal share consist of feeders, great numbers being forced on the market on account of the dried-up ranges. Feeders have been good purchasers and some good bargains have been secured. Horses have been marketed in very good numbers recently, and the demand was better than is usual in July, eastern cities having numerous buyers in attendance. Prices were well maintained, and while plain light and blemished horses were poor sellers at \$60@125 per head, light wagon horses sold freely at \$140@200, while medium-weight drafters sold at \$170@225 and desirable expressers at \$165@215. Choice to fancy drafters sold at \$250@410, and drivers and saddlers were taken at \$150@300. Feeders sold at \$170@225.

LIVE STOCK NOTES.

W. B. Marchbank, of Oklahoma, who has made a thorough investigation of the live stock situation personally, says that Oklahoma grass is getting very short and some cattle are being shipped from there. Several Texas stockmen who shipped cattle there during the spring have taken their stock back on account of the shortage of grass. He found a much better and more encouraging situation in west Texas, rains having been plentiful enough to make good range in most places.

Samuel Morris, of South Dakota, reports that late rains gave grass a new start in that region and there will be very few feeder cattle for marketing. Nor will there be a large supply of beef cattle, as prices last year were so high that cattle growers marketed their holdings closely.

Salesmen in the Chicago market say that thousands of lambs have been sold recently below country cost, simply because many buyers in the country would not heed the advice sent out by men who are on the grounds and in daily touch with trade conditions to hold back thin lambs while the ranges were pouring in enormous numbers of similar lambs from places where the grass is burned up by the drouth.

President George K. Reed of the Montana Wool Growers' Association has issued an open letter addressed to all of the wool growers of the state, in which he advises them not to consign their wool, as the prospect is that by fall wool will sell as high as it did last year, if not higher.

Advices from Fort Benton, Montana, say that 100,000 pounds of wool clipped from 15,000 wethers had been sold at 20 cents per pound. In other parts of the state good sales are reported at 20 to 22 cents, while a few weeks ago buyers were offering only 16 to 18 cents. A great deal of wool is being stored in western warehouses, but buyers and sellers are coming together in increasing instances, and there is a better outlook. Loans on wool are being extended from 60 to 90 days and new loans made.

Prices of sheep and lambs have had a great fall in recent weeks, and it seems a favorable time for butchers to lower their prices for lamb chops and roasts and increase consumption.

For considerably more than a month fat distillery-fed cattle have been marketed very extensively at Chicago, and they have taken well with the trade, the best having broken all former high records by selling up to \$8.55 per 100 lbs. in a recent week. More were fed than ever before, and they went far in satisfying the demand for fat beefs, but most of them are now in, and there will be a better showing for owners of natives.

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.

July 28, 1910.

Cattle.

Receipts, 1,244. Cow stuff and bulls, 10 @15c, other grades 25@50c lower than last week.

We quote: Best steers and heifers, \$6; steers and heifers, 1,000 to 1,200, \$4.75@5.50; steers and heifers, 800 to 1,000, \$4.25@5; grass steers and heifers that are fat, 800 to 1,000, \$4.25@5; grass steers and heifers that are fat, 500 to 700, \$3.50@4; choice fat cows, \$4.50; good fat cows, \$3.75@4.25; common cows, \$3@3.25; canners, \$2; choice heavy bulls, \$4@4.25; fair to good bolognas, \$3.50@3.75; stock bulls, \$3.25@3.50; choice feeding steers, 800 to 1,000, \$4.25@4.50; fair feeding steers 800 to 1,000, \$4@4.25; choice stockers, 500 to 700, \$3.50@4; fair stockers, 500 to 700, \$3.25@3.50; stock heifers, \$3@3.50; milkers, large, young medium age, \$4@50; common milkers, \$25@35.

Bishop, B. & H. sold Goose 29 butchers av 730 at \$3.75; to Sullivan P. Co. 1 steer weighing 800 at \$6, 1 cow weighing 990 at \$3.50, 1 cow weighing 1,100 at \$4.50, 1 bull weighing 1,030 at \$4, 1 cow weighing 1,100 at \$3.50; to Breitenbeck Bros. 4 steers av 1,070 at \$5; to Mich. B. Co. 26 butchers av 805 at \$3.90, 23 do av 6; at \$3.40; to Fronn 2 butchers av 760 at \$3.90; to Thompson Bros. 3 cows av 933 at \$3.50; to Rehfuers 5 cows av 896 at \$3, 2 bulls av 1,075 at \$4.15; to Sullivan P. Co. 18 steers av 1,092 at \$5.40, 13 butchers av 750 at \$3.90; to Hammond, S. & Co. 2 bulls av 745 at \$3.50, 3 steers av 1,033 at \$4.50, 1 do weighing 1,170 at \$4.50; to Bresnahan 2 cows av 1,245 at \$4.75, 7 do av 1,084 at \$3.85; to Jaughlin 3 cows av 1,043 at \$2.90; to Rothdow 4 butchers av 837 at \$3.90; to Rattkowsky 5 cows av 850 at \$3.50.

Spicer & R. sold Gerish 21 steers and heifers av 870 at \$5.10, 9 butchers av 900 at \$4.50; to Bresnahan, Jr., 9 heifers av 465 at \$3.25; to Breitenbeck Bros. 30 steers av 835 at \$4.75, 2 bulls av 840 at \$3.50; to Mich. B. Co. 23 butchers av 847 at \$4.50, 5 do av 1,012 at \$4.75; to Kammann B. Co. 32 butchers av 746 at \$4.65, 7 do av 733 at \$4.40; to Thompson & Bro. 3 cows av 743 at \$3, 6 cows av 941 at \$3.75; to Cooke, 16 steers av 740 at \$4.40; to Sullivan P. Co. 1 bull weighing 1,390 at \$4.25, 2 do av 705 at \$3.25, 3 cows av 880 at \$3.50, 18 steers av 902 at \$5; to Baldwin 5 stockers av 624 at \$3.75, 2 feeders av 815 at \$3.75; to Lachet 11 butchers av 720 at \$4.25; to Marx 16 butchers av 716 at \$4.20; to Rattkowsky 6 butchers av 710 at \$4.15; to Jaughton 4 cows av 887 at \$3; to Sullivan P. Co. 1 cow weighing 1,150 at \$4.25, 2 do av 980 at \$3.60, 5 do av 1,116 at \$3.60; to Bresnahan 4 heifers av 600 at \$4; to McDonald 4 stockers av 614 at \$4, 5 do av 610 at \$4.

Haley & M. sold Goose 5 cows av 1,030 at \$3.50; to Bresnahan 8 stockers av 600 at \$3.75, 2 bulls av 585 at \$3.65; to Regan 13 butchers av 625 at \$3.75; to Rattkowsky 4 cows av 767 at \$4.25, 3 heifers av 550 at \$3.75, 7 butchers av 733 at \$3.60; to Rattkowsky 9 butchers av 794 at \$3.75; to Schumann 1 bull weighing 700 at \$3.50, 5 steers av 820 at \$4.65, 5 steers av 864 at \$4.65; to Rehfuers 22 steers av 930 at \$5.10, 1 bull weighing 1,110 at \$3.75; to Thompson & Bros. 6 cows av 1,095 at \$4; to Sullivan P. Co. 18 heifers av 600 at \$3.50; to Lachet 8 butchers av 775 at \$4, 1 bull weighing 650 at \$3.50.

Chos. Roe Com. Co. sold Goose 4 cows av 962 at \$4.25, 4 do av 992 at \$3.25; to Sullivan P. Co. 17 butchers av 666 at \$3.70, 17 do av 685 at \$3.75, 3 cows av 1,100 at \$4.25, 3 do av 1,216 at \$4.25; to Cooke 18 steers av 944 at \$5.

Johnson sold Regan 11 heifers av 555 at \$3.75.

Robb sold Mich. B. Co. 18 butchers av 920 at \$4.50, 8 cows av 802 at \$3.75.

Kalahar sold same 2 steers av 1,080 at \$4.75, 7 av 857 at \$4.75.

Veal Calves.

Receipts, 841. Market 25@35c lower than last week. Best opened \$8.75@9.25; others \$4.50@8. Milch cows and springers steady.

Calf market closed 75c@1 lower than the opening for the day.

Stephens sold Burnstine 10 av 154 at \$3.75.

Adams sold same 12 av 180 at \$9.10.

Lovewell sold Hammond, S. & Co. 14 av 180 at \$9, 3 av 150 at \$7.

Waterman sold Breitenbeck Bros. 26 av 175 at \$3.50.

Sharp sold Parker, W. & Co. 11 av 180 at \$9.

Johnson sold Mich. B. Co. 5 av 165 at \$8.75.

Hickey sold same 5 av 150 at \$4.50.

Spicer & R. sold Mich. Beef Co. 1 weighing 180 at \$9.25, 4 av 225 at \$7.50; to Goose 3 av 315 at \$4.25; to Parker, W. & Co. 12 av 160 at \$9.

Downing sold Newton B. Co. 16 av 225 at \$4, 30 av 150 at \$7.

Wagner sold same 13 av 165 at \$9.25.

Haley & M. sold Brant 8 av 160 at \$8.50, 2 av 135 at \$6, 3 av 270 at \$5; to Schmitt 8 av 160 at \$8; to Goose 3 av 120 at \$8.50; to Parker, W. & Co. 14 av 155 @ \$8.50, 3 av 225 at \$5.

Roe Com. Co. sold Mich. B. Co. 8 av 160 at \$9.25, 27 av 170 at \$9.10.

Bishop, B. & H. sold Rattkowsky 5 av 200 at \$6; to Hammond, S. & Co. 5 av 150 at \$9, 5 av 145 at \$8.75, 13 av 140 at \$8.50,

23 av 150 at \$8.50, 11 av 175 at \$9.25; to McGuire 18 av 160 at \$9; to Nowhesky 6 av 175 at \$8.75; to Burnstine 21 av 160 at \$8.75; to Marx 13 av 185 at \$6; to Goose 22 av 170 at \$4.50.

Sheep and Lambs.

Receipts, 1,535. Good lambs, 25@50c higher. Sheep and common grades steady. Best lambs, \$7; fair lambs, \$6.25@6.75; light to common lambs, \$5@5.50; yearlings, \$5; fair to good sheep, \$3.50@4; culls and common, \$2@2.50.

Spicer & R. sold Sullivan P. Co. 7 lambs av 62 at \$5.25; to Mich. B. Co. 24 lambs av 68 at \$6.50, 21 sheep av 110 at \$3.75; to Barlage 12 lambs av 70 at \$6.50, 4 yearlings av 90 at \$5; to Mich. B. Co. 7 sheep av 110 at \$4; to Sullivan P. Co. 36 lambs av 65 at \$6.50.

Haley & M. sold Mich. B. Co. 35 lambs av 55 at \$5.65, 13 sheep av 120 at \$3.25, 20 sheep av 130 at \$3.75, 43 lambs av 75 at \$6.75; to Parker, W. & Co. 41 lambs av 78 at \$6.90; to Harland 7 lambs av 70 at \$7.00.

Roe Com. Co. sold Mich. B. Co. 2 sheep av 145 at \$3.25, 4 lambs av 90 at \$6.75.

Johnson sold Sullivan P. Co. 9 sheep av 100 at \$4.25, 21 lambs av 75 at \$6.75.

Lovewell sold Sullivan P. Co. 13 lambs av 60 at \$6.50.

Stephens sold Sullivan P. Co. 18 lambs av 75 at \$6.50, 20 sheep av 70 at \$4.75.

Johnson sold Sullivan P. Co. 9 sheep av 100 at \$4.25, 21 lambs av 75 at \$6.75.

Lovewell sold Sullivan P. Co. 13 lambs av 60 at \$6.50.

Stephens sold same 18 lambs av 75 at \$6.50, 20 sheep av 70 at \$4.75.

Bishop, B. & H. sold Mich. B. Co. 15 lambs av 55 at \$6, 20 lambs av 52 at \$5.75, 7 sheep av 115 at \$4; to Sullivan P. Co. 7 lambs av 73 at \$6.65; to Barlage 10 lambs av 60 at \$6; to Hammond, S. & Co. 223 lambs av 70 at \$7, 30 do av 64 at \$6, 17 do av 55 at \$5.50; to Fitzpatrick Bros. 41 lambs av 57 at \$6.50, 43 do av 60 at \$6.75, 4 sheep av 95 at \$5; to Thompson & Bro 38 lambs av 57 at \$6.50, 19 av 48 at \$6.25; to J. Eschrich 19 av 65 at \$6.50.

Downing sold Newton B. Co. 3 sheep av 170 at \$2.50, 2 sheep av 130 at \$3.50, 18 sheep av 80 at \$5, 40 lambs av 73 at \$6.50.

Wagner sold same 43 lambs av 75 at \$6.75.

Hickey sold Mich. B. Co. 120 lambs av 70 at \$6.70.

Johnson sold same 35 lambs av 65 at \$6.50.

Kalahar sold same 55 lambs av 73 at \$6.50.

Hogs.

Receipts, 1,697. Market steady, last Thursday's prices on heavies; pigs, 5c higher.

Range of prices: Light to good butchers, \$9; pigs, \$9.10; light yorkers, \$9; heavy, \$8.75@8.90; stags, one-third off.

Haley & M. sold Hammond, S. & Co. 120 av 190 at \$9.

Spicer & R. sold same 209 av 185 at \$9.

Roe Com. Co. sold same 115 av 220 at \$8.90, 26 av 210 at \$9, 52 av 180 at \$9.

Bishop, B. & H. sold Parker, W. & Co. 272 av 180 at \$9, 50 av 240 at \$8.85, 290 av 200 at \$8.90, 80 av 210 at \$8.95.

Friday's Market.

July 23, 1910.

Cattle.

Receipts this week, 925; last week, 1,670; market strong at Thursday's prices; run light.

We quote: Best steers and heifers, \$6 @6.20; steers and heifers, 1,000 to 1,200, \$5@5.50; do. 800 to 1,000, \$4.50@5; grass steers and heifers that are fat, 800 to 1,000, \$4.50@5; do. 500 to 700, \$3.75@4.25; choice fat cows, \$4.75@5; good fat cows, \$3.75@4.25; common cows, \$3@3.25; canners, \$2.25@2.50; choice heavy bulls, \$4.25; fair to good bolognas, \$3.75@4; stock bulls, \$3.25@3.50; choice feeding steers, 800 to 1,000, \$4.25@4.50; fair feeding steers 800 to 1,000, \$4@4.25; choice stockers, 500 to 700, \$4@4.25; fair stockers, 500 to 700, \$3.50@4; stock heifers, \$3.25@3.50; milkers, large, young, medium age, \$4@50; common milkers, \$25@35.

Veal Calves.

Receipts this week, 640; last week, 1,121; market strong at Thursday's prices. Best \$9.50; others, \$5@9; milch cows and springers steady.

Sheep and Lambs.

Receipts this week, 1,658; last week, 2,433; market steady at Thursday's prices. Best lambs, \$6.50; fair to good lambs, \$5.75@6.25; light to common lambs, \$4.50@5; yearlings, \$5; fair to good sheep, \$3.50@4.25; culls and common, \$2@3.

Hogs.

Receipts this week, 1,456; last week, 2,514; market 5@10c higher than on Thursday on lights; heavies steady. Light to good butchers, \$9.05; pigs, \$9.05; light yorkers, \$9.05; heavy, \$8.75; stags 1/3 off.

A disturbing feature of the cattle market is found in the fact that Kansas is known to have many steers that were brought through the winter and should have been marketed weeks ago.

John Clay, a prominent live stock commission merchant, says: "I can make a better estimate of the coming hog crop when the corn crop has been heard from in the fall. It is impossible to have a substantial hog production without plenty of corn to fatten and finish them on. There are lots of young pigs in the country, and the acreage of corn has been increased, but no one can estimate the hog production until the corn crop has been assured."

Oklahoma has good grass, late reports say, and Texas cattle sent to pastures in that state in the spring are thriving well. Texas also has good pasturage, and cattle are doing well, the drought having been followed some time ago by good rains. On some of the northwestern ranges stockmen are not so fortunate, and grass has been drying up in Wyoming and elsewhere, forcing numerous premature shipments of range grass-fed cattle.

It is generally believed that two years will be required to restore the hog supply of the country to normal proportions, for while population has kept on increasing enormously all the time, pig "crops" have

been falling off. Corn is abundant and hogs scarce, and few farmers are marketing light hogs or pigs. The result is that the markets of the country are affording little material for the high-class trade, such as light breakfast bacon, but a great abundance of heavy meats such as the south always calls for and satisfies the cheap trade in the north.

A Chicago packer says: "My opinion is that the country will gradually work out of the hog scarcity period into one of abundance, but what has happened with hogs will be repeated in cattle. If it takes two years to rehabilitate hog production to a point where it is equal to consumptive demand, and that is the popular estimate, seven to ten years will be required to alleviate the impending beef shortage. A cow raises a single calf annually, and cannot raise that one if it is vealed, while a sow raises one and possibly two litters of pigs every year."

A Chicago firm prominently identified with the provision commission trade, says: "We have made exhaustive inquiries into the hog supply, both for the present and future, both by personal investigation and letters, and we have arrived at the following conclusions: Hog receipts will be light until next winter, when they will begin to be oppressive. We went into last September with a fair stock of both lard and meats, and these supplies quickly disappeared. This year there are no large stocks, and we feel that when the fall export demand and the southern meat trade get under way, prices here will be higher than those of a year ago."

This is a favorable time for farmers properly fixed to buy sheep and lambs to feed, and it is also a good time to buy some breeding ewes and rams at reasonable prices.

Increasing numbers of thin sows are showing up at the Chicago stock yards. Grass has dried up in many sections, and hogs fail to do as well as when on succulent pastures.

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.

Cow has a Cough.—I have a cow that is due to come fresh the latter part of this month that was out in two thunder storms lately, and since then she has been coughing some. What had I better give her? A. S. Kalamazoo, Mich.—Give her 3 tablespoonfuls of ground licorice and 1 dr. iodine potassium at a dose in feed twice a day.

Stifle Weakness.—My 4-year-old mare seems to have trouble when starting to walk, especially in the morning, but she seems to get over her stiffness quite suddenly. I am inclined to believe the whole trouble is in stifle joint. J. G. Marlette, Mich.—Clip the hair off stifle and blister lightly, using cerate of cantharides; these applications should be made every week or ten days.

Laminitis.—One of my horses broke loose and ate seventeen ears of corn and a bushel of oats; this foundered him. I gave him 1/2 gallon of raw linseed oil, also injections of soapuds which no doubt did some good, but the horse remains sore and I am inclined to believe the whole trouble is in the fore feet. J. J. W. W. Blissfield, Mich.—Fairly good results will follow standing him in wet clay several hours a day, and if shod at all a rolling motion shoe gives the best results; also keep the bowels open by feeding green fodder.

Warts on Heifer.—I have a heifer whose neck is covered with warts from her head to her shoulders. A. S. Boyne Falls, Mich.—Those that have long necks should be cut off; the flat ones had better be treated with applications of acetic acid or one part chromic acid and three or four parts water. Also apply castor oil two or three times a week.

Rickets.—I have a calf that is now 5 weeks old, which has been weak in its legs ever since it came. When assisted to its feet, it wobbles and soon falls down. The hind legs appear to be the strongest. What had better be done? I might say that the calf appears to be growing and laying on flesh. W. O. W. Petoskey, Mich.—Give the calf 4 oz. of lime water with its milk at a dose three or four times a day. Lime water is made by dropping a handful of lime in a bucket of clean water, then let it stand an hour or two, pour off the water, refill and use. The first water is always a little bitter and not so pleasant to take; besides it is a little more irritating. If you give the calf any grain, feed it some ground oats or oat meal.

Wart—Melanosis.—My horse has a black scab on top of neck that has been cut out several times but it grows again. What do you recommend? This blemish is about the size of a fifty-cent piece. S. P. Pinckney, Mich.—The blemish is either of a warty nature or it may be a melanotic tumor; most likely to be the latter if it is a white horse. The only remedy is cutting it out and applying equal parts boric acid, powdered alum and oxide of zinc twice a day.

Rone-Spavin.—My 8-year-old horse has a bone-spavin on each hind leg and I blistered him but succeeded in curing one leg only. This horse walks fairly well on smooth road, but favors the leg when pulling a load up hill or trotting. Our veterinary told me some time ago that the horse needed two or three months' rest, and if given to him he would perhaps get over his lameness, but he is no better. What had I better do? R. M. Freeport, Mich.—No person can ever tell whether a horse lame from bone

spavin is going to get well or not. I suggest that you apply one part red iodide of mercury and eight parts lead every five or six days and give the horse as much absolute rest as possible, but the less he exercises while the treatment is going on, the better.

Ringbone.—I have a mare that has a ringbone on hind leg that causes her to go very lame. I have tried different remedies; none of them have helped her. I do not mind the blemish if the lameness can be subdued. N. B. Charlotte, Mich.—When a ringbone is situated low down extending most way around pastern they are not always curable; besides, if the disease is arrested and the inflammation subsides the horse may travel mechanically stiff. Try blistering with 1 part red iodide mercury and 4 parts lard once a week until four applications have been applied. If this fails to relieve her have her fired. She should be kept perfectly quiet and not worked or exercised.

Impure Blood.—I have a horse that had a bunch on his shoulder which our local vet, treated by injecting something into the sack. Some time later the hind leg broke open and several boils have formed on different parts of the body. This horse seemed all right until the swelling appeared on his shoulder. Otto C. M., Plymouth, Mich.—Injecting iodine into the bunch has no connection whatever with the condition of his blood. Give him 1 dr. iodide potassium and 2 drs. Fowler's solution at a dose in feed three times a day for a week then twice a day for two weeks. Apply camphorated oil to bunches twice a day.

Barrenness.—I have a cow that is eight or nine years old which had a calf Jan. 13th, since then she has been bred regularly, but fails to get with calf and I also have a 3-year-old heifer that had a calf two months ago which fails to come in heat. C. C. D., Owosso, Mich.—Dissolve 1 dr. permanganate potash in 4 qts. of tepid water and wash out cow with small rubber tube and funnel once a day, using not less than two or three quarts of this solution at a time. For your heifer give 20 grs. powdered cantharides at a dose in feed once or twice a day.

Rheumatism.—Heaves.—I have a mare that shows lameness in left fore leg which I think is caused from rheumatism. I also have another mare that caught cold last fall and some time later developed into heaves. What do you think of arsenic as a remedy and how much should I give? A. F. C., Centerville, Mich.—Give 40 grs. salicylate of soda at a dose twice a day and apply equal parts turpentine and sweet oil two or three times a week. As you perhaps know, arsenic is a cumulative poison, and for that reason it is not a safe remedy to give for any great length of time. Give 1 dr. powdered opium, 1 dr. murate. The dose is from two to five grains and it should be given three times a day. ammonia, 1/2 dr. powdered digitalis, 1 dr. powdered lobelia at a dose in moist feed twice a day. A broken-winded horse should be fed no clover, nor musty, badly cured fodder.

Deep Milker.—I have a 14-month-old heifer that secretes milk; her udder is well filled, but she was only bred ten days ago. Will it be necessary to continue milking her constantly? J. C. W., Grand Rapids, Mich.—Milk her when it is necessary only. If her food supply was cut down she might not have to be milked. Rub her bag with camphorated oil and give her one or two drams of camphor once a day.

Spasm of Larynx.—I am anxious to know what ails my pigs; they are fed on skimmed milk, corn or alfalfa and have plenty of room to exercise. These pigs become perfectly rigid in their hind parts. They are affected different from any other sick pigs I have ever seen. J. W. K., Erie, Mich.—Try feeding your hogs warm milk and middlings and give each one 4 tablespoonfuls of lime water at a dose in feed twice a day.

Periodic Ophthalmia.—I have two horses that I think are going blind, unless I can get help for them soon. J. H. Fulton, Mich.—Very likely your horses will lose their eyesight, because periodic ophthalmia usually terminates in loss of vision. Apply a saturated solution of boric acid twice a day. Keep their bowels open and avoid keeping them in a bright sunlight. Also give 1/2 dr. iodine potassium and 1 dr. Fowler's solution at a dose in feed twice a day for 20 days.

Rheumatism.—I have a valuable boar that has been lame for several weeks. His lameness has shifted from one fore quarter to the other and he has some sore patches on different parts of the body. F. M. R., Osseo, Mich.—Give 10 grs. salicylate of soda at a dose in feed three times a day and wet him with 1 part coal tar disinfectant and 50 parts water twice a day.

Cow Slobbers.—I have a cow that slavers while chewing her cud; she was the same way last year and you advised me to examine her teeth and give her ginger and soda. She got well. This cow and one other are affected and are both pastured in a wood lot. None of my neighbors' cattle are affected. M. D., Mancelona, Mich.—Dissolve 1 oz. borax in a quart of water and wash out their mouths twice a day. I am inclined to believe that they eat some irritating weeds that make their mouths sore. If you could change their pasture they might soon get

H-E-C

Medicated-Tonic STOCK SALT

The Great Worm Exterminator for Worms in Horses, Sheep, Hogs and Cattle.

Regulates the Stomach, Kidney, Liver and Bowels.

Put up 5 lbs. 25c; 10 lbs. 50c; 20 lbs. \$1; 50 lbs. \$2.50.

Ask your dealers everywhere.

Jackson Grocery Co., Jackson, Mich.

(STATE AGENTS.)

Do you know that your animals are taking up from the pasture the germ or eggs of the worms that will breed and develop during the winter months. Kill the germ in the stomach, this can be done by feeding H-E-C Medicated Tonic Stock Salt in the pasture. For sale by all Grocers and Druggists.

H. E. COBB CO., Brooklyn, Michigan.



Woman and Her Needs

At Home and Elsewhere



CLOTHES MAKE THE WOMAN.

A few weeks ago the papers were full of what they called the "prank" of a wealthy society woman. This woman had a theory that it is clothes that make the woman, at least so far as society is concerned. She believed that any woman, no matter what her birth, age, education or fortune could make a hit in society if she were smartly dressed, properly introduced, and had wit and grace enough to carry herself well.

To prove this theory, she dressed her cook and second girl up in resplendent gowns and introduced them at a ball she was giving, as guests from abroad. The cook was a witty Irish girl, with the story-book Irish girl's beauty, and the maid a chic little French individual. Both entered into the spirit of the thing with such zest and played their parts so well, that the smart set were quite captivated, and the beautiful visitors received invitations galore for future fests. Great was the chagrin of "society" when in a few days the identity of the two "visiting girls" was learned.

But the society woman had proven her contention. Society, and the mass of men and women outside that sacred circle, judge you by what you wear, not by what you are. If you are well dressed, you are taken in without much question. If you are a little shabby and down at the heel, you are viewed with suspicion to say the least.

I used to fondly imagine it was otherwise. It was my firm belief that blood would tell, no matter what the outer garb, but closer acquaintance with a cold and critical world has robbed me of this cherished belief. The world doesn't give a hang about your birth and breeding. What it wants to know is, are your clothes of the vintage of 1910 and your automobile a 1911 model. If so, you are accepted. If not, oh, very well. You may be all right, but nobody seems to know you.

If you don't believe this, experiment a bit yourself. The next time you go to town, wear your oldest clothes and comb your hair tightly back from your face.

See that your hat is rusty and your shoes unblackened. Then just notice the treatment you get. In the store, you will be the last one waited upon and the clerk will growl, "Well, what do you want," just as if you had a lot of nerve to expect him to get anything for you. People you know will look at you as if they wished they did not need to see you, and you will be allowed to tie and untie your own horse, if you have driven to town alone.

But next day, go to the other extreme. Put on your newest and prettiest dress. Comb your hair in the most becoming, up-to-date way. Don a smart hat and dainty Oxfords, which show a peep of stunning hosiery, and then sally forth. When you get to town six men will hasten up to tie your nag, the clerk in the store will leave ten other women waiting while he takes everything off the shelves for you to inspect, and your friends and chance acquaintances will cross the street to speak to you, and incidentally to inspect your new clothes and wonder if they are paid for.

You will then see very clearly that it is your clothes, not your character, which impresses the world at large. It may hurt your vanity a great deal, but in the end it will probably do you good. If you have your own way to make in the world, it will be a valuable lesson to you for it will teach you the value of keeping up appearances. You may prate of ability, and education and experience all you please, but in the race for positions it is the neat smart looking girl who is chosen, no matter if her other qualifications are not so high as those of her more untidy sister. A pretty girl, smartly dressed, will attract the public and that is what the business man wants.

Let no one think from this, that education, good breeding and refinement are to be dispensed with. They are all desirable attributes, but add to them neatness and the ability to dress well and becomingly, and you will find yourself many times more appreciated.

DEBORAH.

HAND-MADE MEDALLIONS.

BY GENEVA M. SEWELL.

THE girl or woman who likes pretty hand-made articles of dainty wearing apparel will enjoy making some of the ones shown. They are suitable either for collars, cuffs, or insets into nice shirt waists. The work is what is known

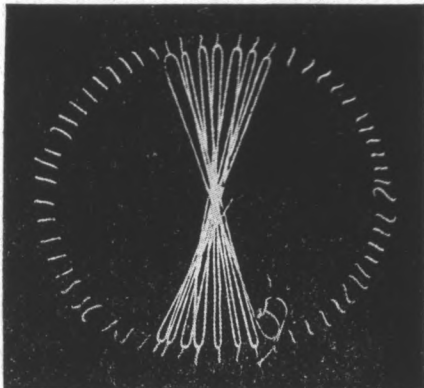


Figure 1.

as Guipure d'Art, though sometimes called "Tanneriffe" or "Brazilian" lace. They are worked on small blocks or molds that may be bought at a fancy goods store, or if that is not convenient they may be made over a small cushion made of stout goods and stuffed very full of bran, or they may be made on pasteboard. In any event you must draw a circle as large as you wish your medallion, then a short distance away from the first one and at equal distances all around draw a second, then halve and quarter the circle and divide each quarter into an equal number

of parts, then with a needle pierce holes and take stitches from one hole to another as shown in Figure 1, when all the foundation stitches are in you are ready to put in the threads for the design.

You must decide what design you wish to make, it must always be some even number, then with a long thread in the needle begin at the center and leave a long end, then pass the needle under one of the foundation stitches on one side and then under one directly opposite, as other as shown in Figure 1. When all the foundation stitches are full carry the thread to the center and tie it around all the threads, drawing them up closely and tying to the end of the first thread. You

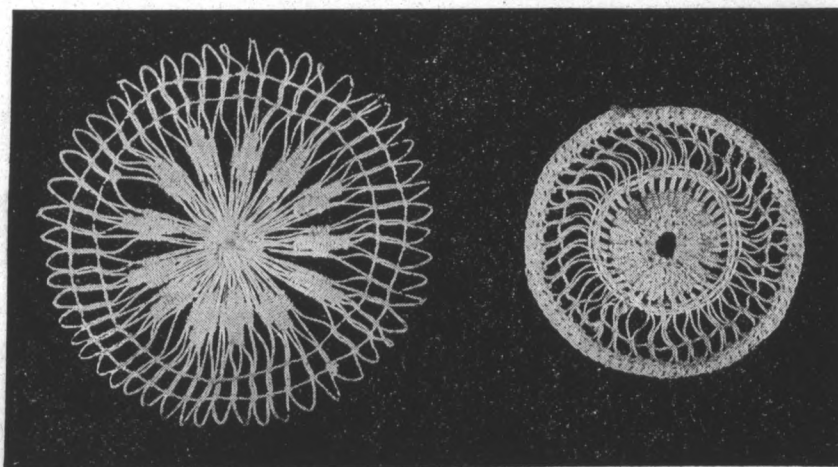


Figure 5.

are now ready to put in the design.

Figure 2.—Weave under and over each group of two threads until you have gone around three times. At the place of beginning you will have to go under or over two groups at once in order to make the next row weave in right. Fasten the thread and skip a space then weave clear around once, then weave back and forth over eight groups of two for four rows, then weave over a group of four for four rows, and carry the thread down and weave over four rows on the other side. Then drop off two groups of two threads each on each side and weave over the rest for four rows; drop two threads (one group) on each side and weave four rows over what is left; fasten thread and repeat clear around. There will be five points if you have 80 threads to start

Fasten in the middle and weave under and over each group of two for four rows; fasten, skip a space and tie in groups of two taking one thread from one group and another from the next group; weave over and under each single thread for two rows, fasten thread and skip a space and tie in groups as before, taking one thread from each group. Tie a group, then weave back and forth under and over these five threads for two rows, go to next group, tie it, and weave as before. When clear around fasten thread, skip a space and tie in groups as before. Then cut foundation stitches and the medallion is complete.

Figure 5.—Set 52 foundation stitches for this star medallion. Fasten the threads in the exact center, and weave under and over each group of two for two

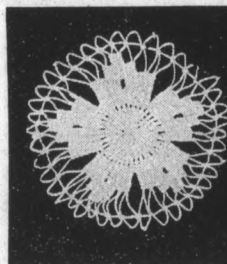


Figure 2.

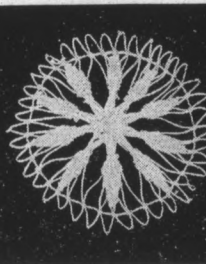


Figure 3.

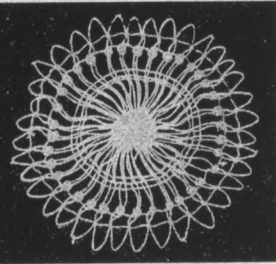


Figure 4.

with. Skip a space and tie one thread from one group with one of next with a buttonhole stitch; go clear around this way and then cut the foundation stitches and the medallion will look like Figure 2.

Figure 3.—For this pretty wheat head medallion make 40 foundation stitches, this will give you 80 threads to weave over. Each wheat head is composed of eight single threads. After all the threads are laid and the medallion is fastened in the exact center weave under and over each group of two threads for three times around, then fasten the thread, break it off and skip a space. Take up four groups of two, making eight threads, and tie in a group, fastening with a buttonhole stitch, then weave back and forth over the four groups of two for four rows, drop a single thread on each side and weave over and under the three groups for four rows; drop a single thread on each side and weave over and under each of the two threads left for four rows, fasten and break thread. Repeat until all of the wheat heads are made, then tie together with a buttonhole stitch one thread from each group with the next thread from the next group. Cut the foundation threads, or pull the pins out if you use a cushion, and the medallion is complete. These are very handsome for trimming a shirt waist as they may be fastened together to form a yoke, by putting the threads through some of the loops of the finished medallion at the same time they are put through the foundation stitches. Turn over collars and cuffs may be made in the same way.

Figure 4.—For this, set 36 foundation stitches, making 72 separate threads.

rows; fasten thread, skip a space, and weave under and over two groups of two for four rows. Then take up a group on each side, weaving under and over the four groups for four rows, drop off a group on each side and weave under and over the two groups left for four rows and fasten threads. Continue in this way until all the groups are woven. Skip a space and tie in groups as before described. When clear around—fasten thread, skip a space, and tie the same groups together. Then skip another space and make the last tying in the usual way, one thread from one group and the next

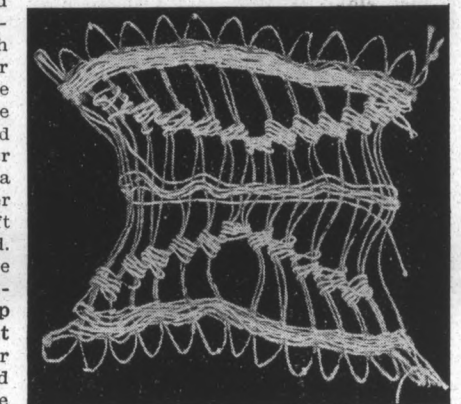


Figure 7.

thread from the next group. Cut loose the foundation stitches and the medallion is done. This is pretty for insets in center pieces and to go around the outside edge of centerpieces.

Figure 6.—If you do not like the bunch in the center where the threads cross you may make a crocheted center by winding the thread around a small pencil four times and crocheting 38 single crochets into that. You must have 38 foundation stitches and after fastening the crocheted part in the exact center run the working threads from the foundation stitches to corresponding stitches in the edge of the crocheted center. No. 6 is then finished in this way. Weave under and over each group of two stitches for two rows, then weave under and over each two groups for six rows. Complete this clear around, fasten thread, skip a space and weave under and over each group for three rows. Fasten thread, skip a space, and tie groups as before directed. Cut foundation stitches and with the crochet hook crochet one single one chain clear around and finish by making a row of single crochet clear around. This is very durable and has an edge easily sewed on to anything.

Figure 7.—This is not a medallion but a

Figure 6.

straight strip of the work called Brazil insertion. To make it take a strip of pasteboard as long as you wish the strip to be, make holes for foundation stitches exactly as for the round ones only in a straight line. There is no tying in the center. After the foundation stitches are in and the work stitches laid, any drawn work pattern may be worked in. In Figure 7, the threads were first tied in groups quite closely to the foundation stitches, then each group of two was woven over and under for five rows, then tied in same groups again. Skip a space and weave a square by weaving over and under two groups of two, for four rows. Then carry the thread down and weave over last group of two and next group of two. Continue in this way until the center is almost reached, then work up in the same way running the thread up through the worked stitches each time until you get to the straight weaving; down again until the center is almost reached. Continue clear across. Then make five rows of plain weaving in the center and repeat other side like first one. This is very nice to use as insertion in shirt waists or table linen.

SEND REFERENCES TO FRESH AIR SOCIETY.

"One rule of the Michigan Fresh Air Society seems misunderstood by country people who would like to take children into their homes for a couple of weeks," say the fresh air workers. "That is our rule regarding references. Everyone wishing to take a child is required to send us references as to character and ability to properly care for a child. While it is to be supposed that anyone who offered to do this charitable work would, of course, be all right, the fact remains that unscrupulous persons take advantage of this chance to obtain children and mistreat them. We must know what manner of folks ask us for children, and we can only obtain this information by references or by going into the homes and inspecting for ourselves. That is why we ask everyone to send a reference when they write us. If this is not done the first time, we must write and ask for it and much valuable time is lost."

Owing to this neglect of many to furnish a reference the work of the society is progressing rather slowly. As compared with the vast number needing the change, only a few children have so far been sent out. In addition to those whose names were given last week the following have been sent:

Clara Wolfel, from the Home of the Friendless, to L. H. Allen, of Shepardsville; Mabel Blay and Annie Mott, to Mrs. Morley Palmateer, of Deford; Kathleen Haynes and Emma Schultz, to Edwin Pettit, at Cass City; Fred Chene to Chas. Graves at Deford; Earl and Wilhelmina Weingarden, to Mrs. Fred Green at Wilmot; Edna Perry, to Jason Keck at Hudson; Edith and May Godfrey, to Mrs. Fleny McGuffie, at North Morenci; Earl Smith, to George T. Black, at Sandusky; Mable Perry, to Mrs. W. W. Moore, at Sandusky.

The society's headquarters are at 69 Lafayette boulevard, Detroit. Anyone wishing to help in the work by donating board to one child or more for a week or two should write the society at that address, sending references. All transportation and proper clothing are furnished by the society.

DRESSES OF NATURAL COLOR LINEN ARE SMART.

The woman who wants a neat, substantial and smart dress for all round wear during the summer, could not do better than to get one of the natural color linen gowns. They now vie with the white linen suits for favor, and as they will not show dirt so quickly, it is a good change for the woman who must launder her own dress, as well as for the ones who have to be careful not to anger the washwoman by putting too many suits in the wash.

They come in many styles, the Princess being a favorite with many women, while others select a one-piece dress in which waist and skirt are joined by a belt. A pretty suit of this latter style has a tunic skirt, with the front panel scalloped down the left side where the closing is effected. The waist has a left side, scalloped closing, continuing the skirt effect, and red covered buttons and red piping trim the entire suit.

The Princess dresses are trimmed with bands of heavy ecru lace on skirt and waist in some cases, while others are piped and trimmed with buttons. Coat and skirt suits of colored linen are seen,

too, but do not seem so popular as the dress.

For boat trips, or picnics, these dresses would be just the thing. The heavy linen does not tear readily and the dark color does not show every spot as does white. They are neat and pretty enough, too, for afternoon wear for women who do not dress elaborately. The woman who can not afford a number of dresses will find this sort answers all her needs.

SHORT CUTS TO HOUSEKEEPING.

This department is opened as a means of exchange of new and successful ideas in homemaking. If you have learned something in cooking, sewing, child raising, fancy work, economy, anything which is helpful, and new, send it in. Twenty-five cents will be paid for every article used, but none will be returned. Keep your suggestions short.

When sewing one day the belt on the machine broke in such a way it could not be mended. A good substitute was found in a cord from the end of a hammock, placed where the belt went, drawn very tightly and sewed together.—E. C. H.

Wet a woolen cloth with ammonia and apply to paint and oil stains on window and they will be removed instantly.—P. D. C.

Thin goods are apt to pucker when sewed on the machine. To overcome this difficulty put two thicknesses of tissue paper, or other soft paper, beneath the cloth and stitch through paper and all. The seam will be smooth and the paper easily torn away.—Mrs. J. J. K.

When tacking up a paper to shield the wall, behind a washstand or sink, tack at least five or six together. Then as one becomes soiled tear it off as you would an old calendar leaf.—Mrs. J. J. K.

When making beef loaf add one cup of cooked rice, and the loaf will be moist and slice firmly and have a new flavor.—J. L. K.

Berries will not mash up when cooking if the sugar is put on the night before cooking.—Mrs. E. E.

To destroy flies on plants sprinkle with a tablespoon of ammonia in two cups of water.—I. D.

MONEY IN COTTAGE CHEESE.

BY MRS. E. E. C.

Of late years many farmers' wives derive a small sum each summer from the sale of home-made, or cottage cheese. It is delicious and wholesome and can be sold quickly to up-to-date restaurants and grocery stores as well as to individual customers, and when properly done it is quite as good as Neufchatel or Philadelphia cream, besides being so much cheaper.

When the milk begins to sour, skim off the cream and reserve for later use. Gradually heat the milk until it begins to "whey," but be careful and do not scald. Drain in a cheese-cloth bag suspended from the clothesline or other suitable place. When sufficiently drained, remove to a bowl and add sour cream, melted butter, salt and cayenne until properly seasoned, then press through a potato or fruit press and when cool pack in pint glass cans. Cans previously left may be collected the following week.

Some of the cheese may be worked quite dry, made into cakes and wrapped in paraffine paper, to be seasoned by the customers according to their individual tastes. Pint cans properly seasoned readily bring ten cents, while the cakes usually bring five cents each.

Many who have tried making the cheese have been surprised at their success in this line.

RECIPE FOR ELDERBERRY WINE.

I have a recipe for elderberry wine that I have tried and with good results. Over eight quarts of elderberries pour four quarts of boiling water and allow them to stand 12 hours, stirring occasionally. At the end of that time strain, pressing out all the juice. To this add a half ounce of cloves (powdered), one ounce of powdered cinnamon and three pounds of sugar. (These proportions are proper for four quarts of juice). Boil for five minutes and set away to ferment in a stone crock. Cover with a cloth. When fermentation ceases pour off carefully, bottle and seal.—C. D.

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THE MICHIGAN FARMER, Detroit, Michigan.

HOME AND YOUTH

OLD HOME WEEK.

BY LALIA MITCHELL.

They have made their plans,
They have sent their call
To prince and pauper,
To great and small,
Ere the cold winds shriek
And the winds come down,
To gather again in
The old home town.
Those who in foreign
Countries dine,
Those who have crossed but
The country line,
The tables are spread
For all to seek
When the old town calls
For an Old Home Week.

Far as the swallow
Can speed her flight,
Northward and southward
On wings of white
The message went
With its word of cheer
And its final sentence—
"We want you here."
Bringing to each
Some well loved scene,
A cottage quaint
Or a garden green;
The babbling song
Of the roadside creek—
These are the joys
Of Old Home Week.

One in a city,
Far away,
Friendless had walked
A weary way,
Saving the little
His hands could earn,
Tempted, but ever
Too proud to turn
Asking some voice
To speak the name
Of the grand old county
From which he came,
The message with pleasure
Flushed his cheek
As he planned the meetings
Of Old Home Week.

And one had prospered,
The Fates were kind
And the world was proud
Of his master mind.
To him the call
Held a minor note,
But he caught his pen
From the desk and wrote:
"I am proud to know
That my name is still
Kept in some memory
There; I will
Come as you say;
If you wish it, speak
At the banquet held
On your Old Home Week."

They have made their plans,
They have sent the call
To prince and pauper,
To great and small,
May the hours be blessed,
May the girls and boys
Come back as such
To their childhood joys—
Just as they left—
To meet and lay
The pride and shame
Of the years away,
And, on common ground,
Together seek
The Memory-roses
Of Old Home Week.

THE DAVID OF THE PALMER FARM.

BY CHARLES A. HARTLEY.

Frank Palmer whispered into the ear of the great athlete, Augustus Goodwin, and then stepped back and awaited the verdict with mischief gleaming from his mild blue eyes.

"Why, boy, do you not know that it is wicked—positively wicked—to lead a man gently up to the roof of the house and then pitch him into a well, in a figurative sense?" asked Goodwin, drawing up one knee and inspecting the sole of his shoe. "You could not turn that trick to save your life."

"Just try me and see," persisted the boy. Then he went into a sort of pantomime performance, so far as the onlooker might observe. He ran a few steps, appeared to stub his toe, then pitched over sideways, made the motion of swimming, arose to his feet and scudded away looking back over his shoulder.

When he returned to the side of Goodwin, who had been sprawling on the grass in the shade, he said convincingly: "That's the way I would do it, Mr. Goodwin."

"Boy, if you could do that it would be a joke on my friends which would follow them back to the city and stick closer to them than a burr."

"Well, I can do it—did it many a time."

"You are sure there is no danger?"

"It's just as easy as spearing a frog in shallow water. All you have to do is to mind what I say and not get scared yourself. Let the others suffer from goose pimples—it's all in the game."

"Frank, if you can do that as cleverly as you seem to think you can there is a bright, new ten-dollar bill in it for you," slapping his thigh and roaring with laughter.

"All right, the ten is as good as mine right now. My chums are on and I'll get Dave to help me, and the whole bunch will keep as mum as oysters until the whole thing is over."

Augustus Goodwin and three college mates from an athletic institution of learning were spending their vacation in tents on the Palmer farm. They were all noted runners and carried off many prizes in contests with neighboring colleges. They fished, rowed, hunted, swam, picked blackberries, cooked their own meals and were having a glorious time. They were rugged, tanned to a turn and in the pink of condition physically.

Frank Palmer, the thirteen-year-old son of the man on whose farm they were encamped, spent most of his spare time about the tent and in the company of the roistering college students. He was brown, shock-haired and brier-scratched. His clothing consisted of a check shirt with frizzled sleeves and a very disreputable pair of trousers held in place by a single suspender over his right shoulder. His hat would not claim the least attention at a church rummage sale. He was a keen little rascal, however, with ears and eyes fully employed all the time he was about the camp. The campers rather enjoyed his native wit and activity, besides he was handy to have about to run errands, carry fish and game and to make himself generally useful.

One day they discussed the project of a foot-race to enliven the program.

"I will lay a feast of watermelons for the crowd that I can hot-foot it from here to Betts' Mills in less time than any of this bunch of joy-absorbers," said Mert Rogers, turning lazily on his elbow from his place on the soft turf.

"How far is it?" asked Fred Melton.

"A mile to an inch—I measured it with my pedometer yesterday."

"You interest me; I am just about ripe for a watermelon feast myself—at the expense of my sporty companions," broke in Alex. Foster, from his place at the dish-washing task, which fell to him about once in five days. "I have a remarkably strong spring in my heels this season and I think I could pull down the prize with a hop, skip and a jump at the end."

"You do, eh? You forget that you are not the first or the last man on earth. There are others with springs in their heels," from Melton.

"Well, let's have the plans of the race—I'm in; make it a cart load of big old striped-backed fellows like our forebears used to grow," said Rogers.

"Same here—same amount," assented Melton, rattling some loose change in his pocket.

"Ditto here," from Foster.

"Goodwin did not say anything but went on dressing a fish."

"What do you say, old fish cleaner?" asked one of the trio.

"Oh, I stabbed my heel with a brier yesterday and do not think I can run."

"Get a substitute, then," suggested Rogers. "Perhaps you can get Frank to take your place."

"How fast and how far can you run, Frank?" asked Goodwin.

The boy, who was leaning against a tent pole, standing on one brown, bare foot and digging in the sod with the big toe of the other foot, shook his head. "I don't know, sir," he said, "but I think I can trot along fast enough to keep in sight."

"When is this interesting event to come off?" asked Goodwin.

"At ten tomorrow morning," broke in Rogers, naming the first hour that came to mind. "No frills, no brass bands, no nothing but just a dash for the goal and a watermelon feast at the end."

"I will think about it and report in an hour or so," washing his hands after salting down the fish.

At that he sauntered out, followed by the boy. As soon as they were safely away from the others Frank whispered into the college man's ear, then by pantomime demonstrated how the race could be easily won.

"You are sure there is not any danger?" asked Goodwin anxiously.

"No, sir."

"It would not frighten your parents and the neighbors?"

"Why, I have headed off a wild cow that way for ma and she just stood on the bridge and laughed when I bobbed up in front of the wild-eyed beast to its great amazement."

"What would your father think about it?"

"I took him down and showed him how it worked as soon as I found it out, and I thought he'd split his sides laughing

when I jumped off the bridge into the pond and, as he stood looking at the spot where I disappeared, I walked up behind him and touched him on the shoulder. He said it was better than the disappearing act at a show. All the boys around here know about it, but they will not give me away."

"Do you think any of the campers know about it except myself?"

"No, I am sure they do not."

"All right, we will go back to camp and bind my companions hand and foot with conditions," said Goodwin good humoredly. "Say, if that works as you say it will it will be worth an illustrated page in the Sportsmen's Gazette."

Reaching the camp Goodwin said: "Seeing that I am suffering Achilles-like, I will be compelled to forego the pleasure of the race with you, but have persuaded our young friend Frank to take my place."

The others laughed, which did not seem to offend the boy. His face was covered with little laugh eruptions and the sparkle in his eyes should have been warning enough to the other contestants to look well to their laurels, but they saw only a small, brown-legged anxious boy.

"I have formulated the conditions," went on Goodwin easily. "The line-up will be here at the camp with a dash up the road to Betts' Mills and the last runner in buys the watermelons until the winners cry, 'Hold, enough.' In case two or more do not reach the goal within fifteen minutes after the starting pistol is fired they will lose collectively and will bear the expense equally. There is to be no handicap. The boy sprinter will ask no favors and will grant none."

"Good, good," shouted the others.

"And another thing," Goodwin went on confidently, "if you stop to play ball along the way you will have to take the consequences. Remember the story of the spindle-legged hare and the tortoise with the never-hurry-but-always-get-there motto carved on the floor of its habitation."

"And again, as the platform speaker is sometimes wont to say, accidents, unavoidable delays or voluntary pull-ups are not to be deducted from the time limit. Fifteen minutes is long enough to go a mile crawfish fashion and you are to be held strictly to it."

"What's all this parley about?" asked Rogers.

"Hanged if I can get head or tail of it myself," broke in Foster. "He's talking in riddles or manufacturing bugaboos for our benefit."

"Maybe the boy wonder has a pair of wings folded up under his arms," said Melton facetiously, "and is going to make an air-line plunge for glory and watermelons."

"Goodwin talks like it, but I have noticed that when he talks biggest he is usually engaged in the pleasurable pastime of bracing up a weak cause," said Rogers. "He has no expectations that the boy can win, but just wants to see our heels twinkle in fear."

"I wish you gentlemen would cease your comments until I get through with the rules and by-laws as aforesaid," interrupted Goodwin with a wave of the hand for silence. "If you happen to meet a gentleman bovine in the road and at the sight of your maddening toggery he becomes slightly irritated and chases you up a tree—that's your fault. If a thoughtless canine springs from the hedge as you pass and proceeds, with a leer and a side-wrench, to mutilate your finery—that's your fault also. The whole matter simmers down to the question of getting to Betts' Mills first on foot—or in not more than fifteen minutes."

"There are more strings to this than an international race," volunteered Melton.

"Hold on," said Goodwin, "I am not through yet. We must have a fair and square understanding of this thing from beginning to end."

"Very good, go on," submitted the others, "but allow us to suggest that you are wasting a great deal of unnecessary breath."

"Well, here is an unsophisticated country boy pitted against a bunch of professional athletes—"

"Asking no quarter and granting none," interrupted Melton.

"Please do not interrupt," resumed Goodwin; "I am here to see that he gets fair play."

"Hear, hear," from the three.

"Furthermore," went on Goodwin in an even temper, "I will fire the starting pistol and be at Betts' Mills in the auto to receive the winner—or winners. Is that satisfactory?"

"Yes, I think so," from Rogers.

"How are you going to start us and then be at the other end of the course to receive us—excuse me—to receive your fleet-footed substitute without running us down in the road with the auto?" asked Foster.

"That's simple enough. You will line up and then I will pull out a hundred feet or so in advance, stop the machine, stand up, fire the pistol, and then light out for Betts'. When you fellows come jogging in, if you do not get discouraged and turn back before you get there, I will be sitting on the fence holding a stop watch on you," explained Goodwin.

"Oh, that's all right; there are too many frills to this thing already. Let's run the race and talk about it afterwards," said Rogers, yawning.

"Then it is a go?" asked Goodwin, winking at the boy.

"Yes, yes," assented the others, "with all your whyfores, therefores and alleged conditions, rules and by-laws nailed to the masthead. We had no idea this thing was going to develop into a subject for the consideration of the Hague Peace conference or for congressional debate."

They all laughed and went their various ways for an evening's entertainment.

As a further precautionary measure Goodwin later strolled over to the Palmer farmhouse and explained the whole project to the boy's father.

The farmer chuckled softly.

"You are absolutely sure that no harm could come to the boy?" questioned Goodwin seriously.

"I have seen him do it a hundred times, I think," replied Mr. Palmer, "to the great mystification of passersby. Almost everyone takes it for the work of prankish twins. It seems almost like one must have a double to do it."

"It really seems to me like trifling with serious matters, but my companions are so cock-sure of winning the race that they deserve to lose and suffer a few moments of chilly thrills," said Goodwin soberly. "How did your son ever find out that freak of nature?" pursuing the subject.

"Just like boys find out a thousand and one other things, I guess," replied Mr. Palmer. "What boys do not find out is not worth investigation, you know."

When Goodwin left the Palmer home the moon was shining brightly and he could not resist the temptation to walk over the proposed race course. A hundred yards from the agreed starting point was a low bridge over the Morris milldam at a point where two projecting cliffs jut out on each side. The dam was just below, and where the dam held back the sluggish water it was narrow and deep. The dam had been constructed at that point for the reason that the narrow gully made it comparatively easy to block the stream with stones and timber, and when the dam was raised to a level with the banks on each side a deep and dependable body of water was assured. A short distance above, the pond spread out and the water covered many acres of lowlands. The location of the bridge there was no doubt for the reason that it was at the narrowest point and, when resting on the ends of the projecting cliffs, it was safely above the water at flood tide. What peculiar natural formation existed below, and visible to the naked eye before the waters were backed up, had to be taken as hearsay. A close scrutiny by Mr. Goodwin as he stood on the bridge revealed nothing out of the ordinary. Occasionally a fly or a bug fell into the still waters and sent silvery ripples dancing away in the moonlight. That was all.

Just beyond the bridge was a sharp turn; then the public highway followed the meandering course of the Morris pond until the stream which fed it became merely an ankle-deep purling brooklet. Half a mile further on Betts' dam stopped the water from above. After selecting a particular spot at which the race was to end, Goodwin walked back to camp. His companions were in the humor to chafe him, but he took it all good-naturedly.

"Perhaps Goodwin has something in mind like the race of the eagle and the sparrow," teased Rogers, refusing to subside.

"How was that?" asked one of the others.

"Why, the sparrow just tucked itself under one of the eagle's wings and went miles and miles as an unsuspected passenger, and at an opportune moment darted out and won the prize," explained Rogers.

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and have us unknowingly swish him to a watermelon feast?" laughed Melton.

"We'll just tickle his ear with a straw when he goes to sleep and find out by his dream talk what dark plots he has secreted in his brain," suggested one of the confident contestants.

By and by, they smoked their good-night pipes, yawned a few times and then turned in.

The next day was grinding day at the combination grist and sawmill and at an early hour the neighboring farmers and their sons had gathered in a goodly number in the mill yard. They soon heard of the proposed race and were deeply interested in the preparations. Many of them had never seen trained runners on the track and to such it was as good as a show.

Mr. Palmer, who by this time had joined in with hearty enthusiasm, went about among the neighbors and explained something with winks and chuckles. Frank circulated among his boy friends in whispered conferences, while Goodwin put in his time in seeing that no hint of how the thing was to be done reached the ears of his scoffing companions.

Shortly before the appointed hour Foster, Rogers and Melton emerged from their tent dressing rooms resplendent in racing toggery. The boy still had on his every-day attire.

"Are you not going to dress for the race?" tormented Foster.

"I am dressed," flung back the boy with a grin.

Finally the automobile chugged out a short distance beyond the end of the bridge and stopped. Goodwin was standing up in it with a pistol in one hand and a watch in the other.

"Toe the line," he called.

The three in brilliant attire came up to the scratch in regulation style, while the boy edged over to the right end of the line and stuck out a hesitating brown foot toward the starting mark. His arms hung limply at his sides, while the others posed with elbows back and with clenched fists to the front, eyes set to the front and muscles swelling. They were fully satisfied that some trick was to be sprung on them, but each had made up his mind to run the mile in his best time and take the chances of being beaten.

"Are you ready?" called Goodwin.

"All ready," came back from those on the starting line.

Goodwin counted slowly with the pistol pointed toward the clouds: "One, two, three"—bang!

The four sprang forward as if parts of the same machine and Goodwin dropped to his seat and sent the auto around the bend in the road out of sight with a whizz and a continuous honking to clear the track.

The boy ran easily at the elbow of Melton as they approached the bridge. The farmers and the boy friends of Frank were lined up alongside of the race course as the boy came down the stretch, his legs flying by each other with the speed of whizzing buggy wheel spokes driven at a high speed, and the brim of his hat flapping energetically.

One of his friends was not there. Just before the race was called Dave Norton could have been seen skulking along the edge of the pond in the deep shadows of the thick bushes, trailing a long hollow weed at his side. He could not be on the ground to cheer, but was playing an important minor part in the background.

The four came on the bridge in fine alignment. The professionals were reserving their best efforts for a showing at the finish and, therefore, the boy could easily keep his place.

Near the center of the bridge young Palmer stumbled and tripped awkwardly against Melton, swerved toward the low railing, seemed to miss his grip, and before a hand could be extended to stay him he went overboard and fell into the pond with a great splash and what appeared to be a cry of astonishment.

The roars of cheers ceased instantly and the spectators lined up against the railing and looked down with rather peculiar expressions. The three left in the race pulled up before reaching the end of the bridge and ran back. When they reached the scene of the apparent accident nothing was in sight below except the straw hat, which calmly floated in the little ripples.

"Ye'll have to start over again when the cub gets out," said Mr. Palmer, leaning on the railing. "Sort of awkward that he should tumble off that way."

They waited a few seconds for his tousled head to come up. A half minute more and he did not appear. Then a few air bubbles arose to the surface and exploded.

"Stays down a long time; it must be deep," said a farmer at Melton's elbow.

"Oh, he'll come up all right," replied Mr. Palmer. "You couldn't drown that boy if you threw him overboard with a millstone tied about his neck."

"He may be stuck in the mud," ventured Rogers.

More air bubbles appeared further over toward the cliff.

"Say, fellows, that boy will drown," exclaimed Melton, springing to the top of the railing, "while we stand here and do not so much as turn a hand to rescue him. No one can stay under the water that long and live."

With that he leaped for the spot where the bubbles last appeared, his bright red sweater flashing in the sun like a kingfisher diving from the top of a high tree. He remained at the bottom of the pond as long as he could do so, searching the sandy bed with outstretched arms. When compelled to come to the surface for air, bubbles appeared at a new place and Foster leaped in at the spot where they appeared. When he came up, the stream of air bubbles had shifted ten feet toward an unexplored point. Rogers dived that time and remained under water longer than any of the others. At his fruitless return the others began diving promiscuously.

The minutes were passing rapidly and the divers had almost given up hope of finding the boy.

Just then Goodwin drew up quietly with the auto and paused on the bridge. "Time's up, gentlemen," he called down, watch in hand, "and I have the pleasure of announcing that the race has been won by the Boy Wonder!"

"What's that?" asked Rogers. "Why, that boy is right down here somewhere in this pond drowned."

"Not by a jugful," chuckled Goodwin.

A splash in the middle of the pond drew the attention of all. Young Palmer's dragged head was just appearing above the surface of the water. He paddled vigorously to shore and climbed up the bank, while the three searchers in the water looked on in amazement. Then the others came out and leaned their bemirched suits against the railing.

"He made it in ten flat," said Goodwin, crossing one plump leg over the other, "with plenty of time for a little side-line diversion."

"How do we know that he was not lying hidden in the grass all this time?" one objected.

"Here is a certificate from 'Squire Pickens who saw him put his finger in the knothole designated. I had it written out in advance and he dashed down his signature in testimony of the truthfulness of the statement in time for us to get back and catch you off your beat," went on Goodwin without the flicker of an eyelid. By that time the farmers had gathered about and were shouting themselves hoarse.

"You do not claim that that boy has gone to Betts' Mills and back since falling over this railing?" asked Rogers incredulously.

"I certainly do that very thing," stoutly from Goodwin, "and he ran all the way there except the few yards he swam."

"You'll have to show us," said Melton, closing his lips tightly. "There is a twin secreted in the woodpile somewhere about here."

"We can show you in a minute and a quarter," said Goodwin lightly. "Follow, my good but over-confident friends, and the explanation will be forthcoming to your ample satisfaction."

They went to the short turn in the road, just beyond the end of the bridge, where Goodwin and Frank crawled through between the bars in the fence, followed by the crestfallen students and a dozen or so of the spectators.

Just inside the fence the bushes were parted and the party walked into the mouth of a large tunnel-like cave which reached to the edge of the pond and the mouth was several feet under water.

The boy had simply jumped into the pond, dived into the entrance of the cave, ran through it, scudded through the bushes, leaped the fence and was on his way to Betts' Mills before his fellow contestants had hardly checked their headway and turned back.

The tricked runners stood and looked at the cave a moment in stupefaction and then laughed heartily at the way the country-boy had duped them.

"We are good losers," said Rogers, when the uproar had ceased. "I do not wish to appear over-inquisitive," he went on meekly, "but I should like to inquire about the air bubbles rising to the surface of the pond while the boy was fan-

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ing the air toward victory and glory." Goodwin pointed toward Dave Norton, who was leaning against the side of the cave with his hands in his pockets and his long hollow weed at his feet. "Dave kindly volunteered to thrust that weed out from the inside of the cave into the water and blow in it as occasion required, shifting it about to complete the deception," was the solemn explanation.

"Well, I'll be jiggered," exclaimed Rogers.

"Double jiggered here," from Melton.

"Thrice ditto," from Foster.

"Here goes for the watermelons," came from the crowd in a chorus as they emerged into the road.

As they crawled through the fence Goodwin slipped a green piece of paper into Frank's hand.

THE SEVENTEEN-YEAR LOCUST.

BY ALONZO RICE.

The locust occupies a unique and interesting place in the insect world. Perhaps the knowledge of this fact makes it desirable to him to appear at his best, and the first thing after his debut is a change of clothes. A sense of timidity, or something after that sort, makes it convenient for him to effect this change in apparel at about the going down of the sun, so observation of his maneuvers is rendered quite difficult. He is very deliberate in the shifting of his garments, no doubt having learned the folly of undue haste by his undisturbed rumination beneath the surface for seventeen years.

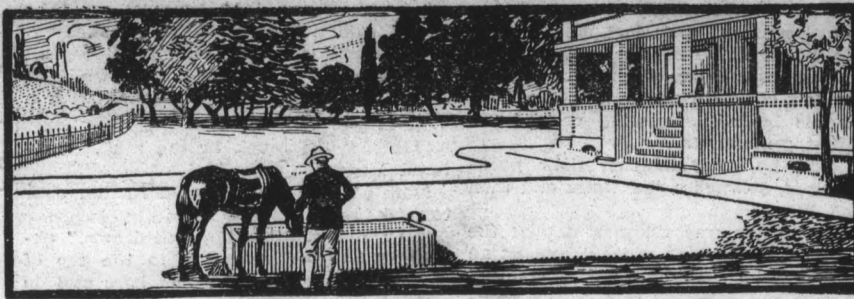
His appearance is made through a hole about half an inch in diameter. On his arrival he is a shiny brown creature, which is rather a strange color, considering the many years that he has remained "indoors." He is about one inch in length, his eyes are red, and his wings are very agile and strong, and are armed with claws that are very serviceable to him in making excavations. He generally aspires to some elevated position to effect the change in his wardrobe and to hang up his old clothes. He obtains a firm footing for his front toes, for it may require a considerable effort to extricate himself from the suit that he has grown up in. It seems that his garment "opens on the back," as here is where the first sign of disrobing manifests itself. This line gradually develops into a crack, and extends to about half the length of his body. His head is first to make its appearance, and his red eyes are of a more brilliant color than when they were veiled by the brown skin. Just back of his eyes are two curious black spots; with the exception of these and his red eyes, he is white. He is not exposed to the air, however, till he begins to darken a little, gradually becoming a sort of grayish cream color.

The next move, after he has disrobed the front half of his body, is to pull his front legs out of the skin. His old clothes seem to have been tied on with fine white strings and these seem to hold him for a while, but they soon break and he has his freedom. At first his wings are very small, and are yellowish and opaque, but very soon they begin to unfold and fall away from the body; their growth in three hours' time is simply marvelous. An eyewitness to the performance says of it:

"The insect rests for some time in a horizontal position, making no move except to bend and straighten his legs languidly from time to time, as if trying them. After a while he makes a more decided trial of his legs, and raises his body a little, experimentally, once or twice; then, all at once, with a determined effort, he raises himself quickly to a vertical position, grasps the top of his old skin with his front feet, settles himself firmly, and pulls the rest of his body free. All this is done in a minute or two, in contrast to his former slow movements. It is an exciting time for the fortunate observer."

"Now comes the most wonderful part of the transformation—the expanding of the wings. They seem to grow before one's eyes, as the insect stretches them a little, shaking them with a slight quiver every few seconds. With each movement the wings grow longer, broader, smoother, and more transparent, till they cover his body, and finally extend beyond it at their full length. At this stage the insect looks like an immense fly, but a little later he folds his wings down at his sides, in the characteristic cicada fashion, and is a perfect locust in form, though still pale in color. The remainder of his night's work consists in changing this color to black, with the trimmings of deep yellow which all self-respecting locusts of this kind wear in daylight, and very early the next morning he will probably be found still resting close to his cast-off skin, his dress correct in every detail."

Locusts have committed considerable ravages in America. They are devoured by insectivorous mammals and birds, especially domestic fowls. The harvest fly and some species of grasshoppers are often erroneously called locusts in the United States.



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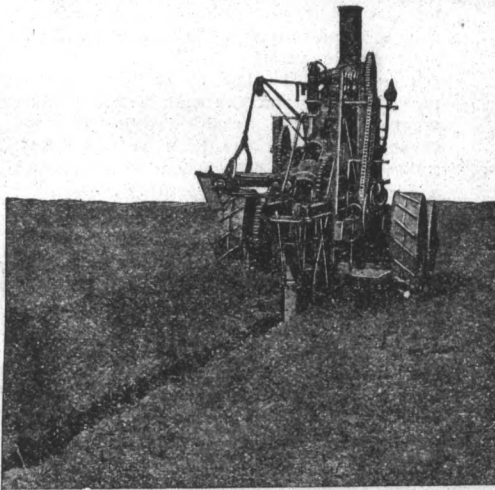
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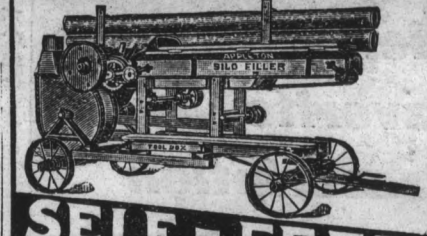


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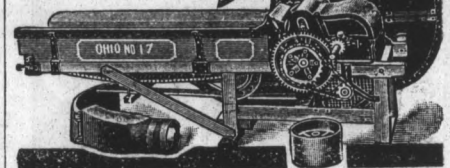
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